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Self Dual Codes and the Indecomposable Building Blocks

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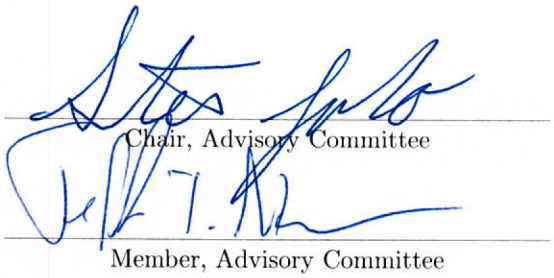

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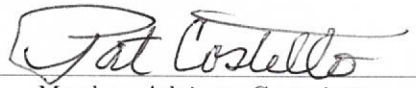

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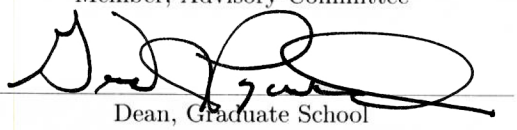

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1 Introduction

1.1 The Early Years

When I was approximately 10 years old my parents gave me an electronic learning aid device called the VTech Precomputer 1000. This device helped teach typing and various science subjects. This device also teaches the BASIC programming language. The learning manual explained BASIC commands and gave numerous examples of BASIC code that could be typed directly into the device. A person could watch code run and display output on the single line alphanumeric screen. I went from the traditional "hello world" code to writing simple loops that would capture user input and manipulate it. A family member gave me a book titled "1001 Things to do with Your Personal Computer", which contained BASIC code examples that could do various tasks. Eventually, I could write code containing loops that would exceed the physical limits of the device. My parents decided to buy a computer which had one of the early pentium class processors. For the first few days and weeks I could not figure out how to type my BASIC codes into the computer and make them run. At some point I started learning how to download the compilers from the internet and run the codes. One day I found a book at the bookstore that had a free installation cd for some unix variant operating system. The unix style operating system allowed me to run a webserver, which prompted me to learn PHP and SQL. By the time I was in high school I had a fairly good working knowledge of C,C++,SQL, PHP, Python and of course BASIC as well as the manufacturer specific languages used to program microcontrollers.

1.2 Interest in Coding Theory

In college I was introduced to computer algebraic system languages. I enjoyed finding projects that involved some sort of mathematical computation that required the help of a computer. My goal was to make a career of combining my programming and math skills. At first it appeared that many fields of mathematics are too abstract for computer tasks or the combinatorical complexities quickly grew outside the physical limits of a modern machine. I decided to do an independent study with Dr. Steve Szabo on coding theory. Coding theory appeared almost like the perfect field of mathematics to use programming skills. Aside from the applications of coding theory, there is always a mathematical coding theory problem available that lies just inside the physical limits of a modern computer. More to the exciting point, there is always a coding problem that appears just outside capabilities of a modern computer, but with a little mathematical ingenuity those problems

can become feasible. Dr. Szabo recommended two or three books to learn about coding theory. Keeping track of the famous open mathematical problems has always been somewhat of a hobby. Many of the coding theory books make references to unsolved mathematical coding theory problems. In my opinion, the fascinating aspect that usually accompanies an unsolved mathematical problem is the ability to describe in detail an object not known to exist or not. Coding theory has many such unsolved mathematical problems. Certain linear codes (vector spaces) meeting certain criteria are not known to exist, but researchers can give fairly descriptive details about the vectors and the coordinates of the vectors. As part of the independent study I gave a presentation on self-dual linear codes. While researching linear codes I became familiar with what is probably the iconic unsolved coding theory question, the existence of a type II $[72, 36, 16]$ self-dual linear code. This particular problem has a monetary prized associated with it. The complete list of prizes can be found in [1]. The problem is really the $k \geq 3$ case of a type II $[24k, 12k, 4k + 4]$ self-dual binary code, since $k = 1$ and $k = 2$ are known. If this particular code is found, what about the $k = 4$ case? This really highlights the appeal of coding thoery. No matter how many questions are answered, similar questions are immediately available.

1.3 Motivation for Research

I decided I wanted to make an ambitious leap toward finding the $[72, 36, 16]$ type II self-dual code. The first, knowingly naive, attempts at becoming familiar with the problem was to simply use Mathematica to generate random 36×36 binary matrices in order to create random 36×72 generator matrices of the form $[I|A]$ and study the vector spaces generated by the generator matrices. It was expectantly rare that a randomly generated matrix would have 36 linearly independently rows, much less 36 linearly independent orthogonal rows. In fact, it was rare that the rows would even generate the all one $\mathbf{1}$ vector. Just to illustrate the ineptness of the attempt, the probability of a 36×36 random binary matrix augmented to the 36×36 identity matrix to make a 36×72 generator matrix of the form $[I|A]$ that would generate the $\mathbf{1} = \underbrace{(1, 1, ..., 1)}_{72}$ is $\frac{1}{68719476736} = \left(\frac{1}{2}\right)^{36}$. Every column must sum to 1. The first 36 columns definitely sum to 1, however the 36 columns of the augmented matrix can sum to 0 or 1. Clearly, I never expected this approach to be fruitful. Even letting the last row act as a parity check row, the chances of a set of linearly independent rows that were orthogonal being generated were low, much less one that would happen to have the correct weight distribution for a type II code. I did want to see what patterns emerged between the vector space generated and the augmented matrix of the generator matrix. Early in my research on the $[72, 36, 16]$ type II

self-dual code I found numerous fascinating facts. The weight distribution is known to be unique for the extremal code and that the minimum weight codewords generate the code. I found that to be very interesting to know so much about the code not known to exist or not. The more I read about self-dual codes the more I realized that the gap between what I know and what I should know is quite large. I did not feel I could be effective at finding such a large and structured linear code unless I could strongly and comfortably become familiar with the properties of known linear codes. Many concepts of linear codes can be appreciated without creating hands on algorithms such as weight distributions. However, other concepts have properties, such as the t designs embedded inside linear codes, seem to have a way of validating themselves in several different and interesting ways. As with many branches of mathematics, pseudo algorithms can be simply written, but in practice the algorithms may be infeasible due to the exponential growth of the combinatorics as the parameters change. Many questions can be easily stated and the solution be accurately described, but actually finding a solution may be nearly impossible to find. Regardless of feasibility, simply using a computer algebraic system to perform algorithmic computations and comparisons does not feel like an accomplishment. I want to be able to fully understand and actually recreate functioning algorithms and perhaps refine and develop algorithms to analyze linear codes.

2 Linear Codes Introduction

$\mathbb{F}_q$ is a finite field where $q = p^m$ for some positive integer m and prime p. An n-length **code** over $\mathbb{F}_q$ is a subset of $\mathbb{F}_q^n$. An $[n, k]$ **linear code** $\mathcal{C}$ is a subspace of $\mathbb{F}_q^n$ with dimension k. This may also be referred to as an n-length linear code $\mathcal{C}$ of dimension k over $\mathbb{F}_q$. A code over $\mathbb{F}_2$ is called **binary**. In this work, unless otherwise stated, code will always refer to a binary code. Elements of a code $\mathcal{C}$ are called **codewords**. Most linear codes are too large to explicitly list all the codewords. The algebraic structure of linear codes provide a concise way to represent them. Since $\mathcal{C}$ is a k-dimensional subspace, there exists k codewords that form a basis. Specific linear codes are typically represented by just listing a set of codewords that form a basis for the code.

2.1 Generator Matrices

A $k \times n$ matrix G is called a **generator matrix** of an $[n, k]$ linear code $\mathcal{C}$ if the rows of G form a basis for $\mathcal{C}$. Specific linear codes are usually represented by their generator matrices. For example, consider the $[7, 4]$ linear code shown in example 2.1.

Example 2.1.

$$
\begin{array}{cccc}
(0,0,0,0,0,0,0) & (0,0,0,1,0,1,1) & (0,0,1,0,1,1,1) & (0,0,1,1,1,0,0) \\
(0,1,0,0,1,1,0) & (0,1,0,1,1,0,1) & (0,1,1,0,0,0,1) & (0,1,1,1,0,1,0) \\
(1,0,0,0,1,0,1) & (1,0,0,1,1,1,0) & (1,0,1,0,0,1,0) & (1,0,1,1,0,0,1) \\
(1,1,0,0,0,1,1) & (1,1,0,1,0,0,0) & (1,1,1,0,1,0,0) & (1,1,1,1,1,1,1)
\end{array}
$$

The example shows a popular code called the Hamming code. The code was named after Richard Hamming, the pioneer of error correcting codes and coding theory. This code has $2^4 = 16$ codewords and the codewords $(0,0,0,1,0,1,1), (0,0,1,0,1,1,1), (0,1,0,0,1,1,0)$, and $(1,0,0,0,1,0,1)$ form a basis for the code. The Hamming code can be more concisely represented using the generator matrix G in example 2.2.

Example 2.2.

$$
G = \begin{bmatrix}
0 & 0 & 0 & 1 & 0 & 1 & 1 \\
0 & 0 & 1 & 0 & 1 & 1 & 1 \\
0 & 1 & 0 & 0 & 1 & 1 & 0 \\
1 & 0 & 0 & 0 & 1 & 0 & 1
\end{bmatrix}
$$

In general, generator matrices are not unique. The rows of a generator matrix can be reordered and the codewords that form a basis are typically not unique. The generator matrix G' in example 2.3 is just a reordered row version of G in example 2.2.

Example 2.3.

$$G' = \begin{bmatrix} 1 & 0 & 0 & 0 & 1 & 0 & 1 \\ 0 & 1 & 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 & 1 & 1 \\ 0 & 0 & 0 & 1 & 0 & 1 & 1 \end{bmatrix}$$

The generator matrix G' has a special form to it, namely G' is the identity matrix I_4 augmented with a 4×3 matrix. In matrix block notation, $G' = [I_4|A]$. A generator matrix of an $[n, k]$ linear code that is formed by augmenting a $k \times k$ identity matrix with an $[k, n-k]$ matrix is called a **systematic generator matrix**. This should not be confused with reduced row echelon form. Some linear codes are not able to be represented by a systematic generator matrix. Consider the codewords of the $[7, 4]$ linear code in example 2.4.

Example 2.4.

$(0,0,0,0,0,0,0)$	$(0,0,0,0,1,1,1)$	$(0,0,1,1,0,1,1)$	$(0,0,1,1,1,0,0)$
$(0,1,0,1,0,1,0)$	$(0,1,0,1,1,0,1)$	$(0,1,1,0,0,0,1)$	$(0,1,1,0,1,1,0)$
$(1,0,0,1,0,0,1)$	$(1,0,0,1,1,1,0)$	$(1,0,1,0,0,1,0)$	$(1,0,1,0,1,0,1)$
$(1,1,0,0,0,1,1)$	$(1,1,0,0,1,0,0)$	$(1,1,1,1,0,0,0)$	$(1,1,1,1,1,1,1)$

Even though the linear code in example 2.1 and the linear code in example 2.4 both have the same length and dimension, they are two distinct codes. The linear code in example 2.4 has a reduced row echelon form generator matrix G'' that is not systematic.

Example 2.5.

$$G'' = \begin{bmatrix} 1 & 0 & 0 & 1 & 0 & 0 & 1 \\ 0 & 1 & 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 1 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 & 1 & 1 \end{bmatrix}$$

The generator matrix G'' is not in the systematic form of $[I_4|A]$. In fact, there is no systematic generator matrix for the linear code in example 2.4.

2.2 Column Permutation Equivalent Codes

The two $[7, 4]$ linear codes shown in example 2.1 and example 2.4 are very closely related. The two codes are identical except for the fact that the fourth and fifth coordinates of the codewords have been permuted. Notice how both codes are called a $[7, 4]$ Hamming code. The designation represents a family of codes whose properties are similar enough to be called equivalent. Two codes are said to be **column permutation equivalent** codes if one code can be obtained by permuting the coordinates (columns) of the other code. Let σ be an element of S_n and $\mathcal{C}$ be an $[n, k]$ linear code $\mathcal{C}$, then $\sigma(\mathcal{C})$ represents the permutation σ acting on the code $\mathcal{C}$ by permuting the coordinates of the codewords according to the permutation map σ. This is usually referred to as permuting the columns of the code. More formally, $\sigma(\mathcal{C}) = \{(c_{\sigma(1)}, ..., c_{\sigma(n)}) \mid \forall (c_1, ..., c_n) \in \mathcal{C}\}$. The codes $\mathcal{C}$ and $\sigma(\mathcal{C})$ are equivalent codes, denoted $\mathcal{C} \sim \sigma(\mathcal{C})$. Let $\mathcal{C}_1$ and $\mathcal{C}_2$ be the linear codes in example 2.1 and example 2.4 respectively. $\mathcal{C}_1 \sim \mathcal{C}_2$ because $\sigma(\mathcal{C}_1) = \mathcal{C}_2$ where $\sigma = (4, 5) \in S_7$. There are other notions of equivalence when dealing with a code over finite fields in general. However, for binary codes column permutation equivalence is the only notion of equivalence. For the rest of this paper the term equivalence will represent column permutation equivalence. It may be tempting to think that the number of equivalent codes will be the same as the size of the permutation group S_n which is $|S_n| = n!$. While this could be true in some instances, in general it is not. Some column permutations will result in the same code. Equality of codes follow the same principle as equal sets. Namely, $\mathcal{C}_1 = \mathcal{C}_2$ if for every $c \in \mathcal{C}_1$ implies $c \in \mathcal{C}_2$. A permutation $\sigma \in S_n$ is called an **automorphism** of $\mathcal{C}$ if $\sigma(\mathcal{C}) = \mathcal{C}$. The set of automorphisms form a group. The set of automorphisms for a code is called the **automorphism group** of the code, denoted $AUT(\mathcal{C})$. The size of the automorphism group $|AUT(\mathcal{C})|$ for a code must be known in order to compute the number of distinct codes that are equivalent to the code.

Theorem 2.1. (Number of Equivalent Codes) Let $\mathcal{C}$ be an $[n, k]$ linear code. The number of distinct codes that are equivalent to $\mathcal{C}$ is

$$\frac{|S_n|}{|AUT(\mathcal{C})|} = \frac{n!}{|AUT(\mathcal{C})|}$$

.

Proof. Let $\sigma_1, \sigma_2 \in S_n$. Assume $\sigma_1 AUT(\mathcal{C}) = \sigma_2 AUT(\mathcal{C})$ i.e. they are in the same left cosets of

$AUT(\mathcal{C})$. $\sigma_2^{-1}\sigma_1 AUT(\mathcal{C}) = AUT(\mathcal{C})$. This means that $\sigma_2^{-1}\sigma_1 \in AUT(\mathcal{C})$. As a result $\sigma_2^{-1}\sigma_1(\mathcal{C}) = \mathcal{C}$ implying $\sigma_1(\mathcal{C}) = \sigma_2(\mathcal{C})$. This shows that two elements of S_n from the same coset of $AUT(\mathcal{C})$ acting on a code result in the same code. So the number of distinct equivalent codes must equal the number of distinct cosets of $AUT(\mathcal{C})$. The cosets form a partition of S_n each having size $|AUT(\mathcal{C})|$. So there are $\frac{n!}{|AUT(\mathcal{C})|}$ distinct equivalent codes (cosets). □

Researchers typically use a name, set of parameters, or a specific code to represent a whole family of equivalent codes. Many important properties of codes are invariant to column permutations. A coding theorist will often analyze equivalent codes using tools that require codes to be in a certain form. Codes that have a systematic generator matrix are often preferred. While not all codes have a systematic generator matrix, there is always an equivalent code that has a systematic matrix.

Lemma 2.1. *Let $\mathcal{C}$ be an $[n, k]$ linear code with generator matrix G in reduced row echelon form whose columns are denoted $g_1, g_2, ..., g_n$, let $J = (j_1, j_2, ...j_k)$ be such that g_{j_i} is the ith column from the left (of k columns) in G with only one nonzero entry, and define $\mathcal{C}_J = \{(c_{j_1}, ..., c_{j_k}) \mid c_{j_i}$ is the j_i coordinate of the codeword $c \in \mathcal{C}\}$ and $G_J = [g_{j_1}, g_{j_2}, ..., g_{j_k}]$ where g_{j_i} is the j_ith column of G. The following are equivalent:*

- *If $v \in \mathbb{F}_2^k$ then $v \in \mathcal{C}_j$*
- *G_J is the identity matrix of size $k \times k$*
- *Let H be a generator matrix of $\mathcal{C}$ (not necessarily reduced row echelon form) and let H_J be defined as the matrix formed from the same columns that make up G_J, then H_J is an invertible matrix.*

Proof. Since G is a $k \times n$ matrix in reduced row echelon form, this implies that there are k columns of G that have only one nonzero entry and since G_J is composed of those columns (in order from left to right) then G_J is the $k \times k$ identity matrix. Since $\mathcal{C}$ is the row space of G with 2^k code words then the row space of G_J is $\mathcal{C}_J$ with 2^k code words and that means $\mathcal{C}_J = \mathbb{F}_2^k$. Thus if $v \in \mathbb{F}_2^k$ then $v \in \mathcal{C}_J$. If H and G are both generator matrices of $\mathcal{C}$ then the rows of H can be generated by G and since H is a generator matrix the rows of H must be linearly independent. Thus there exists an invertible $k \times k$ matrix M such that $MG = H$. Each row of M creates a linear combination of the rows of G to form a row in H. Since M is invertible, meaning the rows are linearly independent, the rows of H are linearly independent. By the properties of matrix multiplication $MG = H$ implies $MG_J = H_J$, but recall that G_J is the identity matrix and so $M = MG_J = H_J$. Thus H_J is an invertible matrix. □

The set of coordinates defined as the set J in lemma 2.1 are known as the **information set**. The set of coordinates that are not part of the information set are known as the **redundancy set**.

Theorem 2.2. All linear codes have an equivalent code with a systematic generator matrix.

Proof. Let $\mathcal{C}$ be an $[n, k]$ linear code with generator matrix G in reduced row echelon form, with information set J. By lemma 2.1 G_J is the identity matrix. Simply permute the columns of G so that G_J is the first k columns of the new generator matrix. This will give a column permutation equivalent code with a systematic generator matrix. □

Theorem 2.3. The number of distinct generator matrices for a $[n, k]$ linear code $\mathcal{C}$ is equal to the number of invertible matrices of size $k \times k$ over $GF(2)$.

Proof. Let G be a generator matrix for an $[n, k]$ linear code $\mathcal{C}$ with information set J and an invertible $k \times k$ matrix M over $GF(2)$. By lemma 2.1 $MG = H$ is also a generator matrix and $H_J = M$ is unique to choice of M. □

Examples 2.1 and 2.4 had generator matrices that were easy to compare and see that they were equivalent codes. The previous theorems demonstrate that showing equivalence by comparing generator matrices is not feasible due to the large number of potential generator matrices.

2.3 Hamming Distance

The fundamental metric used in linear codes is called the **Hamming distance** and is defined as follows. For a code $\mathcal{C}$ (not necessarily linear), $d_H(c_1, c_2) = |\{i \mid c_{1_i} \neq c_{2_i}\}|$. It is simply the number of coordinates where the two codewords differ.

Theorem 2.4 (The Hamming Distance Is A Metric)**.** The Hamming distance satisfies the properties of a metric. Let c_1, c_2, c_3 be three distinct codewords of an $[n, k]$ linear code $\mathcal{C}$.

- $d_H(c_1, c_2) > 0$
- $d_H(c_1, c_1) = 0$
- $d_H(c_1, c_2) = d_H(c_2, c_1)$
- $d_H(c_1, c_3) \leq d_H(c_1, c_2) + d_H(c_2, c_3)$

Proof. If $c_1 \neq c_2$ then they differ in at least one coordinate and so $d_H(c_1, c_2) > 0$. Since order does not matter $d_H(c_1, c_2) = d_H(c_2, c_1)$. No coordinates can differ if $c_1 = c_1$ so $d(c_1, c_1) = 0$. The

Hamming distance can also be considered the number of coordinates that need to be changed to make two codewords equal. $d_H(c_1, c_3)$ is the number of coordinates that must be changed so that $c_1 = c_3$. All the coordinates needed to change c_1 to c_2 plus the coordinates that need to be changed to convert c_2 to c_3 would also be adding the coordinates that got changed from c_1 to c_2 and got changed back to their original value changing from c_2 to c_3 and so $d_H(c_1, c_3) \leq d_H(c_1, c_2) + d_H(c_2, c_3)$. □

The **minimum distance** d_{min} of any code $\mathcal{C}$ is $d_{min} = min\{d_H(x, y) \mid \text{for all } x, y \in \mathcal{C}\}$. It is the smallest distance between any two codewords in the code. This definition applies to any code linear or not. The **hamming weight** of a codeword $c = (c_1, ..., c_n)$ in an n-length code $\mathcal{C}$ is defined as $W_H(c) = |\{i|c_i \neq 0\}|$, the number of coordinates with nonzero values. Let $\mathcal{C}$ be an n-length code. Let $\mathcal{A}$ be a list of integers such that $\mathcal{A}_i = |\{c|c \in \mathcal{C} \text{ and } W_H(c) = i\}|$. The list of integers $\mathcal{A}$ is known as the **weight distribution** of $\mathcal{C}$. Linear codes provide an algebraic structure that allow very convenient and strong properties to be assumed. In fact, linear codes make calculating the minimum distance of a code much easier. Instead of calculating the Hamming distance between every possible combination of two codewords, a researcher can appeal to the group properties of linear codes and just consider the Hamming weights of a linear code.

Theorem 2.5 (Minimum Distance of a Linear Code)**.** Let $\mathcal{C}$ be an $[n, k]$ linear code with weight distribution $\mathcal{A}$. The minimum distance of $\mathcal{C}$ is

$$d_{\min}(\mathcal{C}) = min\{d_H(c, 0)|\forall c \in \mathcal{C}\} = min\{W_H(c)|\forall c \in \mathcal{C}\} = min\{i|0 < i \leq n, A_i \neq 0\}$$

Proof. $\mathcal{C}$ is a subspace of $\mathbb{F}_2^n$ and thus the codewords of $\mathcal{C}$ form a group under addition Let $y \in \mathcal{C}$. The minimum distance between all pairs of codewords is $\min\limits_{y \in \mathcal{C}} \min\{W_H(x) \mid x \in y + \mathcal{C}\}$. Since $y \in \mathcal{C}$ then $y + \mathcal{C} = \mathcal{C}$ and that implies $\min\{W_H(x) \mid x \in y + \mathcal{C}\}$ is invariant to the codeword y. Thus $\min\limits_{y \in \mathcal{C}} \min\{W_H(x) \mid x \in y + \mathcal{C}\} = \min\{W_H(x) \mid x \in \mathcal{C}\} = min\{i|0 < i \leq n, A_i \neq 0\}$ □

Linear codes often have a third parameter to list the codes minimum distance. An $[n, k, d]$ linear code is a $[n, k]$ code with minimum distance d.

3 Self-Dual Codes

Linear codes over finite fields possess strong and interesting properties. Careers can be made by studying special families of linear codes. Coding theorists have written entire books on self-dual codes.

3.1 Special Sets of Vectors

In order to understand self-dual codes some nomenclature has to be established. Let $v = (v_1, ..., v_n)$, $w = (w_1, ..., w_n) \in \mathbb{F}_q^n$. The **dot product** is a function $\bullet : \mathbb{F}_q^n \times \mathbb{F}_q^n \to \mathbb{F}_q$ defined as $v.w = \sum_{i=1}^{n} v_i w_i$. Two vectors are said to be **orthogonal** if $v.w = 0$. Let $V \subset \mathbb{F}_q^n$ be a set a vectors such that $x.y = 0$ when $x \neq y$ for all $x, y \in V$. The set V is called an **orthogonal set**. The definition of orthogonal sets makes no condition on the dot product of a vector with itself. It is important to note that orthogonal does not imply linear independence in fields with nonzero characteristic. Consider the vectors in example 3.1.

Example 3.1.

$$(1,0,0,0,0,1,1,1)$$
$$(0,1,0,0,1,0,1,1)$$
$$(0,0,1,0,1,1,0,1)$$
$$(0,0,0,1,1,1,1,0)$$

The vectors form a basis for a $[8,4]$ linear code. However, notice that $(1,0,0,0,0,1,1,1)$ $+(0,1,0,0,1,0,1,1) = (1,1,0,0,1,1,0,0)$ is also orthogonal to all the vectors. Clearly, by definition, $(1,1,0,0,1,1,0,0)$ is not linearly independent to the vectors listed in example 3.1. Notice that the vectors in example 3.1 are orthogonal to themselves. An orthogonal set of vectors that are orthogonal to themselves, $x.x = 0$, are said to be an **self-orthogonal set**. self-orthogonal vectors have some very powerful properties.

Theorem 3.1 (Span of self-orthogonal vectors)**.** Let S be a self-orthogonal set of vectors over $\mathbb{F}_q^n$. If $x = (x_1, ..., x_n), y = (y_1, ..., y_n) \in S$ and let $z = x + y$. Then $z.x = z.y = z.z = 0$.

Proof. Let S be a self-orthogonal set of vectors over $\mathbb{F}_q^n$ and let $x = (x_1, ..., x_n), y = (y_1, ..., y_n) \in S$

and also let $z = x + y$. Then

$$\begin{aligned} x.z &= \sum_{i=1}^{n} x_i * z_i \\ &= \sum_{i=1}^{n} x_i * (x_i + y_i) \\ &= \sum_{i=1}^{n} x_i * x_i + x_i * y_i) \\ &= \sum_{i=1}^{n} x_i * x_i + \sum_{i=1}^{n} x_i * y_i \\ &= x.x + x.y \\ &= 0 + 0 \\ &= 0 \end{aligned}$$

The proof for $y.z$ is similar. Now

$$\begin{aligned} z.z &= \sum_{i=1}^{n} x_i * z_i \\ &= \sum_{i=1}^{n} (x_i + y_i) * (x_i + y_i) \\ &= \sum_{i=1}^{n} \left(x_i * x^i + 2 * x_i * y_i + y_i * y_i \right) \\ &= \sum_{i=1}^{n} x_i * x_i + 2 \sum_{i=1}^{n} x_i * y_i + \sum_{i=1}^{n} y_i * y_i \\ &= x.x + 2 * x.y + y.y \\ &= 0 + 2 * 0 + 0 \\ &= 0 \end{aligned}$$

□

Corollary 3.1 (Linear Codes Generated by self-orthogonal Codewords)**.** *Let $\mathcal{C}$ be a linear code generated by self-orthogonal codewords. Then $x.y = 0$ for all $x, y \in \mathcal{C}$.*

For completeness, if S is an orthogonal set of vectors such that $x.x = 1$ for all $x \in S$. Then S is called an **orthonormal set** of vectors.

3.2 Parity Check Matrix

The number of codewords of an $[n, k]$ linear code $\mathcal{C}$ over $\mathbb{F}_q$ is equal to q^k, which can be large as the dimension of the code grows. It would be infeasible to determine if a vector was a codeword of a code by checking every codeword in the code. Fortunately, the algebraic structure of linear codes will assist in making this process much easier with less resources and time. Linear codes have a **parity check matrix** that is used to determine if a vector is a codeword of the linear code. Let $\mathcal{C}$ be an $[n, k]$ linear code over $\mathbb{F}_q$ with generator matrix G. Let H be an $[n-k, n]$ matrix such that $GH^T = \mathbf{0}$. H is a parity check matrix for $\mathcal{C}$. If $v \in \mathbb{F}_q^n$ is a codeword of $\mathcal{C}$ then $Hv^T = \mathbf{0}$.
Parity check matrices play an important role in both the applied and algebraic aspects of coding theory. Properties of the parity check matrix are directly related to the minimum distance of a linear code.

Theorem 3.2 (Parity Check Matrix and the Minimum Distance of a Linear Code)**.** Let H be a parity check matrix for an $[n, k]$ linear code $\mathcal{C}$ over $\mathbb{F}_q$. $\mathcal{C}$ has minimum distance d if and only if every set of $d-1$ columns of H are linearly independent. Furthermore, H must have at least one set of d columns that are linearly dependent.

Proof. Assume to the contrary that there exists $m < d$ linearly dependent columns of H. Since the m columns are linearly dependent there exists a nonzero vector $a = (a_1, ..., a_n) \in \mathbb{F}_q^n$ such that $W_H(a) = m$ and $aH^T = \mathbf{0}$. The product aH^T represents a linear combination of the columns of H with the scalars as the coordinates of a). However, $aH^T = \mathbf{0}$ implies that $Ha^T = \mathbf{0}$ (Note that $\mathbf{0}$ is a zero vector whether it is a column or a row vector) and that means that $a \in \mathcal{C}$. This is a contradiction since $W_H(a) = m < d$. Now let H be such that every $d-1$ set of columns are linearly independent and let $c \in \mathcal{C}$ and so $Hc^T = \mathbf{0}$ which implies that $cH^T = \mathbf{0}$. As before cH^T represents a linear combination of the columns of H with the coordinates of c as the scalars. Every set of $d-1$ columns of H is linearly independent and by definition of linear independence there is no linear combination of $d-1$ columns or less that could equal the zero vector. Thus c must have at least d coordinates that are nonzero and so $W_H(c) >= d$. Since $\mathcal{C}$ has minimum weight d there must be a codeword having weight d. There must be a linear combination of d columns of H that are linearly dependent. □

Parity check matrices can be fairly straight forward to construct if the generator matrix of a linear code is in systematic form.

Theorem 3.3 (Constructing Parity Check Matrix from Systematic Generator Matrix)**.** If $\mathcal{C}$ is an $[n, k]$ linear code with systematic generator matrix $G = I_k|A_{k\times n-k}$ where I_k is the $k \times k$ identity matrix and $A_{k\times n-k}$ is a $k \times n-k$ augmented matrix then the parity check matrix $H = -A^T|I_{n-k}$ where I_{n-k} is the $(n-k) \times (n-k)$ identity matrix.

Proof. Let $\mathcal{C}$ be defined as it is in the theorem. Then $GH^T = I_k(-A) + AI_{n-k} = 0$. Thus H is a parity check matrix by definition. □

3.3 Dual of a Code

The orthogonal complement of a linear code $\mathcal{C}$ is called the **dual** and it is denoted as $\mathcal{C}^\perp$. The algebraic structure of $\mathcal{C}^\perp$ provides many power tools for analyzing $\mathcal{C}$. The **dual** of a n-length code $\mathcal{C}$ over $\mathbb{F}_q^n$ is defined to be $\mathcal{C}^\perp = \{v \mid v \in \mathbb{F}_q^n \ , \ c.v = cv^T = 0 \ \forall c \in \mathcal{C}\}$. Nearly every branch of mathematics has a set of classical constants and equations. One of the classical vector space equations illustrates the connection between the dimension of $\mathcal{C}$ and $\mathcal{C}^\perp$.

Theorem 3.4 ($dim(\mathcal{C}) + dim(\mathcal{C}^\perp) = n$)**.** Let G be a $[n, k]$ linear code over $\mathbb{F}_q$ with dual $\mathcal{C}^\perp$. Then $dim(\mathcal{C}) + dim(\mathcal{C}^\perp) = n$.

Proof. Let $\mathcal{C}$ be a $[n, k]$ linear code over $\mathbb{F}_q$ with dual $\mathcal{C}^\perp$ and generating matrix G. Note that $xG \in \mathcal{C}$. Let $y \in \mathcal{C}^\perp$ and so $c.y = cy^T = 0$ for all $c \in \mathcal{C}$. Thus $0 = cy^T = xGy^T = \left((y^T)^T G^T x^T\right)^T = (yG^T)x^T$ for all $x \in \mathbb{F}_q^k$. It must be the case that $yG^T = \mathbf{0}$ which implies $Gy^T = \mathbf{0}$. This implies that y is in the null space of G. The null space of G is $\mathcal{C}^\perp$. G is a $k \times n$ matrix and by linear algebra $dim(NULL(G))+dim(Col(G)) = n$ where $NULL(G)$ is the nullspace of G and $Col(G)$ is the column space of G. Recall lemma 2.1 states that every generator matrix of a $[n, k]$ linear code will have k columns that form an invertible matrix whose transpose is also invertible and so G^T will have an invertible matrix. This implies that the dimension of the row space of G^T which is the column space of G is k. Thus $dim(NULL(G)) + dim(Col(G)) = dim(\mathcal{C}^\perp) + k = n$ implying that $dim(\mathcal{C}^\perp) = n - k$. Thus $dim(\mathcal{C}) + dim(\mathcal{C}^\perp) = k + n - k = n$ □

It is not coincidental that the dimension of $\mathcal{C}^\perp$ is the same as the number of rows of the parity check matrix. In fact, recall that that every vector space is the kernel of some linear transformation.

Theorem 3.5 (The parity check matrix generates $\mathcal{C}^\perp$)**.** Let $\mathcal{C}$ be an $[n, k]$ linear code with generator matrix G, parity check matrix H. The dual $\mathcal{C}^\perp$ is generated by the parity check matrix H.

Proof. Since $Hc^T = 0$ for all $c \in \mathcal{C}$ then $\mathcal{C}$ is the kernel of the linear transformation. Thus H generates $\mathcal{C}^\perp$. H is an $[n-k, n]$ matrix. a$\mathcal{C}^\perp$ is a code with dimension $n-k$. The rows for H must form basis for $\mathcal{C}^\perp$. Thus H is a generator matrix for $\mathcal{C}^\perp$. □

Corollary 3.2 (The Dual of the Dual of a Linear Code)**.** *If $\mathcal{C}$ is a linear code then $\left(\mathcal{C}^\perp\right)^\perp = \mathcal{C}$.*

It follows that the theorems can be slightly rearranged to represent a linear transformation mapped by G where $\mathcal{C}^\perp$ is the kernel. Thus G is the parity check matrix for $\mathcal{C}^\perp$ and thus G generates $\mathcal{C} = \left(\mathcal{C}^\perp\right)^\perp$.

Theorem 3.6 (The Dual of a Code is a Linear Code)**.** Let $\mathcal{C}$ be a code, not necessarily linear, then $\mathcal{C}^\perp$ is a linear code.

Proof. Let $\mathcal{C}$ be an n-length code with dual $\mathcal{C}^\perp$. Let $x = (x_1, ..., x_n), y = (y_1, ..., y_n) \in \mathcal{C}^\perp \subset \mathbb{F}_q^n$. The dot product of $\mathbf{0}.c = \sum_{i=0}^{n} 0 * x_i = 0$ for all $c \in \mathcal{C}$ implies $\mathbf{0} \in \mathcal{C}^\perp$. Since $(x+y).c = \sum_{i=1}^{n} c_i * (x_i + y_i) = \sum_{i=1}^{n} ((c_i * x_i) + (c_i * y_i)) = (\sum_{i=1}^{n} c_i * x_i) + (\sum_{i=1}^{n} c_i * y_i) = c.x + c.y = 0 + 0 = 0$ then $(x+y) \in \mathcal{C}^\perp$. Let $k \in \mathbb{F}_q$. $kx.c = \sum_{i=1}^{n} c_i * kx_i = k \sum_{i=1}^{n} c_i * x_i = k * 0 = 0$ and so $kx \in \mathcal{C}^\perp$. Thus $\mathcal{C}^\perp$ meets all the requirements of a subspace and so it is a linear code. □

Notice that $\mathcal{C}$ was not restricted to a linear code. Interestingly, $\mathcal{C}^\perp$ is a linear code regardless of whether $\mathcal{C}$ is a linear code. The **hull** is defined to be the intersection between $\mathcal{C}$ and $\mathcal{C}^\perp$. Since the intersection of two vector spaces is a vector space the hull is linear code. The hull often provides a much lower dimension linear code for algorithms to run through in order to categorize linear codes and check for equivalence. Many, if not most, linear code algorithms have timing that are polynomial with respect to length and exponential with respect to dimension. If two codes are equivalent their hulls will be equivalent and often times much lower in dimension.

3.4 Self-Orthogonal and Self-Dual Linear Codes

If $\mathcal{C} \subset \mathcal{C}^\perp$ then $\mathcal{C}$ is said to be **self-orthogonal**. If $\mathcal{C} = \mathcal{C}^\perp$ then $\mathcal{C}$ is **self-dual**. Self-dual and self-orthogonal codes represent an interesting family of codes. They possess strong algebraic properties and books have been written about them. They are at the center of many open unsolved coding theory questions. Research on self-orthogonal codes started as early as the 1950's by Reed in [2] and more in depth in the early 1960's by Massey in [3] and then by Robinson and Bernstein in the middle 1960's in [4]. Example 3.2 shows a self-orthogonal code over $\mathbb{F}_2$.

Example 3.2.

$(1,1,1,1,1,1,1,1)$	$(0,0,0,0,1,1,1,1)$	$(0,0,1,1,0,0,1,1)$	$(1,1,1,1,0,0,0,0)$
$(1,1,0,0,1,1,0,0)$	$(0,0,1,1,1,1,0,0)$	$(1,1,1,1,1,1,1,1)$	$(0,0,0,0,0,0,0,0)$

All the codewords in example 3.2 are self-orthogonal and pairwise orthogonal. However, notice that the vector $(0,1,0,1,0,1,0,1)$ is also orthogonal to all the codewords generated by the basis, but not part of the code. So the code is completely contained inside $\mathcal{C}^{\perp}$ but there exist codewords in $\mathcal{C}^{\perp}$ that are not codewords of $\mathcal{C}$. Self-orthogonal codes have very defined properties.

Theorem 3.7 (Code words of a binary self-orthogonal linear code must have even weight)**.** Let $\mathcal{C}$ be a linear self-orthogonal code of length n with weight distribution $\mathcal{A} = (\mathcal{A}_0, \mathcal{A}_1, ..., \mathcal{A}_n)$ where $\mathcal{A}_i$ is the number of codewords of weight i for $i \in \{0, 1, ..., n\}$. If $i \; mod \; 2 \neq 0$ then $A_i = 0$.

Proof. If c is a codeword of a linear binary self-orthogonal code then $c.c = 0$. That could only happen if the number of nonzero coordinates are even. □

Theorem 3.8. If $\mathcal{C}$ is a binary self orthogonal of even length n then $\mathbf{1} \in \mathcal{C}^{\perp}$.

Proof. All the codewords of $\mathcal{C}$ must be even since $\mathcal{C}$ is self orthogonal. Since $W_H(\mathbf{1}) = n$ is even then $c.\mathbf{1} = 0$ for all $c \in \mathcal{C}$ and so $\mathbf{1} \in \mathcal{C}^{\perp}$. □

If the length of a binary self-orthogonal code is even then the all one $\mathbf{1}$ codeword will be part of the dual. Binary codes that contain the all one vector have nice properties.

Theorem 3.9 (Binary Codes Containing $\mathbf{1}$)**.** If $\mathcal{C}$ is a binary linear code of length n with weight distribution $\mathcal{A}$ and $\mathbf{1} \in \mathcal{C}$ then $\mathcal{A}_i = \mathcal{A}_{n-i}$.

Proof. Let $\mathcal{C}$ is a binary linear code of length n with weight distribution $\mathcal{A}$ and $\mathbf{1} \in \mathcal{C}$. Let $c \in \mathcal{C}$ and $W_H(c) = i$. Since $\mathbf{1} + c$ turns all zero coordinates to 1 and all nonzero coordinates to 0 then $W_H(\mathbf{1}+c) = n - W_H(c) = n - i$. Since this is true for all $c \in \mathcal{C}$ then $\mathcal{A}_i = \mathcal{A}_{n-i}$ for $i \in \{0, ..., n\}$. □

Self-dual codes are self-orthogonal codes.

Theorem 3.10 (Length and Dimension of Self-Dual Codes)**.** If $\mathcal{C}$ is a self-dual code of length n then n is even and $\mathcal{C}$ is an $[n, \frac{n}{2}]$ linear code.

Proof. By definition $\mathcal{C} = \mathcal{C}^{\perp}$ and so $dim(\mathcal{C}) = dim(\mathcal{C}^{\perp})$. Since $dim(\mathcal{C}) + dim(\mathcal{C}^{\perp}) = dim(\mathcal{C}) + dim(\mathcal{C}) = 2dim(\mathcal{C}) = n$ then $dim(\mathcal{C}) = \frac{n}{2}$. This implies that n must be even. □

Corollary 3.3. *If $\mathcal{C}$ is a binary self dual code than $\mathbf{1} \in \mathcal{C}$.*

The systematic generator matrix is the parity check matrix since the linear code and the dual are equal (generated by same matrix).

Theorem 3.11 (Augmented Matrix of a Binary Self-Dual Binary Code Systematic Generator Matrix)**.** Let $\mathcal{C}$ be a binary self-dual code with systematic generator matrix $G = [I|A]$. The augmented matrix A must be an orthogonal matrix.

Proof. Since $\mathcal{C} = \mathcal{C}^{\perp}$ the generator matrix G generates both the code and the dual. Thus G is also the parity check matrix and so $GG^T = I * I^T + A * A^T = I + AA^T = 0$ which implies $AA^T = I$. By definition A is an orthogonal matrix. □

Notice that the systematic generator matrices of self-dual codes are basically two augmented invertible square matrices. Self-dual codes always have two disjoint information sets. The hull of self-dual codes by definition is the entire code itself. This makes many algorithms poorly suited for self-dual codes.

4 Weight Distribution and Weight Enumerators

The weight distribution of a linear code is probably one of the most important characteristics of a code. Sometimes the weight distribution can uniquely identify a linear code but in general two codes can not determined to be equivalent based on the weight distribution. One key important fact about weight distributions is how they are linked to the dual.

4.1 Weight Distributions of Binary Self-Dual Codes

The weight distribution $\mathcal{A} = (\mathcal{A}_1, ..., \mathcal{A}_n)$ of a linear code $\mathcal{C}$ simply shows the number of codewords of a particular Hamming weight in the code. The weight distribution is invariant to column permutations. The weight distribution of the $[8, 4, 4]$ self-dual code is $(1, 0, 0, 0, 14, 0, 0, 0, 1)$ and the weight distribution for the extended binary Golay $[24, 12, 8]$ is
$(1, 0, 0, 0, 0, 0, 0, 0, 759, 0, 0, 0, 2576, 0, 0, 0, 759, 0, 0, 0, 0, 0, 0, 0, 1)$. The extended binary Golay code was named after Marcel Golay, who wrote one of the leading papers in coding theory back in 1949. See [5] for more information. Typically, a coding theorist will just refer to these codes as "the" extended Hamming code or "the" extended binary Golay code because these two codes are unique up to equivalence. All codes having those parameters are equivalent. In general codes are not unique for a given set of parameters, although not incredibly rare. Since a binary linear code of length n contains $\mathbf{1}$ then the weight distribution is symmetric in that $\mathcal{A}_i = \mathcal{A}_{n-i}$ for $i \in \{0, 1, ..., \frac{n}{2}\}$. Self-dual codes must contain the $\mathbf{1}$ codeword. Appendix A shows all the possible weight distributions for a length 36 self-dual binary code. These are not just feasible weight distributions, these are weight distributions such that at least one code exists for each of the weight distributions. The far left column shows how many distinct self-dual codes of length 36 have that specific weight distribution up to equivalence. You will notice that some weight distributions only have one code meaning any self-dual binary code of length 36 that has that weight distribution must be equivalent to that code. Other weight distributions can have 14000+ codes. You will notice some patterns in the weight distributions. Notice how codewords of weight 4, 8, 12, and 16 move in tandem. Linear codes and their duals share common characteristics in regard to their weight distributions. This relationship is so strong, systems of linear equations can be developed which give insightful detail about the weight distributions. In the case of self-dual codes, the entire weight distribution can be directly and uniquely calculated. In situations where the weight distribution is not unique the weight distribution can be reduced to a few parameters subject to integer constraints. Notice the alpha, beta,

gamma, and delta parameters in appendix A. Those are the parameters that determine the weight distribution for the length 36 self-dual binary codes. The weight distribution is determined by the following equations.

$$\mathcal{A}_0 = \mathcal{A}_{36} = 1$$

$$\mathcal{A}_2 = \mathcal{A}_{34} = \alpha$$

$$\mathcal{A}_4 = \mathcal{A}_{34} = 12\alpha + \beta$$

$$\mathcal{A}_6 = \mathcal{A}_{30} = 64\alpha + 6\beta + \gamma$$

$$\mathcal{A}_8 = \mathcal{A}_{28} = 33 + 196\alpha + 11\beta + 64\delta$$

$$\mathcal{A}_{10} = \mathcal{A}_{26} = 3168 + 364\alpha - 4\beta - 6\gamma - 384\delta$$

$$\mathcal{A}_{12} = \mathcal{A}_{24} = 7059 + 364\alpha - 39\beta + 832\delta$$

$$\mathcal{A}_{14} = \mathcal{A}_{22} = 30336 - 38\beta + 15\gamma - 512\delta$$

$$\mathcal{A}_{16} = \mathcal{A}_{20} = 58443 - 572\alpha + 27\beta - 896\delta$$

$$\mathcal{A}_{18} = \mathcal{A}_{18} = 64064 - 858\alpha + 72\beta - 20\gamma + 1792\delta$$

It will be shown how to derive these equations, but they are listed in [6] where the length 36 self-dual codes are classified.

4.2 Type I and Type II Codes

Some codes have special restrictions on their weight distributions. A codeword with a weight that is a multiple of 2 is called **singly even** and called **doubly even** if the weight is a multiple of 4. Binary self-dual codes that contain singly even codewords are called **Type I** and binary self-dual codes that contain only doubly even codewords are called **Type II**. A binary self-dual code must be type I or type II. Type II linear codes often place a much greater restriction on weight distribution parameters. If a length 36 self-dual code had to be type II then the following system of equations

would be necessary to determine the weight distribution.

$$\mathcal{A}_2 = 0 = \alpha$$

$$\mathcal{A}_4 = 12\alpha + \beta = \beta$$

$$\mathcal{A}_6 = 0 = 64\alpha + 6\beta + \gamma = 6\beta + \gamma \implies \gamma = -6\beta$$

$$\mathcal{A}_{10} = 0 = 3168 + 364\alpha - 4\beta - 6\gamma - 384\delta = 3168 + 32\beta - 384\delta \implies \beta = 12\delta - 99$$

$$\mathcal{A}_{14} = 0 = 30336 - 38\beta + 15\gamma - 512\delta = 30336 - 38(12\delta - 99) - 512(-6)(12\delta - 99) = 36408\delta - 270030$$

$$\delta = \frac{270030}{36408} = \frac{45005}{6068}$$

$$0 > \beta = 12\delta - 99 = 12\frac{45005}{6068} - 99 \notin \mathbb{Z} \implies \mathcal{A}_4 \notin \mathbb{Z}$$

The results $\mathcal{A}_4 = \beta \notin \mathbb{Z}$ and $\mathcal{A}_4 = \beta < 0$ provide two failing results for a weight distribution. The parameters must yield a positive integer only weight distribution, thus it is impossible for a self-dual code of length 36 to be type II. In general a type II code can only exist for lengths that are divisible by 8 due to the all one codeword creating symmetry in the weight distribution.

Theorem 4.1. A binary self-orthogonal code $\mathcal{C}$ is doubly even if and only if the rows of the generator matrix G are doubly even codewords.

Proof. Let $a = (a_1, ..., a_n), b = (b_1, ..., b_n)$ be doubly even codewords of a self-orthogonal code $\mathcal{C}$ of length n. Notice that $W_H(a) + W_H(b) = W_H(a + b)$ only if $\{i \mid a_i \neq 0\} \cap \{i \mid b_i \neq 0\} = \emptyset$. In this situation $W_H(a + b) = W_H(a) + W_H(b) = 4n + 4n = 8n$ for some $n \in \mathbb{Z}$ which implies $W_H(a + b)$ is doubly even. Now assume that $S = \{i \mid a_i \neq 0\} \cap \{i \mid b_i \neq 0\} \neq \emptyset$. Since $\mathcal{C}$ is self-orthogonal then $|S|$ must be even else $a.b \neq 0$. Let $c = (c_1, ..., c_n) = a + b$. It must be the case that $c_i = 0$ for all $i \in S$ since $\mathcal{C}$ is a binary code. Thus $W_H(c) = W_H(a) + W_H(b) - 2|S| = 4n + 4n - 2(2m) = 8n - 4m = 4(4n - m) > 0$ where $n, m \in \mathbb{Z}$. By definition $c = a + b$ is a doubly even codeword. This means that linear combinations of doubly even codewords must be doubly even. Thus if the generator matrix G of a self-orthogonal code $\mathcal{C}$ is comprised of doubly even codewords then they only generate doubly even codewords and so $\mathcal{C}$ is doubly even. If $\mathcal{C}$ is a doubly even code then generator matrix G can not have a singly even codeword as a row. □

4.3 MacWilliams Identities and Pless Power Movements

A quick look through any textbook, article, or website discussing self-dual codes would lead anyone to believe that self-dual codes have some property that allows their weight distribution to be known

without knowing anything about the code. One of my first goals in researching self-dual codes was to understand how this was accomplished. I first read about the Pless Power movements in the textbook [7] written by Vera Pless. Originally called the Power Moment Identities in her 1963 article. They are the connection between the weight distributions of the linear code and the code's dual. The Pless power moments are now called the Pless power movements. The Pless power movements are among the most powerful tools in analyzing linear codes, especially self-dual codes. The power movements can be used to determine the existence of a linear code requiring certain parameters on the weight distribution. The first Pless power movement $\mathcal{P}_1$ is

$$\sum_{j=0}^{n} j^r A_j = \sum_{j=0}^{min(n,r)} (-1)^j A_j^{\perp} \left[\sum_{v=j}^{r} v! S(r,v) q^{k-v} (q-1)^{v-j} \binom{n-j}{n-v} \right]$$

where $S(r,v) = \frac{1}{v!} \sum_{i=0}^{v} (-1)^{v-i} \binom{v}{i} i^r$, q is the size of the finite field, $\mathcal{A}_i$ is the number of codewords of weight i in the code, and $\mathcal{A}_i^{\perp}$ is the number of codewords in the dual of weight i. This equation holds for $0 \leq r$. This is an incredibly powerful equation when applied to self-dual codes since $\mathcal{A}_j = \mathcal{A}_j^{\perp}$ and $\mathcal{A}_j = 0$ when j is odd. Notice that up to n seperate equations can be developed for a chosen $r \in \mathbb{Z}$ and $r \leq n$. These are the very equations used to develop a system of equations dependent on $\alpha, \beta, \gamma, \delta$ that create the weight distribution for the length 36 self-dual binary codes. The Pless power movements are actually equivalent and derived from the MacWilliams equations named after Florence Jessie Collinson MacWilliams (for more information see [8]) and published in [9]. The development of the MacWilliams identities were such a break through for coding theory they practically appeared in every article dealing with weight distributions after the publications of MacWilliams and Pless in 1963. William Wesley Peterson published a well known book in 1961 titled "Error Correcting Codes" (see[10] for more information). This book was really the first publication that collected all the large amounts of information about error correcting codes and combined it into one single source. The book was considered so well written that James L. Massey said in a book review for the second edition "...Like most coding theorists, my own education in the field came largely from the 1961 first edition, which I consider one of the most extraordinary technical books ever written..." (read the full review at [11]. The second edition [12] nearly doubled in size and was co-authored by E.J. Weldon Jr. Massey later mentions the MacWilliams weight identities as a welcomed addition. The book does not mention Pless power moments. It seems that the Pless power movements were a bit slow to catch traction in the literature. In 1979, the article [13] by Mark G. Karpovsky presents an alternative proof to what he calls the Pless ith power moment. I

mention some of the chronology of linear codes because in my early days of researching the topic I was not aware of some of the interchangeability of the terms and their relationships. I decided I would read the articles in their original form and read the most relevant articles I could find that improved on the topic. Basically, I felt that it would be best that I learn the topics just like the early coding community learned the topics only in a much more condensed time frame.

4.4 Weight Enumerators, Cosets, and Direct Sums

Weight distributions can often be represented as polynomials known as a **weight enumerator**. Let $\mathcal{C}$ be a length n code with the typical weight distribution $\mathcal{A}$ where $\mathcal{A}_i$ is the number of codewords of $\mathcal{C}$ of weight i. The polynomial $W_{\mathcal{C}}(x) = \mathcal{A}_n x^n + ... + \mathcal{A}_1 x + \mathcal{A}$ is the weight enumerator of $\mathcal{C}$. During the early stages of my research into linear codes it was not obvious to me why a person would want to represent the weight distribution with a polynomial. Weight distributions and polynomial addition can be represented easily enough without complicating the notation as a polynomial. So my intuition was that the properties of polynomial multiplication must provide a tool for comparing or combining linear codes. At the time, I was still fairly new to linear codes and was exploring many topics at the same time. Trying to understand all the benefits of the weight enumerator were put on hold. In pursuing my goal of finding or disproving the existence of a Type II $[72, 36, 16]$ code I starting trying to manipulate existing codes and somehow glue them together to make new codes. Since linear codes are groups under vector addition all the tools of cosets are available. Just like codes, the cosets have a weight distribution and a a minimum weight. A vector in a coset with minimum weight is called a **coset leader**. If the weight distribution of the cosets are known then the resulting weight distribution of increasing the dimension of a linear code by one is straightforward.

Theorem 4.2. Let $\mathcal{C}$ be a $[n, k]$ binary linear code over with weight enumerator $W_{\mathcal{C}}(x)$ and minimum weight d and generator matrix G whose rows are $g_1, ..., g_k$. Let $a \in \mathbb{F}_2^n$ such that $a \notin \mathcal{C}$. Let the coset $a + \mathcal{C}$ have a weight enumerator of $W_{a+\mathcal{C}}(x)$ with minimum weight s. Let $\mathcal{C}^*$ be the $[n, k+1]$ linear code with generator matrix G^* whose rows are $g_1, ..., g_k, a$. Then the weight enumerator of $\mathcal{C}^*$ is $W\mathcal{C}^*(x) = W_{\mathcal{C}}(x) + W_{a+\mathcal{C}}(x)$ and the code will have minimum weight of $min(d, s)$.

Proof. Let $\mathcal{A}^{\mathcal{C}+a}$ be the weight distribution of the coset $a + \mathcal{C}$, $\mathcal{A}$ be the weight distribution of $\mathcal{C}$, and $\mathcal{A}^*$ be the weight distribution of $\mathcal{C}^* = \mathcal{C} \cup (a + \mathcal{C})$ where $\mathcal{A}_i^{\mathcal{C}+a}$, $\mathcal{C}_i$, and $\mathcal{A}_i^*$ is the number of codewords of weight i in $a+\mathcal{C}$, $\mathcal{C}$, and $\mathcal{C}^*$ respectively for all $i \in \{0, ..., n\}$. The linear code generated by the matrix G^*, which is the generator matrix G with the vector a appended as a new row, is the same code as $\mathcal{C} \cup a + \mathcal{C}$. Since the cosets form a partition of $\mathbb{F}_2^n$ and $\mathcal{C}$ is actually the coset $\mathbf{0} + \mathcal{C}$

then $\mathcal{C} \cap a + \mathcal{C} = \emptyset$. Thus $\mathcal{A}_i^* = \mathcal{A}_i^{a+\mathcal{C}} + \mathcal{A}_i$ for all $i \in \{0, ..., n\}$ and so $W_{\mathcal{C}}^*(x) = \sum_{i=0}^{n} \mathcal{A}_i^* x^i = \sum_{i=0}^{n} \left(\mathcal{A}_i^{a+\mathcal{C}} + \mathcal{A}_i\right) x^i = \sum_{i=0}^{n} \mathcal{A}_i^{a+\mathcal{C}} x^i + \sum_{i=0}^{n} \mathcal{A}_i x^i = W_{a+\mathcal{C}}(x) + W_{\mathcal{C}}(x)$. Since the cosets form disjoint sets each with 2^k codewords then $\mathcal{C}^*$ has $2^k + 2^k = 2 * 2^k = 2^(k+1)$ codewords. Thus $\mathcal{C}^*$ is a $[n, k+1]$ linear code generated by G^*. □

One of the main benefits of constructing linear codes from other linear codes is the ability to fully predict the new weight enumerator and control the minimum weight. When classifying self-dual codes it is often necessary to build them from self-orthogonal codes by adding one coset at a time. There is another very useful technique of creating linear codes from other linear codes that predictably changes the length, dimension, and minimum weight. The **direct sum** technique of creating codes from other codes is probably the primary tool used to classify linear self-dual codes. Let $\mathcal{C}_1$ and $\mathcal{C}_2$ be $[n_1, k_1, d_1]$ and $[n_2, k_2, d_2]$ linear codes with generator matrices G_1 and G_2 respectively. The direct sum $\mathcal{C}_1 \oplus \mathcal{C}_2$ is a $[n_1 + n_2, k_1 + k_2, min(d_1, d_2)]$ linear code generated by the block generator matrix

$$\begin{bmatrix} G_1 & \mathbf{0} \\ \mathbf{0} & G_2 \end{bmatrix}$$

Expressing the weight distribution as a polynomial provides a very convenient approach to calculating the weight distributions of direct sums.

Theorem 4.3 (Weight Enumerator of a Direct Sum)**.** Let $\mathcal{C}_1$ and $\mathcal{C}_2$ be $[n_1, k_1, d_1]$ and $[n_2, k_2, d_2]$ linear codes with weight enumerators $W_{\mathcal{C}_1}(x)$ and $W_{\mathcal{C}_2}(x)$ respectively. The weight enumerator of $\mathcal{C}_1 \oplus \mathcal{C}_2$ is $W_{\mathcal{C}_1 \oplus \mathcal{C}_2}(x) = W_{\mathcal{C}_1}(x) \cdot W_{\mathcal{C}_2}(x)$.

Proof. Let $\mathcal{C}_1$ and $\mathcal{C}_2$ be defined as above with generator matrices G_1 and G_2 respectively. The generator block matrix G^* for $\mathcal{C}^* = \mathcal{C}_1 \oplus \mathcal{C}_2$ is

$$G^* = \begin{bmatrix} G_1 & \mathbf{0} \\ \mathbf{0} & G_2 \end{bmatrix}$$

Let $A^{\mathcal{C}_1}$, $\mathcal{A}^{\mathcal{C}_2}$, $\mathcal{A}^{\mathcal{C}^*}$ be the weight distributions for $\mathcal{C}_1$, $\mathcal{C}_2$, and $\mathcal{C}^*$ respectively. Moreover, let $\mathcal{A}_i^{\mathcal{C}_1}$, $\mathcal{A}_i^{\mathcal{C}_2}$, $\mathcal{A}_i^{\mathcal{C}^*}$ be the number of codewords of weight i in $\mathcal{C}_1$, $\mathcal{C}_2$, and $\mathcal{C}^*$ respectively. Let $c_1 \in \mathcal{C}_1$ such that $W_H(c_1) = i$ and $c_2 \in \mathcal{C}_2$ such that $W_H(c_2) = j$. Notice that $(c_1, \mathbf{0})$ (codeword right padded with n_2 zeros) and $(\mathbf{0}, c_2)$ (codeword left padded with n_1 zeros) are codewords $\mathcal{C}^*$ with Hamming

weights i and j respectively and $(c_1, \mathbf{0}) + (\mathbf{0}, c_2)$ has Hamming weight $i + j$. So $\mathcal{A}_i^{\mathcal{C}^*} = \mathcal{A}_j^{\mathcal{C}_1} * \mathcal{A}_k^{\mathcal{C}_2}$ for all j, k such that $j + k = i$. $\mathcal{A}^{\mathcal{C}^*}$ is the result of a convolution of the weight distribution vectors $\mathcal{A}^{\mathcal{C}_1}$ and $\mathcal{A}^{\mathcal{C}_2}$. Polynomial multiplication is exactly this type of convolution. Thus

$$W_{\mathcal{C}^*}(x) = \sum_{i=0}^{n_1+n_2} \mathcal{A}_i^{\mathcal{C}^*} x^i = \sum_{j+k=i} \mathcal{A}_j^{\mathcal{C}_1} x^j * \mathcal{A}_k^{\mathcal{C}_2} x^k = \sum_{j+k=i} \mathcal{A}_j^{\mathcal{C}_1} * \mathcal{A}_k^{\mathcal{C}_2} x^{j+k} = W_{\mathcal{C}_1}(x) \cdot W_{\mathcal{C}_2}(x)$$

□

There is some shorthand notation involved with direct sums, namely repeated summands. For example

$$\bigoplus_{i=1}^{3} \mathcal{C} = (\mathcal{C} \oplus \mathcal{C}) \oplus \mathcal{C} = 3\mathcal{C}$$

5 Classifying Self-Dual Codes

The motivation for studying linear codes came from the open problem about the existence of a Type II $[72, 36, 16]$ linear code. I became interested in the classification of self-dual binary codes in order to understand known self-dual codes. To completely classify all the binary self-dual linear codes of a certain length usually requires a firm understanding of direct sums, gluing techniques, linear algebra, and a solid process to identify unique linear codes to avoid repeats. Classifying binary self-dual linear codes at times may rely on a bit of crude searching and luck. The process of luck has even been documented in articles such as the one by John Conway and Vera Pless where they write "If we can then locate by any means whatever (not excluding divination!)..." (see [14] for more information).

5.1 Mass Formuala

Despite whether binary self-dual linear codes of a certain length are found using prescribed searching techniques, direct sums, or by supernatural influence the mass formula is the tool used to verify completion.

Theorem 5.1 (Mass Formula)**.** Let $\mathcal{S}$ be a set of self-dual codes containing one representative from every possible family of equivalent self-dual codes of length n. Then

$$\sum_{\mathcal{C}\in\mathcal{S}} \frac{n!}{|AUT(\mathcal{C})|} = \prod_{i=1}^{\frac{n}{2}-1} (2^i + 1)$$

where $|AUT(\mathcal{C})|$ is the size of the automorphism group of the self-dual linear code $\mathcal{C}$.

Proof. As shown earlier, for every $\mathcal{C} \in S$ there are $\frac{n!}{|AUT(\mathcal{C})|}$ distinct equivalent codes to $\mathcal{C}$. So $\sum_{\mathcal{C}\in\mathcal{S}} \frac{n!}{|AUT(\mathcal{C})|}$ equals the number of distinct self-dual binary codes of length n.

Let $\mathcal{C}_1 = \{\mathbf{0}, \mathbf{1}\} \subset \mathbb{F}_2^n$. Notice that $\mathcal{C}_1$ is the only $[n, 1]$ self-orthogonal code containing the all one vector $\mathbf{1}$. If $n = 2$ this is the only $[2, 1]$ binary self dual code. Assume $n > 2$ and let $v_1 \in \mathcal{C}_1^{\perp}\backslash\mathcal{C}_1$ and $\mathcal{C}_2 =< v_1, \mathcal{C}_1 >$ (the code generated by $\mathcal{C}_1$ and v_1). The vector v_1 is linearly independent to all the codewords in $\mathcal{C}_2$ and so $\mathcal{C}_2$ is an $[n, 2]$ self-orthogonal code. Continuing this process where $\mathcal{C}_i$ is an $[n, i]$ self-orthogonal code generated by $< v_{i-1}, \mathcal{C}_{i-1} >$ and $v_{i-1} \in \mathcal{C}_{i-1}^{\perp}\backslash\mathcal{C}_{i-1}$ until $i = \frac{n}{2}$. Since $\mathcal{C}_i \subseteq \mathcal{C}_i^{\perp}$ ($\mathcal{C}_i$ is self-orthogonal) then $dim(\mathcal{C}_i^{\perp}) \geq dim(\mathcal{C}_i)$, with equality when $\mathcal{C}$ is self-dual. The self-orthogonal code $\mathcal{C}_i$ is self-dual when the equivalent conditions of $\mathcal{C}_i = \mathcal{C}_i^{\perp}$, $dim(\mathcal{C}_i) = \dim(\mathcal{C}_i^{\perp}) = \frac{n}{2}$,

and $\mathcal{C}_i^{\perp}\backslash\mathcal{C}_i = \emptyset$ hold. This chain building process produces the chain $\mathcal{C}_1 \subset ... \subset \mathcal{C}_{\frac{n}{2}} = \mathcal{C}_{\frac{n}{2}}^{\perp}$. Notice how each step adds a linearly independent vector and increases the dimension by one.

Now given a self dual code $\mathcal{C}$, $\mathcal{C}$ has a generator matrix containing the all one vector $\mathbf{1}$. Using the rows of the generator matrix $v_1, ..., v_{\frac{n}{2}}$ we can use those vectors to build a chain as described above. Every length n self-dual code has a generator matrix composed of $\frac{n}{2}$ linearly independent codewords. The rows of the generator matrix can be used to construct a self-orthogonal subcode chain, like the one described. Hence, every self-dual code can be constructed by the self-orthogonal subcode chain process.

Let $S_i = \frac{2^{n-2(i-1)}-1}{2^{i-1}-1} S_{i-1}$. It will be shown that S_i is the number of binary length n self-orthogonal codes of dimension i containing $\mathbf{1}$. Since the $[n, 1]$ self-orthogonal code containing $\mathbf{1}$ is unique, $S_1 = 1$. Now, choose $v_1 \in \mathcal{C}_1^{\perp}\backslash\mathcal{C}_1$ such that $\mathcal{C}_2 =< v_1, \mathcal{C}_1 >$ is an $[n, 2]$ binary self-orthogonal code. At this point, $dim(\mathcal{C}_1^{\perp}) = n - 1$ and so $|\mathcal{C}_1^{\perp}| = 2^{n-1}$. However, $\mathcal{C}_1 = \{\mathbf{0}, \mathbf{1}\} \subset \mathcal{C}_1^{\perp}$, and so $|\mathcal{C}_1^{\perp}\backslash\mathcal{C}_1| = 2^{n-1} - 2$. Choosing vectors from the same coset will yield the same code. There are $\frac{2^{n-1}}{2} = 2^{n-2} - 1$ cosets in $\mathcal{C}_1^{\perp}\backslash\mathcal{C}_1$. Thus there are $2^{n-2} - 1$ ways to pick v_1 and so there are $S_2 = \frac{2^{n-2(2-1)}-1}{2^{2-1}-1} * 1 = 2^{n-2} - 1$ binary $[n, 2]$ self-orthogonal codes containing $\mathbf{1}$. Assume that S_k is the number $[n, k]$ binary self orthogonal codes containing $\mathbf{1}$. Assume that the formula holds for all $k = \{1, ..., \frac{n}{2}\}$. Consider the binary $[n, k+1]$ self-orthogonal code $\mathcal{C}_{k+1} =< v_k, \mathcal{C}_k >$ where $\mathcal{C}_k$ is a binary $[n, k]$ self-orthogonal code ,$v_k \in \mathcal{C}_k^{\perp}\backslash\mathcal{C}_k$, and $\mathbf{1} \in \mathcal{C}_{k+1}$. Since $dim(\mathcal{C}_k^{\perp}) = n - k$, $|\mathcal{C}_k^{\perp}| = 2^{n-k}$. So $|\mathcal{C}_k^{\perp}\backslash\mathcal{C}_k| = 2^{n-k} - 2^k$. However, every vector in $\mathcal{C}_k^{\perp}\backslash\mathcal{C}_k$ belongs to a coset of $\mathcal{C}_k$ in $\mathcal{C}_k^{\perp}$. Choosing two vectors from the same coset will produce the same code. The number of distinct codes that can be produced is $\frac{2^{n-k}-2^k}{2^k} = 2^{n-2k} - 1$. Binary $[n, k]$ self orthogonal codes containing $\mathbf{1}$ are not unique for $k > 1$. The chain $\mathcal{C}_1 =< \mathbf{0}, \mathbf{1} >\subset \mathcal{C}_2 =< v_1, \mathcal{C}_1 >\subset ... \subset \mathcal{C}_k =< v_{k-1}, \mathcal{C}_{k-1} >\subset \mathcal{C}_{k+1} =< v_k, \mathcal{C}_k >$ creates the $[n, k+1]$ code $\mathcal{C}_{k+1}$ generated by $< \mathbf{1}, v_1, ..., v_{k-1}, v_k >$. The same code is generated by $< \mathbf{1}, v_k, ..., v_{k-1}, v_1 >$ (swap v_1 and v_k) built by the chain $\mathcal{C}_1 =< \mathbf{0}, \mathbf{1} >\subset \mathcal{C}_2^* =< v_k, \mathcal{C}_1 >\subset ... \subset \mathcal{C}_k^* =< v_{k-1}, \mathcal{C}_{k-1}^* >\subset \mathcal{C}_{k+1} =< v_1, \mathcal{C}_k^* >$. Notice that $\mathcal{C}_{k+1} =< v_1, \mathcal{C}_k^* >=< v_k, \mathcal{C}_k >$ but $\mathcal{C}_k^* \neq \mathcal{C}_k$. There are $2^k - 1$ distinct subcodes of $\mathcal{C}_{k+1}$ that contain $\mathbf{1}$. So there are $\frac{2^{n-2k}-1}{2^k-1}$ ways to develop a chain to create an $[n, k+1]$ self-orthogonal code containing $\mathbf{1}$. By mathematical induction $S_{k+1} = \frac{2^{n-2k}-1}{2^k-1} S_k$ holds for $k = \{1, ..., \frac{n}{2}\}$. The recursive formula gives

$$S_{\frac{n}{2}} = \frac{2^2 - 1}{2^{\frac{n}{2}-1} - 1} \cdots \frac{2^{n-6} - 1}{2^3 - 1} * \frac{2^{n-4} - 1}{2^2 - 1} * \frac{2^{n-2} - 1}{2^1 - 1} = \frac{\prod_{i=1}^{\frac{n}{2}-1} 2^{n-2i} - 1}{\prod_{i=1}^{\frac{n}{2}-1} 2^i - 1}$$

Reordering the product yields

$$\frac{\prod_{i=1}^{\frac{n}{2}-1} 2^{n-2i}-1}{\prod_{i=1}^{\frac{n}{2}-1} 2^i-1} = \frac{\prod_{i=1}^{\frac{n}{2}-1} 2^{2i}-1}{\prod_{i=1}^{\frac{n}{2}-1} 2^i-1} = \frac{\prod_{i=1}^{\frac{n}{2}-1}(2^i-1)(2^i+1)}{\prod_{i=1}^{\frac{n}{2}-1} 2^i-1} = \prod_{i=1}^{\frac{n}{2}-1} \frac{(2^i-1)(2^i+1)}{2^i-1} = \prod_{i=1}^{\frac{n}{2}-1} 2^i+1$$

Both sides of the mass formula count the number of distinct binary self-dual codes of length n. □

As with many problems in mathematics stating the problem and outlining a pseudo code algorithm is much simpler than implementing the algorithm. The algorithm to classify self-dual linear binary codes of a specific length is as follows:

- Find a self-dual code that is not equivalent to any self-dual code already found.
- Compute the size of the automorphism group for the code.
- Compute how many codes are equivalent to the new self-dual code found.
- Add up the total number of equivalent codes for all non equivalent self-dual codes found.
- If the total is equal to the right hand side of the mass formula then you have classified all self-dual linear codes. If not, then keep searching.

The key is being able to compute the size of the automorphism group for each code. This is not a simple task. Software packages that can compute the automorphism group of a linear code likely uses a verison of an algorithm created by Jeffrey Leon in 1982. The pseudo code can be found in [15]. The pseudo code for Leon's algorithm is roughly 200+ lines and the actual computer implementation using the C programming language is 2000+ lines of code. The same algorithm is used to also compute the automorphism groups of t-designs.

5.2 Demonstration of Binary Self-Dual Code Classification

To demonstrate how the classification process works I will classify a few small length binary self-dual codes. The first step in classifying self-dual codes is to classify all the decomposable codes. Recall, that decomposable codes are codes that are created from smaller length codes using direct sums. Decomposable codes have very predictable automorphism group sizes.

Theorem 5.2. Let $\mathcal{C}_1$ and $\mathcal{C}_2$ be non-equivalent self-dual codes of lengths n_1 and n_2 respectively and with automorphism groups of size m_1 and m_2 respectively. The size of the automorphism group of $\mathcal{C}_1 \oplus \mathcal{C}_2$ is $m_1 * m_2$.

Proof. Let $\mathcal{C}_1$ be a self-dual binary linear code of length n_1 and have an automorhpism group of size m_1 and $\mathcal{C}_2$ be a self-dual binary linear code of length n_2 and have automorphism group of size m_2. Consider the standard direct sum generator matrix outlined earlier. Any permutation in the automorphism group of $\mathcal{C}_1$ applied to the first n_1 columns of $\mathcal{C}_1 \oplus \mathcal{C}_2$ is an automorphism of $\mathcal{C}_1 \oplus \mathcal{C}_2$. Likewise, any permutation of the automorphism group of $\mathcal{C}_2$ applied to the last n_2 columns of $\mathcal{C}_1 \oplus \mathcal{C}_2$ is an automorphism of $\mathcal{C}_1 \oplus \mathcal{C}_2$. So every permutation pair $(\sigma_1, \sigma_2) \in AUT(\mathcal{C}_1) \times AUT(\mathcal{C}_2)$ is an automorphism of $\mathcal{C}_1 \oplus \mathcal{C}_2$. The size of $AUT(\mathcal{C}_1) \times AUT(\mathcal{C}_2)$ is $m_1 * m_2$. □

If the direct sum involves self-dual codes that are equivalent then the size of the automorphism group is just as predictable.

Corollary 5.1. *Let $\mathcal{C}$ be a linear self-dual code with automorphism group size of m. The size of the automorphism group of $\bigoplus_{i=1}^{n} \mathcal{C}$ is $n! * m^n$*

Essentially the repeated direct sum is the same as the normal direct sum except all the summands can be permuted in $n!$ ways. The rest of this section is basically an actual classification process of self-dual linear codes. Let $\mathcal{C}_{n,m}$ be the mth distinct indecomposable binary self-dual linear code of length n. For $n = 2$ the right hand side of the mass formula is defined to be 1. There is only one self-dual binary linear code of length 2. So $\mathcal{C}_{2,1}$ is unique with

$$\begin{bmatrix} 1 & 1 \end{bmatrix}$$

as the generator matrix. This code has automorphism size of 2. There are $\frac{2!}{2} = 1$ equivalent codes, the code itself. Below is a table of computed values for the right hand side of the mass formula.

Table 5.1: Total Number of Distinct Self-Dual Codes By Length

SD Code Length	Num of Distinct Self-Dual Codes
2	1
4	3
6	15
8	135
10	2295
12	75735
14	4922775
16	635037975

Below is a series of tables of linear codes with their contributions to the left hand side of the mass formula.

Table 5.2: Classification of Length 2 Self-Dual Binary Codes

Self-Dual Linear Code	Automorphism Group Size	Distinct Equivalent Codes
$\mathcal{C}_{2,1}$	2	$\frac{2!}{2} = 1$
Total Accounted Distinct Self-Dual Codes		1

Since the total left hand contribution equals the right hand contribution of the mass formula, the length 2 self-dual binary codes have been classified. The classification for the binary self-dual codes of lengths up to 16 are given. The binary self-orthogonal and self-dual codes of length 20 or less were classified in [16] by Vera Pless in 1972.

Table 5.3: Classification of Length 4 Self-Dual Binary Codes

Self-Dual Linear Code	Automorphism Group Size	Distinct Equivalent Codes
$2\mathcal{C}_{2,1}$	$2! * 2^2 = 8$	$\frac{4!}{8} = 3$
Total Accounted Distinct Self-Dual Codes		3

Table 5.4: Classification of Length 6 Self-Dual Binary Codes

Self-Dual Linear Code	Automorphism Group Size	Distinct Equivalent Codes
$3\mathcal{C}_{2,1}$	$3! * 2^3 = 48$	$\frac{6!}{48} = 15$
Total Accounted Distinct Self-Dual Codes		15

Table 5.5: Classification of Length 8 Self-Dual Binary Codes

Self-Dual Linear Code	Automorphism Group Size	Distinct Equivalent Codes
$4\mathcal{C}_{2,1}$	$4! * 2^4 = 384$	$\frac{8!}{384} = 105$
$\mathcal{C}_{8,1}$	1344	$\frac{8!}{1344} = 30$
Total Accounted Distinct Self-Dual Codes		135

In the classification of length 8 self-dual binary codes it is shown that there exists one indecomposable code $\mathcal{C}_{8,1}$. Recall that there are two types of binary self-dual codes. In a Type I code all codeword weights are divisible 2. In a Type II code all codeword weights are divisible by 4. Type II codes can only exist for lengths that are a multiple of 8.

Theorem 5.3. A length n self-dual Type II linear code $\mathcal{C}$ can only exist for $n \equiv 0 \ mod \ 8$.

Proof. Let $\mathcal{C}$ be a Type II code. Assume to the contrary that $n \not\equiv 0 \ mod \ 8$. A self-dual linear binary code must contain the all one vector $\mathbf{1}$ which has Hamming weight n. Let c be a codeword in $\mathcal{C}$ with Hamming weight $m \equiv 0 \ mod \ 8$. The codeword $\mathbf{1} + c$ is also a codeword of $\mathcal{C}$. The Hamming weight of $\mathbf{1} + c \not\equiv 0 \ mod \ 8$. This a contradiction that the code is Type II. Thus for a code to be Type II the length must be a multiple of 8. □

This is the first instance where the length might yield a type II code. Recall from earlier that if a generator matrix is comprised of doubly even codewords then the code is doubly even. A generator matrix that meets this criteria can be easily constructed as

$$\mathcal{C}_{8,1} = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 1 & 1 & 1 \\ 0 & 1 & 0 & 0 & 1 & 0 & 1 & 1 \\ 0 & 0 & 1 & 0 & 1 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 & 1 & 1 & 0 \end{bmatrix}$$

.

This is actually the only $[8, 4]$ extended Hamming code.

The mass formula is satisfied and so there is one type I and one type II length 8 self-dual code. In many instances it may be worth looking at another mass formula.

Theorem 5.4 (Type II Mass Formula)**.** Let $\mathcal{S}$ be a set of all possible inequivalent Type II codes length n. Then

$$\sum_{\mathcal{C} \in \mathcal{S}} \frac{n!}{|AUT(\mathcal{C})|} = \prod_{i=0}^{\frac{n}{2}-2} (2^i + 1)$$

where $|AUT(\mathcal{C})|$ is the size of the automorphism group of the self-dual linear code $\mathcal{C}$.

The proof of this theorem is much like the proof for the standard mass formula, except cosets of doubly even vectors are selected at each iteration.

Table 5.6: Classification of Length 10 Self-Dual Binary Codes

Self-Dual Linear Code	Automorphism Group Size	Distinct Equivalent Codes
$5\mathcal{C}_{2,1}$	$5! * 2^5 = 3840$	$\frac{10!}{3840} = 945$
$\mathcal{C}_{2,1} \oplus \mathcal{C}_{8,1}$	$2 * 1344 = 2688$	$\frac{10!}{2688} = 1350$
Total Accounted Distinct Self-Dual Codes		2295

Every time a new indecomposible code is added to the list of classified codes, the new code becomes a critical part in classifying new codes.

Table 5.7: Classification of Length 12 Self-Dual Binary Codes

Self-Dual Linear Code	Automorphism Group Size	Distinct Equivalent Codes
$6\mathcal{C}_{2,1}$	$6! * 2^6 = 46080$	$\frac{12!}{46080} = 10395$
$2\mathcal{C}_{2,1} \oplus \mathcal{C}_{8,1}$	$2! * 2^2 * 1344 = 10752$	$\frac{12!}{10752} = 44550$
$\mathcal{C}_{12,1}$	23040	$\frac{12!}{23040} = 20790$
Total Accounted Distinct Self-Dual Codes		75735

The length 12 self-dual codes added another indecomposable code $\mathcal{C}_{12,1}$. This code has generator matrix

$$\mathcal{C}_{12,1} = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 1 & 1 & 1 & 1 \\ 0 & 1 & 0 & 0 & 0 & 0 & 1 & 1 & 1 & 1 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 1 & 1 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 & 1 & 1 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 & 1 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 & 1 & 0 & 0 & 1 & 1 \end{bmatrix}$$

.

Table 5.8: Classification of Length 14 Self-Dual Binary Codes

Self-Dual Linear Code	Automorphism Group Size	Distinct Equivalent Codes
$7\mathcal{C}_{2,1}$	$7! * 2^7 = 645120$	$\frac{14!}{645120} = 135135$
$3\mathcal{C}_{2,1} \oplus \mathcal{C}_{8,1}$	$3! * 2^3 * 1344 = 64512$	$\frac{14!}{64512} = 1351350$
$\mathcal{C}_{2,1} \oplus \mathcal{C}_{12,1}$	$2 * 23040 = 46080$	$\frac{14!}{46080} = 1891890$
$\mathcal{C}_{14,1}$	56448	$\frac{14!}{56448} = 1544400$
Total Accounted Distinct Self-Dual Codes		4922775

The classification of the length 14 codes revealed another indecomposable code $\mathcal{C}_{14,1}$ with generator matrix

$$\mathcal{C}_{14,1} = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 1 & 0 & 1 & 1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 & 1 & 1 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 1 & 1 & 1 & 1 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 & 1 & 0 & 0 & 1 & 1 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 1 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 1 & 1 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 1 & 1 & 1 & 0 & 0 \end{bmatrix}$$

.

Table 5.9: Classification of Length 16 Self-Dual Binary Codes

Self-Dual Linear Code	Automorphism Group Size	Distinct Equivalent Codes
$8\mathcal{C}_{2,1}$	$8! * 2^8 = 10321920$	$\frac{16!}{10321920} = 2027025$
$4\mathcal{C}_{2,1} \oplus \mathcal{C}_{8,1}$	$4! * 2^4 * 1344 = 516096$	$\frac{16!}{516096} = 40540500$
$2\mathcal{C}_{2,1} \oplus \mathcal{C}_{12,1}$	$2! * 2^2 * 23040 = 184320$	$\frac{16!}{184320} = 113513400$
$\mathcal{C}_{2,1} \oplus \mathcal{C}_{14,1}$	$2 * 56448 = 112896$	$\frac{16!}{112896} = 185328000$
$2\mathcal{C}_{8,1}$	$2! * 1344^2 = 3612672$	$\frac{16!}{3612672} = 5791500$
$\mathcal{C}_{16,1}$	73728	$\frac{16!}{73728} = 283783500$
$\mathcal{C}_{16,2}$	5160960	$\frac{16!}{5160960} = 4054050$
Total Accounted Distinct Self-Dual Codes		635037975

The length 16 self-dual codes show that there are two indecomposable codes. One is a Type I code with generator matrix

$$\mathcal{C}_{16,1} = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 1 & 1 & 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 1 & 1 & 1 & 1 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 1 & 1 & 1 & 0 & 1 & 1 & 1 & 1 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 1 & 1 & 1 & 1 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 1 & 1 & 0 & 1 & 1 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 1 & 0 & 1 & 1 & 1 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 1 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 1 & 0 & 0 & 1 & 1 \end{bmatrix}$$

.

The other is a Type II code with generator matrix

$$\mathcal{C}_{16,2} = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 1 & 0 & 1 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 1 & 1 & 1 & 1 & 1 & 0 & 1 & 1 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 1 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 1 & 1 & 1 \end{bmatrix}$$

.

This is a classic example where the type II mass formula is useful. The decomposable codes come up short on both the Type I and Type II mass formulas. The amount that they fall short by are two different amounts. This implies that there is at least one Type I indecomposable code and a Type II indecomposible code. The classification process just continues in like fashion. To date, all binary self-dual codes up to length 40 have been classified. Table 5.10 gives an overview of the total number of Type I and Type II of codes that have been classified to date. Understanding the algorithms of the classification process and being able to actually implement them are two separate ventures. Many of the algorithms consume a significant amount of computational resources. The algorithms also require a certain amount of technical skill to execute them in a feasible time frame. Some of the techniques I used to implement the algorithms include parallel computing with GPU processors, storing results in relational databases, and writing program scripts using lower-level architectural dependent computer programming languages. As an exercise to strengthen my understanding of the classification process I reclassified the length 36 self-dual codes. There are 519492 of them so it would be unfeasible to list them all. I did list all weight enumerators and the number of codes that have that specific weight enumerator in appendix table A.

Table 5.10: Classification Self-Dual Binary Codes Up to Length 40

Length	Type I	Type II	Total
2	1	0	1
4	1	0	1
6	1	0	1
8	1	1	2
10	2	0	2
12	3	0	3
14	4	0	4
16	5	2	7
18	9	0	9
20	16	0	16
22	25	0	25
24	46	9	55
26	103	0	103
28	261	0	261
30	731	0	731
32	3210	85	3295
34	24147	0	24147
36	519492	0	519492
38	38682183	0	38682183
40	10200655	94343	10294998

5.3 Conclusion

I would like to thank Dr. Steve Szabo for all his patience and help. If I were asked to compose a list that itemized everything I had to be grateful for, I would absolutely feel obligated to crediting Dr. Szabo for introducing me to coding theory toward the top of the list. I could not imagine finding a field of mathematics that better suits my skill set. Coding theory has developed into somewhat of a hobby. It is truly a good feeling to have a working knowledge of such a strong and broad field of mathematics. I enjoy knowing that I am able to read journal articles in the field and be able to understand a fair amount of the content. The learning curve for coding theory, in my opinion, can be as steep as you want it to be. Coding theory forces a person to understand the physical and computational limits of a computer, and require more thoughtful programming. Coding theory also

forces a person to learn many other fields of mathematics such as t-designs, combinatorics, vector spaces, and linear algebra just to name a few. Writing this thesis has been one of the greatest and most challenging and rewarding endeavors I have attempted. I look forward to furthering my career and educational goals with coding theory.

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Appendices

A Length 36 Self Dual Weight Enumerators

The table in this appendix lists all the possible weight distributions for the length 36 binary self-dual codes. There are 519492 binary self-dual codes of length 36. It would be not be feasible to list them all in this appendix, and so they are grouped by weight distribution. The table gives the number of codes, up to column equivalence, that share the same weight distribution. Symmetric weight values are grouped in the same column. The following equations

$$\begin{aligned}
\mathcal{A}_0 &= \mathcal{A}_{36} = 1 \\
\mathcal{A}_2 &= \mathcal{A}_{34} = \alpha \\
\mathcal{A}_4 &= \mathcal{A}_{34} = 12\alpha + \beta \\
\mathcal{A}_6 &= \mathcal{A}_{30} = 64\alpha + 6\beta + \gamma \\
\mathcal{A}_8 &= \mathcal{A}_{28} = 33 + 196\alpha + 11\beta + 64\delta \\
\mathcal{A}_{10} &= \mathcal{A}_{26} = 3168 + 364\alpha - 4\beta - 6\gamma - 384\delta \\
\mathcal{A}_{12} &= \mathcal{A}_{24} = 7059 + 364\alpha - 39\beta + 832\delta \\
\mathcal{A}_{14} &= \mathcal{A}_{22} = 30336 - 38\beta + 15\gamma - 512\delta \\
\mathcal{A}_{16} &= \mathcal{A}_{20} = 58443 - 572\alpha + 27\beta - 896\delta \\
\mathcal{A}_{18} &= \mathcal{A}_{18} = 64064 - 858\alpha + 72\beta - 20\gamma + 1792\delta
\end{aligned}$$

show that the weight distribution for binary self-dual codes of length 36 can be parameterized by the four variables α, β, δ, and γ.

Table A.1: Complete Weight Distributions of the Length 36 Binary Self Dual Codes

Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	α	β	δ	γ
14536	1	0	1	16	236	1952	9516	28912	55782	69312	0	1	3	10
13956	1	0	1	14	236	1964	9516	28882	55782	69352	0	1	3	8
12434	1	0	2	18	247	1972	9477	28814	55809	69464	0	2	3	6
12270	1	0	2	16	247	1984	9477	28784	55809	69504	0	2	3	4
12163	1	0	1	18	236	1940	9516	28942	55782	69272	0	1	3	12
12014	1	0	1	12	236	1976	9516	28852	55782	69392	0	1	3	6
11052	1	0	2	14	247	1996	9477	28754	55809	69544	0	2	3	2
10708	1	0	2	20	247	1960	9477	28844	55809	69424	0	2	3	8
10262	1	0	0	14	225	1932	9555	29010	55755	69160	0	0	3	14
9903	1	0	1	20	236	1928	9516	28972	55782	69232	0	1	3	14
9739	1	0	0	12	225	1944	9555	28980	55755	69200	0	0	3	12
9148	1	0	2	22	247	1948	9477	28874	55809	69384	0	2	3	10
8981	1	0	3	20	258	1992	9438	28716	55836	69616	0	3	3	2
8493	1	0	0	16	225	1920	9555	29040	55755	69120	0	0	3	16
8334	1	0	3	18	258	2004	9438	28686	55836	69656	0	3	3	0
8146	1	0	3	16	258	2016	9438	28656	55836	69696	0	3	3	-2
8143	1	0	2	12	247	2008	9477	28724	55809	69584	0	2	3	0
7929	1	0	1	10	236	1988	9516	28822	55782	69432	0	1	3	4

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Table A.1 – *Continued from previous page*

Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
7710	1	0	0	10	225	1956	9555	28950	55755	69240	0	0	3	10
7245	1	0	3	22	258	1980	9438	28746	55836	69576	0	3	3	4
6870	1	0	3	24	258	1968	9438	28776	55836	69536	0	3	3	6
6432	1	0	0	18	225	1908	9555	29070	55755	69080	0	0	3	18
6315	1	0	3	14	258	2028	9438	28626	55836	69736	0	3	3	-4
6219	1	0	1	22	236	1916	9516	29002	55782	69192	0	1	3	16
6185	1	0	2	24	247	1936	9477	28904	55809	69344	0	2	3	12
5624	1	0	4	22	269	2012	9399	28618	55863	69768	0	4	3	-2
5375	1	0	4	20	269	2024	9399	28588	55863	69808	0	4	3	-4
5282	1	0	4	18	269	2036	9399	28558	55863	69848	0	4	3	-6
5154	1	0	2	10	247	2020	9477	28694	55809	69624	0	2	3	-2
4809	1	0	2	26	247	1924	9477	28934	55809	69304	0	2	3	14
4706	1	0	3	12	258	2040	9438	28596	55836	69776	0	3	3	-6
4701	1	0	3	26	258	1956	9438	28806	55836	69496	0	3	3	8
4670	1	0	4	24	269	2000	9399	28648	55863	69728	0	4	3	0
4535	1	0	0	8	225	1968	9555	28920	55755	69280	0	0	3	8
4476	1	0	4	26	269	1988	9399	28678	55863	69688	0	4	3	2
4436	1	0	1	24	236	1904	9516	29032	55782	69152	0	1	3	18
4426	1	0	4	16	269	2048	9399	28528	55863	69888	0	4	3	-8

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Table A.1 – *Continued from previous page*

Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
4229	1	0	1	8	236	2000	9516	28792	55782	69472	0	1	3	2
4124	1	0	3	28	258	1944	9438	28836	55836	69456	0	3	3	10
3773	1	0	0	20	225	1896	9555	29100	55755	69040	0	0	3	20
3615	1	0	5	24	280	2032	9360	28520	55890	69920	0	5	3	-6
3535	1	0	5	20	280	2056	9360	28460	55890	70000	0	5	3	-10
3414	1	0	4	14	269	2060	9399	28498	55863	69928	0	4	3	-10
3233	1	0	4	28	269	1976	9399	28708	55863	69648	0	4	3	4
3216	1	0	5	22	280	2044	9360	28490	55890	69960	0	5	3	-8
3060	1	0	5	28	280	2008	9360	28580	55890	69840	0	5	3	-2
2966	1	0	4	30	269	1964	9399	28738	55863	69608	0	4	3	6
2760	1	0	5	18	280	2068	9360	28430	55890	70040	0	5	3	-12
2741	1	0	5	26	280	2020	9360	28550	55890	69880	0	5	3	-4
2630	1	0	3	10	258	2052	9438	28566	55836	69816	0	3	3	-8
2587	1	0	2	8	247	2032	9477	28664	55809	69664	0	2	3	-4
2576	1	0	2	28	247	1912	9477	28964	55809	69264	0	2	3	16
2543	1	0	5	16	280	2080	9360	28400	55890	70080	0	5	3	-14
2332	1	0	4	12	269	2072	9399	28468	55863	69968	0	4	3	-12
2319	1	0	0	22	225	1884	9555	29130	55755	69000	0	0	3	22
2272	1	0	6	26	291	2052	9321	28422	55917	70072	0	6	3	-10

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Table A.1 – *Continued from previous page*

Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2261	1	0	3	30	258	1932	9438	28866	55836	69416	0	3	3	12
2199	1	0	5	32	280	1984	9360	28640	55890	69760	0	5	3	2
2148	1	0	6	22	291	2076	9321	28362	55917	70152	0	6	3	-14
2045	1	0	5	30	280	1996	9360	28610	55890	69800	0	5	3	0
2028	1	0	1	26	236	1892	9516	29062	55782	69112	0	1	3	20
2018	1	0	3	32	258	1920	9438	28896	55836	69376	0	3	3	14
1971	1	0	0	6	225	1980	9555	28890	55755	69320	0	0	3	6
1937	1	0	2	30	247	1900	9477	28994	55809	69224	0	2	3	18
1916	1	0	6	24	291	2064	9321	28392	55917	70112	0	6	3	-12
1861	1	0	6	30	291	2028	9321	28482	55917	69992	0	6	3	-6
1790	1	0	4	32	269	1952	9399	28768	55863	69568	0	4	3	8
1782	1	0	6	20	291	2088	9321	28332	55917	70192	0	6	3	-16
1749	1	0	6	28	291	2040	9321	28452	55917	70032	0	6	3	-8
1672	1	0	4	34	269	1940	9399	28798	55863	69528	0	4	3	10
1639	1	0	5	14	280	2092	9360	28370	55890	70120	0	5	3	-16
1639	1	0	6	18	291	2100	9321	28302	55917	70232	0	6	3	-18
1576	1	0	1	6	236	2012	9516	28762	55782	69512	0	1	3	0
1544	1	0	7	28	302	2072	9282	28324	55944	70224	0	7	3	-14
1491	1	0	7	24	302	2096	9282	28264	55944	70304	0	7	3	-18

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1434	1	0	1	28	236	1880	9516	29092	55782	69072	0	1	3	22
1421	1	0	3	8	258	2064	9438	28536	55836	69856	0	3	3	-10
1410	1	0	6	34	291	2004	9321	28542	55917	69912	0	6	3	-2
1353	1	0	4	10	269	2084	9399	28438	55863	70008	0	4	3	-14
1331	1	0	5	36	280	1960	9360	28700	55890	69680	0	5	3	6
1326	1	0	7	32	302	2048	9282	28384	55944	70144	0	7	3	-10
1291	1	0	6	32	291	2016	9321	28512	55917	69952	0	6	3	-4
1290	1	0	5	12	280	2104	9360	28340	55890	70160	0	5	3	-18
1219	1	0	7	20	302	2120	9282	28204	55944	70384	0	7	3	-22
1192	1	0	6	16	291	2112	9321	28272	55917	70272	0	6	3	-20
1176	1	0	7	26	302	2084	9282	28294	55944	70264	0	7	3	-16
1172	1	0	5	34	280	1972	9360	28670	55890	69720	0	5	3	4
1102	1	0	7	22	302	2108	9282	28234	55944	70344	0	7	3	-20
1038	1	0	7	36	302	2024	9282	28444	55944	70064	0	7	3	-6
987	1	0	7	30	302	2060	9282	28354	55944	70184	0	7	3	-12
967	1	0	6	38	291	1980	9321	28602	55917	69832	0	6	3	2
954	1	0	0	24	225	1872	9555	29160	55755	68960	0	0	3	24
948	1	0	6	14	291	2124	9321	28242	55917	70312	0	6	3	-22
939	1	0	2	6	247	2044	9477	28634	55809	69704	0	2	3	-6

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Table A.1 – *Continued from previous page*

Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
867	1	0	8	30	313	2092	9243	28226	55971	70376	0	8	3	-18
864	1	0	3	34	258	1908	9438	28926	55836	69336	0	3	3	16
859	1	0	8	26	313	2116	9243	28166	55971	70456	0	8	3	-22
852	1	0	3	36	258	1896	9438	28956	55836	69296	0	3	3	18
827	1	0	7	16	302	2144	9282	28144	55944	70464	0	7	3	-26
823	1	0	7	34	302	2036	9282	28414	55944	70104	0	7	3	-8
813	1	0	5	40	280	1936	9360	28760	55890	69600	0	5	3	10
805	1	0	6	36	291	1992	9321	28572	55917	69872	0	6	3	0
801	1	0	4	36	269	1928	9399	28828	55863	69488	0	4	3	12
787	1	0	2	32	247	1888	9477	29024	55809	69184	0	2	3	20
775	1	0	4	38	269	1916	9399	28858	55863	69448	0	4	3	14
774	1	0	8	34	313	2068	9243	28286	55971	70296	0	8	3	-14
757	1	0	7	18	302	2132	9282	28174	55944	70424	0	7	3	-24
739	1	0	8	22	313	2140	9243	28106	55971	70536	0	8	3	-26
732	1	0	7	40	302	2000	9282	28504	55944	69984	0	7	3	-2
710	1	0	9	32	324	2112	9204	28128	55998	70528	0	9	3	-22
680	1	0	8	28	313	2104	9243	28196	55971	70416	0	8	3	-20
668	1	0	4	8	269	2096	9399	28408	55863	70048	0	4	3	-16
653	1	0	2	34	247	1876	9477	29054	55809	69144	0	2	3	22

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Table A.1 – *Continued from previous page*

Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
649	1	0	8	24	313	2128	9243	28136	55971	70496	0	8	3	-24
633	1	0	5	10	280	2116	9360	28310	55890	70200	0	5	3	-20
633	1	0	8	38	313	2044	9243	28346	55971	70216	0	8	3	-10
611	1	0	5	38	280	1948	9360	28730	55890	69640	0	5	3	8
608	1	0	9	28	324	2136	9204	28068	55998	70608	0	9	3	-26
602	1	0	8	32	313	2080	9243	28256	55971	70336	0	8	3	-16
580	1	0	9	24	324	2160	9204	28008	55998	70688	0	9	3	-30
579	1	0	0	26	225	1860	9555	29190	55755	68920	0	0	3	26
559	1	0	0	4	225	1992	9555	28860	55755	69360	0	0	3	4
556	1	0	9	36	324	2088	9204	28188	55998	70448	0	9	3	-18
553	1	1	3	28	322	2308	10270	29412	54940	67574	1	-9	3	18
553	1	0	3	12	322	1656	10270	28084	54940	71568	0	3	4	-6
546	1	0	7	44	302	1976	9282	28564	55944	69904	0	7	3	2
545	1	1	2	22	311	2312	10309	29450	54913	67502	1	-10	3	18
545	1	0	2	12	311	1624	10309	28212	54913	71376	0	2	4	0
536	1	0	6	42	291	1956	9321	28662	55917	69752	0	6	3	6
530	1	0	6	12	291	2136	9321	28212	55917	70352	0	6	3	-24
529	1	1	2	26	311	2288	10309	29510	54913	67422	1	-10	3	22
529	1	0	2	10	311	1636	10309	28182	54913	71416	0	2	4	-2

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Table A.1 – *Continued from previous page*

Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
519	1	0	7	38	302	2012	9282	28474	55944	70024	0	7	3	-4
503	1	0	9	40	324	2064	9204	28248	55998	70368	0	9	3	-14
485	1	0	8	20	313	2152	9243	28076	55971	70576	0	8	3	-28
484	1	0	8	18	313	2164	9243	28046	55971	70616	0	8	3	-30
475	1	0	8	42	313	2020	9243	28406	55971	70136	0	8	3	-6
473	1	0	3	6	258	2076	9438	28506	55836	69896	0	3	3	-12
459	1	0	8	36	313	2056	9243	28316	55971	70256	0	8	3	-12
458	1	0	3	14	322	1644	10270	28114	54940	71528	0	3	4	-4
458	1	1	3	24	322	2332	10270	29352	54940	67654	1	-9	3	14
448	1	1	1	20	300	2292	10348	29548	54886	67350	1	-11	3	22
448	1	0	1	10	300	1604	10348	28310	54886	71224	0	1	4	4
447	1	0	9	26	324	2148	9204	28038	55998	70648	0	9	3	-28
446	1	0	1	8	300	1616	10348	28280	54886	71264	0	1	4	2
446	1	1	1	24	300	2268	10348	29608	54886	67270	1	-11	3	26
441	1	0	2	8	311	1648	10309	28152	54913	71456	0	2	4	-4
441	1	0	1	4	236	2024	9516	28732	55782	69552	0	1	3	-2
441	1	1	2	30	311	2264	10309	29570	54913	67342	1	-10	3	26
436	1	0	6	40	291	1968	9321	28632	55917	69792	0	6	3	4
436	1	0	7	14	302	2156	9282	28114	55944	70504	0	7	3	-28

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
435	1	1	4	34	333	2304	10231	29374	54967	67646	1	-8	3	18
435	1	0	4	12	333	1688	10231	27956	54967	71760	0	4	4	-12
433	1	0	1	30	236	1868	9516	29122	55782	69032	0	1	3	24
428	1	0	9	20	324	2184	9204	27948	55998	70768	0	9	3	-34
423	1	0	10	34	335	2132	9165	28030	56025	70680	0	10	3	-26
421	1	0	9	30	324	2124	9204	28098	55998	70568	0	9	3	-24
417	1	0	4	14	333	1676	10231	27986	54967	71720	0	4	4	-10
417	1	1	4	30	333	2328	10231	29314	54967	67726	1	-8	3	14
410	1	0	3	10	322	1668	10270	28054	54940	71608	0	3	4	-8
410	1	1	3	32	322	2284	10270	29472	54940	67494	1	-9	3	22
406	1	1	4	26	333	2352	10231	29254	54967	67806	1	-8	3	10
406	1	0	4	16	333	1664	10231	28016	54967	71680	0	4	4	-8
404	1	0	9	34	324	2100	9204	28158	55998	70488	0	9	3	-20
402	1	0	7	12	302	2168	9282	28084	55944	70544	0	7	3	-30
399	1	0	5	8	280	2128	9360	28280	55890	70240	0	5	3	-22
390	1	0	1	32	236	1856	9516	29152	55782	68992	0	1	3	26
366	1	0	4	42	269	1892	9399	28918	55863	69368	0	4	3	18
365	1	0	10	30	335	2156	9165	27970	56025	70760	0	10	3	-30
356	1	1	5	32	344	2348	10192	29216	54994	67878	1	-7	3	10

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
356	1	0	5	16	344	1696	10192	27888	54994	71872	0	5	4	-14
350	1	0	2	14	311	1612	10309	28242	54913	71336	0	2	4	2
350	1	1	2	18	311	2336	10309	29390	54913	67582	1	-10	3	14
349	1	0	9	44	324	2040	9204	28308	55998	70288	0	9	3	-10
339	1	1	3	36	322	2260	10270	29532	54940	67414	1	-9	3	26
339	1	0	3	8	322	1680	10270	28024	54940	71648	0	3	4	-10
337	1	0	9	38	324	2076	9204	28218	55998	70408	0	9	3	-16
336	1	0	5	44	280	1912	9360	28820	55890	69520	0	5	3	14
336	1	0	11	36	346	2152	9126	27932	56052	70832	0	11	3	-30
335	1	0	7	42	302	1988	9282	28534	55944	69944	0	7	3	0
334	1	0	6	46	291	1932	9321	28722	55917	69672	0	6	3	10
332	1	1	3	20	322	2356	10270	29292	54940	67734	1	-9	3	10
332	1	0	3	16	322	1632	10270	28144	54940	71488	0	3	4	-2
331	1	0	8	40	313	2032	9243	28376	55971	70176	0	8	3	-8
328	1	0	1	12	300	1592	10348	28340	54886	71184	0	1	4	6
328	1	1	1	16	300	2316	10348	29488	54886	67430	1	-11	3	18
328	1	0	6	10	291	2148	9321	28182	55917	70392	0	6	3	-26
324	1	0	9	22	324	2172	9204	27978	55998	70728	0	9	3	-32
318	1	0	10	26	335	2180	9165	27910	56025	70840	0	10	3	-34

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
318	1	0	8	16	313	2176	9243	28016	55971	70656	0	8	3	-32
315	1	0	10	38	335	2108	9165	28090	56025	70600	0	10	3	-22
306	1	0	8	46	313	1996	9243	28466	55971	70056	0	8	3	-2
305	1	0	9	48	324	2016	9204	28368	55998	70208	0	9	3	-6
301	1	1	5	36	344	2324	10192	29276	54994	67798	1	-7	3	14
301	1	0	5	14	344	1708	10192	27858	54994	71912	0	5	4	-16
297	1	1	5	40	344	2300	10192	29336	54994	67718	1	-7	3	18
297	1	0	5	12	344	1720	10192	27828	54994	71952	0	5	4	-18
296	1	0	9	16	324	2208	9204	27888	55998	70848	0	9	3	-38
290	1	0	3	40	258	1872	9438	29016	55836	69216	0	3	3	22
290	1	0	4	40	269	1904	9399	28888	55863	69408	0	4	3	16
286	1	0	10	42	335	2084	9165	28150	56025	70520	0	10	3	-18
285	1	0	11	32	346	2176	9126	27872	56052	70912	0	11	3	-34
282	1	0	5	18	344	1684	10192	27918	54994	71832	0	5	4	-12
282	1	1	5	28	344	2372	10192	29156	54994	67958	1	-7	3	6
279	1	1	6	38	355	2344	10153	29178	55021	67950	1	-6	3	10
279	1	0	6	16	355	1728	10153	27760	55021	72064	0	6	4	-20
277	1	0	10	28	335	2168	9165	27940	56025	70800	0	10	3	-32
272	1	0	1	6	300	1628	10348	28250	54886	71304	0	1	4	0

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
272	1	1	1	28	300	2244	10348	29668	54886	67190	1	-11	3	30
270	1	1	4	38	333	2280	10231	29434	54967	67566	1	-8	3	22
270	1	0	4	10	333	1700	10231	27926	54967	71800	0	4	4	-14
265	1	0	2	4	247	2056	9477	28604	55809	69744	0	2	3	-8
263	1	0	10	32	335	2144	9165	28000	56025	70720	0	10	3	-28
262	1	1	4	22	333	2376	10231	29194	54967	67886	1	-8	3	6
262	1	0	4	18	333	1652	10231	28046	54967	71640	0	4	4	-6
258	1	0	7	48	302	1952	9282	28624	55944	69824	0	7	3	6
257	1	1	0	18	289	2272	10387	29646	54859	67198	1	-12	3	26
257	1	0	0	8	289	1584	10387	28408	54859	71072	0	0	4	8
254	1	0	8	14	313	2188	9243	27986	55971	70696	0	8	3	-34
252	1	0	11	28	346	2200	9126	27812	56052	70992	0	11	3	-38
250	1	1	6	30	355	2392	10153	29058	55021	68110	1	-6	3	2
250	1	0	11	40	346	2128	9126	27992	56052	70752	0	11	3	-26
250	1	0	6	20	355	1704	10153	27820	55021	71984	0	6	4	-16
246	1	0	10	22	335	2204	9165	27850	56025	70920	0	10	3	-38
245	1	0	3	38	258	1884	9438	28986	55836	69256	0	3	3	20
244	1	0	9	18	324	2196	9204	27918	55998	70808	0	9	3	-36
243	1	0	5	42	280	1924	9360	28790	55890	69560	0	5	3	12

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
241	1	0	10	46	335	2060	9165	28210	56025	70440	0	10	3	-14
240	1	0	4	6	269	2108	9399	28378	55863	70088	0	4	3	-18
235	1	0	11	24	346	2224	9126	27752	56052	71072	0	11	3	-42
234	1	0	9	42	324	2052	9204	28278	55998	70328	0	9	3	-12
234	1	0	10	24	335	2192	9165	27880	56025	70880	0	10	3	-36
226	1	0	6	18	355	1716	10153	27790	55021	72024	0	6	4	-18
226	1	1	6	34	355	2368	10153	29118	55021	68030	1	-6	3	6
224	1	0	10	36	335	2120	9165	28060	56025	70640	0	10	3	-24
223	1	1	2	34	311	2240	10309	29630	54913	67262	1	-10	3	30
223	1	0	2	6	311	1660	10309	28122	54913	71496	0	2	4	-6
216	1	0	11	44	346	2104	9126	28052	56052	70672	0	11	3	-22
216	1	1	4	42	333	2256	10231	29494	54967	67486	1	-8	3	26
216	1	0	4	8	333	1712	10231	27896	54967	71840	0	4	4	-16
214	1	1	0	22	289	2248	10387	29706	54859	67118	1	-12	3	30
214	1	0	0	6	289	1596	10387	28378	54859	71112	0	0	4	6
213	1	0	6	44	291	1944	9321	28692	55917	69712	0	6	3	8
211	1	1	7	36	366	2388	10114	29020	55048	68182	1	-5	3	2
211	1	0	7	20	366	1736	10114	27692	55048	72176	0	7	4	-22
210	1	0	8	50	313	1972	9243	28526	55971	69976	0	8	3	2

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
209	1	0	5	48	280	1888	9360	28880	55890	69440	0	5	3	18
205	1	0	7	16	366	1760	10114	27632	55048	72256	0	7	4	-26
205	1	1	7	44	366	2340	10114	29140	55048	68022	1	-5	3	10
204	1	1	5	24	344	2396	10192	29096	54994	68038	1	-7	3	2
204	1	0	5	20	344	1672	10192	27948	54994	71792	0	5	4	-10
204	1	0	7	52	302	1928	9282	28684	55944	69744	0	7	3	10
202	1	0	12	38	357	2172	9087	27834	56079	70984	0	12	3	-34
201	1	0	11	48	346	2080	9126	28112	56052	70592	0	11	3	-18
200	1	0	2	38	247	1852	9477	29114	55809	69064	0	2	3	26
195	1	0	8	44	313	2008	9243	28436	55971	70096	0	8	3	-4
194	1	0	10	40	335	2096	9165	28120	56025	70560	0	10	3	-20
193	1	0	13	40	368	2192	9048	27736	56106	71136	0	13	3	-38
192	1	1	6	46	355	2296	10153	29298	55021	67790	1	-6	3	18
192	1	0	6	12	355	1752	10153	27700	55021	72144	0	6	4	-24
187	1	0	7	18	366	1748	10114	27662	55048	72216	0	7	4	-24
187	1	1	7	40	366	2364	10114	29080	55048	68102	1	-5	3	6
184	1	0	10	50	335	2036	9165	28270	56025	70360	0	10	3	-10
183	1	0	0	10	289	1572	10387	28438	54859	71032	0	0	4	10
183	1	1	0	14	289	2296	10387	29586	54859	67278	1	-12	3	22

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
178	1	1	6	42	355	2320	10153	29238	55021	67870	1	-6	3	14
178	1	0	6	14	355	1740	10153	27730	55021	72104	0	6	4	-22
171	1	0	8	20	377	1768	10075	27564	55075	72368	0	8	4	-28
171	1	0	3	4	258	2088	9438	28476	55836	69936	0	3	3	-14
171	1	0	11	30	346	2188	9126	27842	56052	70952	0	11	3	-36
171	1	1	8	42	377	2384	10075	28982	55075	68254	1	-4	3	2
163	1	0	2	36	247	1864	9477	29084	55809	69104	0	2	3	24
162	1	0	7	46	302	1964	9282	28594	55944	69864	0	7	3	4
162	1	0	11	34	346	2164	9126	27902	56052	70872	0	11	3	-32
160	1	0	10	18	335	2228	9165	27790	56025	71000	0	10	3	-42
160	1	0	11	20	346	2248	9126	27692	56052	71152	0	11	3	-46
158	1	0	10	20	335	2216	9165	27820	56025	70960	0	10	3	-40
157	1	0	7	22	366	1724	10114	27722	55048	72136	0	7	4	-20
157	1	1	7	32	366	2412	10114	28960	55048	68262	1	-5	3	-2
157	1	0	6	8	291	2160	9321	28152	55917	70432	0	6	3	-28
155	1	0	5	8	344	1744	10192	27768	54994	72032	0	5	4	-22
155	1	1	5	48	344	2252	10192	29456	54994	67558	1	-7	3	26
155	1	0	9	46	324	2028	9204	28338	55998	70248	0	9	3	-8
154	1	0	5	10	344	1732	10192	27798	54994	71992	0	5	4	-20

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
154	1	1	5	44	344	2276	10192	29396	54994	67638	1	-7	3	22
154	1	0	6	50	291	1908	9321	28782	55917	69592	0	6	3	14
153	1	0	9	56	324	1968	9204	28488	55998	70048	0	9	3	2
152	1	0	11	52	346	2056	9126	28172	56052	70512	0	11	3	-14
150	1	1	2	14	311	2360	10309	29330	54913	67662	1	-10	3	10
150	1	0	2	16	311	1600	10309	28272	54913	71296	0	2	4	4
149	1	0	7	10	302	2180	9282	28054	55944	70584	0	7	3	-32
147	1	0	9	52	324	1992	9204	28428	55998	70128	0	9	3	-2
146	1	0	7	8	302	2192	9282	28024	55944	70624	0	7	3	-34
146	1	0	0	28	225	1848	9555	29220	55755	68880	0	0	3	28
145	1	0	12	50	357	2100	9087	28014	56079	70744	0	12	3	-22
144	1	1	3	40	322	2236	10270	29592	54940	67334	1	-9	3	30
144	1	0	3	6	322	1692	10270	27994	54940	71688	0	3	4	-12
142	1	0	12	32	357	2208	9087	27744	56079	71104	0	12	3	-40
141	1	0	12	34	357	2196	9087	27774	56079	71064	0	12	3	-38
141	1	1	7	52	366	2292	10114	29260	55048	67862	1	-5	3	18
141	1	0	7	12	366	1784	10114	27572	55048	72336	0	7	4	-30
141	1	0	12	42	357	2148	9087	27894	56079	70904	0	12	3	-30
139	1	0	1	4	300	1640	10348	28220	54886	71344	0	1	4	-2

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
139	1	0	8	12	313	2200	9243	27956	55971	70736	0	8	3	-36
139	1	1	1	32	300	2220	10348	29728	54886	67110	1	-11	3	34
138	1	0	13	32	368	2240	9048	27616	56106	71296	0	13	3	-46
137	1	0	12	30	357	2220	9087	27714	56079	71144	0	12	3	-42
137	1	0	5	6	280	2140	9360	28250	55890	70280	0	5	3	-24
136	1	0	10	44	335	2072	9165	28180	56025	70480	0	10	3	-16
134	1	0	12	26	357	2244	9087	27654	56079	71224	0	12	3	-46
133	1	1	7	28	366	2436	10114	28900	55048	68342	1	-5	3	-6
133	1	0	7	24	366	1712	10114	27752	55048	72096	0	7	4	-18
132	1	1	4	18	333	2400	10231	29134	54967	67966	1	-8	3	2
132	1	0	3	18	322	1620	10270	28174	54940	71448	0	3	4	0
132	1	0	11	38	346	2140	9126	27962	56052	70792	0	11	3	-28
132	1	0	4	20	333	1640	10231	28076	54967	71600	0	4	4	-4
132	1	1	3	16	322	2380	10270	29232	54940	67814	1	-9	3	6
131	1	0	8	24	377	1744	10075	27624	55075	72288	0	8	4	-24
131	1	1	8	34	377	2432	10075	28862	55075	68414	1	-4	3	-6
130	1	0	8	16	377	1792	10075	27504	55075	72448	0	8	4	-32
130	1	0	10	54	335	2012	9165	28330	56025	70280	0	10	3	-6
130	1	1	8	50	377	2336	10075	29102	55075	68094	1	-4	3	10

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
130	1	0	8	48	313	1984	9243	28496	55971	70016	0	8	3	0
127	1	1	6	26	355	2416	10153	28998	55021	68190	1	-6	3	-2
127	1	0	6	22	355	1692	10153	27850	55021	71944	0	6	4	-14
126	1	0	13	48	368	2144	9048	27856	56106	70976	0	13	3	-30
124	1	0	12	46	357	2124	9087	27954	56079	70824	0	12	3	-26
124	1	0	3	44	258	1848	9438	29076	55836	69136	0	3	3	26
122	1	0	0	30	225	1836	9555	29250	55755	68840	0	0	3	30
122	1	0	9	24	388	1776	10036	27496	55102	72480	0	9	4	-30
122	1	1	9	40	388	2428	10036	28824	55102	68486	1	-3	3	-6
121	1	0	13	36	368	2216	9048	27676	56106	71216	0	13	3	-42
121	1	0	4	46	269	1868	9399	28978	55863	69288	0	4	3	22
119	1	0	11	26	346	2212	9126	27782	56052	71032	0	11	3	-40
118	1	0	9	12	324	2232	9204	27828	55998	70928	0	9	3	-42
118	1	0	10	16	335	2240	9165	27760	56025	71040	0	10	3	-44
118	1	0	11	42	346	2116	9126	28022	56052	70712	0	11	3	-24
117	1	0	15	44	390	2232	8970	27540	56160	71440	0	15	3	-46
116	1	1	2	38	311	2216	10309	29690	54913	67182	1	-10	3	34
116	1	0	13	28	368	2264	9048	27556	56106	71376	0	13	3	-50
116	1	0	2	4	311	1672	10309	28092	54913	71536	0	2	4	-8

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
115	1	0	7	14	366	1772	10114	27602	55048	72296	0	7	4	-28
115	1	1	7	48	366	2316	10114	29200	55048	67942	1	-5	3	14
114	1	1	1	12	300	2340	10348	29428	54886	67510	1	-11	3	14
114	1	0	1	14	300	1580	10348	28370	54886	71144	0	1	4	8
114	1	0	13	24	368	2288	9048	27496	56106	71456	0	13	3	-54
113	1	0	11	16	346	2272	9126	27632	56052	71232	0	11	3	-50
112	1	1	9	48	388	2380	10036	28944	55102	68326	1	-3	3	2
112	1	0	9	20	388	1800	10036	27436	55102	72560	0	9	4	-34
111	1	1	0	26	289	2224	10387	29766	54859	67038	1	-12	3	34
111	1	0	0	4	289	1608	10387	28348	54859	71152	0	0	4	4
109	1	0	14	42	379	2212	9009	27638	56133	71288	0	14	3	-42
108	1	0	10	24	399	1808	9997	27368	55129	72672	0	10	4	-36
108	1	1	10	46	399	2424	9997	28786	55129	68558	1	-2	3	-6
107	1	0	0	2	225	2004	9555	28830	55755	69400	0	0	3	2
107	1	1	8	38	377	2408	10075	28922	55075	68334	1	-4	3	-2
107	1	0	8	22	377	1756	10075	27594	55075	72328	0	8	4	-26
107	1	0	9	14	324	2220	9204	27858	55998	70888	0	9	3	-40
105	1	0	9	22	388	1788	10036	27466	55102	72520	0	9	4	-32
105	1	1	9	44	388	2404	10036	28884	55102	68406	1	-3	3	-2

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
105	1	0	12	36	357	2184	9087	27804	56079	71024	0	12	3	-36
104	1	0	13	52	368	2120	9048	27916	56106	70896	0	13	3	-26
103	1	0	8	54	313	1948	9243	28586	55971	69896	0	8	3	6
103	1	1	9	56	388	2332	10036	29064	55102	68166	1	-3	3	10
103	1	0	12	44	357	2136	9087	27924	56079	70864	0	12	3	-28
103	1	0	9	16	388	1824	10036	27376	55102	72640	0	9	4	-38
103	1	0	12	40	357	2160	9087	27864	56079	70944	0	12	3	-32
103	1	0	12	24	357	2256	9087	27624	56079	71264	0	12	3	-48
100	1	0	8	10	313	2212	9243	27926	55971	70776	0	8	3	-38
99	1	0	12	28	357	2232	9087	27684	56079	71184	0	12	3	-44
99	1	0	11	60	346	2008	9126	28292	56052	70352	0	11	3	-6
98	1	0	10	48	335	2048	9165	28240	56025	70400	0	10	3	-12
98	1	0	9	50	324	2004	9204	28398	55998	70168	0	9	3	-4
95	1	0	11	56	346	2032	9126	28232	56052	70432	0	11	3	-10
93	1	0	8	58	313	1924	9243	28646	55971	69816	0	8	3	10
92	1	0	6	8	355	1776	10153	27640	55021	72224	0	6	4	-28
92	1	0	13	44	368	2168	9048	27796	56106	71056	0	13	3	-34
92	1	0	5	22	344	1660	10192	27978	54994	71752	0	5	4	-8
92	1	1	5	20	344	2420	10192	29036	54994	68118	1	-7	3	-2

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
92	1	1	6	54	355	2248	10153	29418	55021	67630	1	-6	3	26
91	1	1	6	22	355	2440	10153	28938	55021	68270	1	-6	3	-6
91	1	0	6	24	355	1680	10153	27880	55021	71904	0	6	4	-12
91	1	0	11	22	346	2236	9126	27722	56052	71112	0	11	3	-44
90	1	0	11	46	346	2092	9126	28082	56052	70632	0	11	3	-20
90	1	0	4	6	333	1724	10231	27866	54967	71880	0	4	4	-18
90	1	1	4	46	333	2232	10231	29554	54967	67406	1	-8	3	30
89	1	0	8	18	377	1780	10075	27534	55075	72408	0	8	4	-30
89	1	1	8	46	377	2360	10075	29042	55075	68174	1	-4	3	6
87	1	0	6	54	291	1884	9321	28842	55917	69512	0	6	3	18
87	1	0	10	58	335	1988	9165	28390	56025	70200	0	10	3	-2
87	1	0	13	56	368	2096	9048	27976	56106	70816	0	13	3	-22
85	1	1	3	44	322	2212	10270	29652	54940	67254	1	-9	3	34
85	1	0	5	46	280	1900	9360	28850	55890	69480	0	5	3	16
85	1	0	3	4	322	1704	10270	27964	54940	71728	0	3	4	-14
84	1	1	9	36	388	2452	10036	28764	55102	68566	1	-3	3	-10
84	1	0	4	44	269	1880	9399	28948	55863	69328	0	4	3	20
84	1	0	9	26	388	1764	10036	27526	55102	72440	0	9	4	-28
84	1	0	10	14	335	2252	9165	27730	56025	71080	0	10	3	-46

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
83	1	0	1	36	236	1832	9516	29212	55782	68912	0	1	3	30
83	1	0	4	4	269	2120	9399	28348	55863	70128	0	4	3	-20
82	1	1	0	10	289	2320	10387	29526	54859	67358	1	-12	3	18
82	1	0	0	12	289	1560	10387	28468	54859	70992	0	0	4	12
81	1	0	6	48	291	1920	9321	28752	55917	69632	0	6	3	12
81	1	0	7	50	302	1940	9282	28654	55944	69784	0	7	3	8
81	1	1	6	50	355	2272	10153	29358	55021	67710	1	-6	3	22
81	1	0	6	10	355	1764	10153	27670	55021	72184	0	6	4	-26
80	1	0	14	36	379	2248	9009	27548	56133	71408	0	14	3	-48
79	1	0	8	12	377	1816	10075	27444	55075	72528	0	8	4	-36
79	1	1	8	58	377	2288	10075	29222	55075	67934	1	-4	3	18
79	1	0	12	54	357	2076	9087	28074	56079	70664	0	12	3	-18
78	1	0	13	34	368	2228	9048	27646	56106	71256	0	13	3	-44
76	1	0	15	32	390	2304	8970	27360	56160	71680	0	15	3	-58
76	1	0	9	18	388	1812	10036	27406	55102	72600	0	9	4	-36
76	1	1	9	52	388	2356	10036	29004	55102	68246	1	-3	3	6
75	1	0	11	20	410	1864	9958	27180	55156	72944	0	11	4	-46
75	1	0	12	22	357	2268	9087	27594	56079	71304	0	12	3	-50
75	1	1	11	60	410	2372	9958	28868	55156	68470	1	-1	3	2

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
75	1	0	6	6	291	2172	9321	28122	55917	70472	0	6	3	-30
73	1	0	17	48	412	2272	8892	27344	56214	71744	0	17	3	-54
73	1	1	10	54	399	2376	9997	28906	55129	68398	1	-2	3	2
73	1	0	9	64	324	1920	9204	28608	55998	69888	0	9	3	10
73	1	0	10	20	399	1832	9997	27308	55129	72752	0	10	4	-40
73	1	0	11	50	346	2068	9126	28142	56052	70552	0	11	3	-16
73	1	0	5	4	280	2152	9360	28220	55890	70320	0	5	3	-26
73	1	0	12	20	357	2280	9087	27564	56079	71344	0	12	3	-52
72	1	0	14	54	379	2140	9009	27818	56133	71048	0	14	3	-30
72	1	0	11	28	410	1816	9958	27300	55156	72784	0	11	4	-38
72	1	1	11	44	410	2468	9958	28628	55156	68790	1	-1	3	-14
71	1	0	15	36	390	2280	8970	27420	56160	71600	0	15	3	-54
71	1	0	15	56	390	2160	8970	27720	56160	71200	0	15	3	-34
70	1	1	11	52	410	2420	9958	28748	55156	68630	1	-1	3	-6
70	1	0	11	24	410	1840	9958	27240	55156	72864	0	11	4	-42
69	1	1	10	38	399	2472	9997	28666	55129	68718	1	-2	3	-14
69	1	0	7	8	366	1808	10114	27512	55048	72416	0	7	4	-34
69	1	0	14	30	379	2284	9009	27458	56133	71528	0	14	3	-54
69	1	1	7	60	366	2244	10114	29380	55048	67702	1	-5	3	26

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
69	1	0	10	28	399	1784	9997	27428	55129	72592	0	10	4	-32
68	1	0	7	60	302	1880	9282	28804	55944	69584	0	7	3	18
68	1	1	9	32	388	2476	10036	28704	55102	68646	1	-3	3	-14
68	1	0	9	54	324	1980	9204	28458	55998	70088	0	9	3	0
68	1	0	10	52	335	2024	9165	28300	56025	70320	0	10	3	-8
68	1	0	9	28	388	1752	10036	27556	55102	72400	0	9	4	-26
66	1	0	13	64	368	2048	9048	28096	56106	70656	0	13	3	-14
66	1	0	15	48	390	2208	8970	27600	56160	71360	0	15	3	-42
65	1	0	12	48	357	2112	9087	27984	56079	70784	0	12	3	-24
64	1	0	14	38	379	2236	9009	27578	56133	71368	0	14	3	-46
64	1	0	12	58	357	2052	9087	28134	56079	70584	0	12	3	-14
63	1	1	8	30	377	2456	10075	28802	55075	68494	1	-4	3	-10
63	1	0	12	28	421	1848	9919	27172	55183	72976	0	12	4	-44
63	1	1	12	50	421	2464	9919	28590	55183	68862	1	0	3	-14
63	1	0	8	26	377	1732	10075	27654	55075	72248	0	8	4	-22
62	1	0	11	26	410	1828	9958	27270	55156	72824	0	11	4	-40
62	1	1	11	48	410	2444	9958	28688	55156	68710	1	-1	3	-10
62	1	0	8	52	313	1960	9243	28556	55971	69936	0	8	3	4
61	1	0	15	40	390	2256	8970	27480	56160	71520	0	15	3	-50

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
61	1	0	7	56	302	1904	9282	28744	55944	69664	0	7	3	14
61	1	0	9	8	324	2256	9204	27768	55998	71008	0	9	3	-46
60	1	0	11	12	346	2296	9126	27572	56052	71312	0	11	3	-54
59	1	0	13	16	368	2336	9048	27376	56106	71616	0	13	3	-62
59	1	0	14	40	379	2224	9009	27608	56133	71328	0	14	3	-44
59	1	0	1	2	236	2036	9516	28702	55782	69592	0	1	3	-4
58	1	0	1	34	236	1844	9516	29182	55782	68952	0	1	3	28
58	1	0	15	52	390	2184	8970	27660	56160	71280	0	15	3	-38
58	1	0	7	26	366	1700	10114	27782	55048	72056	0	7	4	-16
58	1	1	7	24	366	2460	10114	28840	55048	68422	1	-5	3	-10
58	1	0	10	62	335	1964	9165	28450	56025	70120	0	10	3	2
56	1	0	14	48	379	2176	9009	27728	56133	71168	0	14	3	-36
55	1	0	16	46	401	2252	8931	27442	56187	71592	0	16	3	-50
55	1	0	8	28	377	1720	10075	27684	55075	72208	0	8	4	-20
55	1	1	8	26	377	2480	10075	28742	55075	68574	1	-4	3	-14
54	1	0	13	20	368	2312	9048	27436	56106	71536	0	13	3	-58
54	1	0	16	40	401	2288	8931	27352	56187	71712	0	16	3	-56
54	1	0	10	16	399	1856	9997	27248	55129	72832	0	10	4	-44
54	1	0	14	46	379	2188	9009	27698	56133	71208	0	14	3	-38

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
54	1	0	13	24	432	1904	9880	26984	55210	73248	0	13	4	-54
54	1	1	10	62	399	2328	9997	29026	55129	68238	1	-2	3	10
54	1	0	14	50	379	2164	9009	27758	56133	71128	0	14	3	-34
54	1	1	13	64	432	2412	9880	28672	55210	68774	1	1	3	-6
53	1	0	9	12	388	1848	10036	27316	55102	72720	0	9	4	-42
53	1	1	9	64	388	2284	10036	29184	55102	68006	1	-3	3	18
53	1	0	5	8	408	1360	11024	27256	54098	73824	0	5	5	-22
53	1	0	11	18	346	2260	9126	27662	56052	71192	0	11	3	-48
53	1	0	15	24	390	2352	8970	27240	56160	71840	0	15	3	-66
53	1	2	5	40	408	2664	11024	29912	54098	65836	2	-19	3	26
52	1	0	12	62	357	2028	9087	28194	56079	70504	0	12	3	-10
52	1	0	14	34	379	2260	9009	27518	56133	71448	0	14	3	-50
52	1	0	15	60	390	2136	8970	27780	56160	71120	0	15	3	-30
51	1	0	13	46	368	2156	9048	27826	56106	71016	0	13	3	-32
51	1	0	4	4	333	1736	10231	27836	54967	71920	0	4	4	-20
51	1	0	5	52	280	1864	9360	28940	55890	69360	0	5	3	22
51	1	0	14	32	379	2272	9009	27488	56133	71488	0	14	3	-52
51	1	1	4	50	333	2208	10231	29614	54967	67326	1	-8	3	34
50	1	0	3	42	258	1860	9438	29046	55836	69176	0	3	3	24

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
49	1	1	8	54	377	2312	10075	29162	55075	68014	1	-4	3	14
49	1	0	4	50	269	1844	9399	29038	55863	69208	0	4	3	26
49	1	1	10	58	399	2352	9997	28966	55129	68318	1	-2	3	6
49	1	0	8	14	377	1804	10075	27474	55075	72488	0	8	4	-34
49	1	0	10	18	399	1844	9997	27278	55129	72792	0	10	4	-42
49	1	0	14	24	379	2320	9009	27368	56133	71648	0	14	3	-60
48	1	0	13	60	368	2072	9048	28036	56106	70736	0	13	3	-18
48	1	0	12	24	421	1872	9919	27112	55183	73056	0	12	4	-48
48	1	1	7	56	366	2268	10114	29320	55048	67782	1	-5	3	22
48	1	1	12	58	421	2416	9919	28710	55183	68702	1	0	3	-6
48	1	0	7	10	366	1796	10114	27542	55048	72376	0	7	4	-32
47	1	0	9	14	388	1836	10036	27346	55102	72680	0	9	4	-40
47	1	0	9	60	324	1944	9204	28548	55998	69968	0	9	3	6
47	1	1	9	60	388	2308	10036	29124	55102	68086	1	-3	3	14
47	1	0	14	44	379	2200	9009	27668	56133	71248	0	14	3	-40
47	1	0	17	36	412	2344	8892	27164	56214	71984	0	17	3	-66
46	1	0	10	26	399	1796	9997	27398	55129	72632	0	10	4	-34
46	1	0	12	52	357	2088	9087	28044	56079	70704	0	12	3	-20
46	1	1	10	42	399	2448	9997	28726	55129	68638	1	-2	3	-10

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
46	1	0	10	22	399	1820	9997	27338	55129	72712	0	10	4	-38
46	1	1	10	50	399	2400	9997	28846	55129	68478	1	-2	3	-2
46	1	0	21	56	456	2352	8736	26952	56322	72352	0	21	3	-70
46	1	0	15	28	390	2328	8970	27300	56160	71760	0	15	3	-62
46	1	0	11	54	346	2044	9126	28202	56052	70472	0	11	3	-12
46	1	0	2	42	247	1828	9477	29174	55809	68984	0	2	3	30
45	1	0	5	4	408	1384	11024	27196	54098	73904	0	5	5	-26
45	1	0	5	56	280	1840	9360	29000	55890	69280	0	5	3	26
45	1	0	10	12	335	2264	9165	27700	56025	71120	0	10	3	-48
45	1	2	5	48	408	2616	11024	30032	54098	65676	2	-19	3	34
44	1	0	3	20	322	1608	10270	28204	54940	71408	0	3	4	2
44	1	0	11	16	410	1888	9958	27120	55156	73024	0	11	4	-50
44	1	1	11	68	410	2324	9958	28988	55156	68310	1	-1	3	10
44	1	0	17	72	412	2128	8892	27704	56214	71264	0	17	3	-30
44	1	1	10	34	399	2496	9997	28606	55129	68798	1	-2	3	-18
44	1	0	12	18	357	2292	9087	27534	56079	71384	0	12	3	-54
44	1	0	14	28	379	2296	9009	27428	56133	71568	0	14	3	-56
44	1	1	3	12	322	2404	10270	29172	54940	67894	1	-9	3	2
44	1	0	10	30	399	1772	9997	27458	55129	72552	0	10	4	-30

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
43	1	1	5	52	344	2228	10192	29516	54994	67478	1	-7	3	30
43	1	0	5	6	344	1756	10192	27738	54994	72072	0	5	4	-24
43	1	0	12	16	357	2304	9087	27504	56079	71424	0	12	3	-56
43	1	0	2	2	247	2068	9477	28574	55809	69784	0	2	3	-10
43	1	0	13	42	368	2180	9048	27766	56106	71096	0	13	3	-36
43	1	1	4	14	333	2424	10231	29074	54967	68046	1	-8	3	-2
43	1	1	5	16	344	2444	10192	28976	54994	68198	1	-7	3	-6
43	1	2	7	44	430	2704	10946	29716	54152	66140	2	-17	3	18
43	1	0	4	22	333	1628	10231	28106	54967	71560	0	4	4	-2
43	1	0	5	24	344	1648	10192	28008	54994	71712	0	5	4	-6
43	1	0	7	12	430	1400	10946	27060	54152	74128	0	7	5	-30
41	1	0	17	56	412	2224	8892	27464	56214	71584	0	17	3	-46
41	1	1	11	36	410	2516	9958	28508	55156	68950	1	-1	3	-22
41	1	0	0	2	289	1620	10387	28318	54859	71192	0	0	4	2
41	1	1	0	30	289	2200	10387	29826	54859	66958	1	-12	3	38
41	1	0	17	32	412	2368	8892	27104	56214	72064	0	17	3	-70
41	1	0	11	32	410	1792	9958	27360	55156	72704	0	11	4	-34
41	1	0	12	66	357	2004	9087	28254	56079	70424	0	12	3	-6
41	1	1	6	18	483	1696	11817	27854	53229	71934	1	-6	5	-10

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
41	1	1	7	20	494	1716	11778	27756	53256	72086	1	-5	5	-14
40	1	0	5	4	344	1768	10192	27708	54994	72112	0	5	4	-26
40	1	1	8	66	377	2240	10075	29342	55075	67774	1	-4	3	26
40	1	0	3	4	386	1320	11102	27452	54044	73520	0	3	5	-14
40	1	0	7	8	430	1424	10946	27000	54152	74208	0	7	5	-34
40	1	2	3	36	386	2624	11102	30108	54044	65532	2	-21	3	34
40	1	0	11	22	410	1852	9958	27210	55156	72904	0	11	4	-44
40	1	0	8	8	313	2224	9243	27896	55971	70816	0	8	3	-40
40	1	2	7	52	430	2656	10946	29836	54152	65980	2	-17	3	26
40	1	0	8	8	377	1840	10075	27384	55075	72608	0	8	4	-40
40	1	1	5	56	344	2204	10192	29576	54994	67398	1	-7	3	34
40	1	1	11	56	410	2396	9958	28808	55156	68550	1	-1	3	-2
39	1	0	13	72	368	2000	9048	28216	56106	70496	0	13	3	-6
39	1	0	14	58	379	2116	9009	27878	56133	70968	0	14	3	-26
39	1	0	16	58	401	2180	8931	27622	56187	71352	0	16	3	-38
39	1	0	14	66	379	2068	9009	27998	56133	70808	0	14	3	-18
39	1	1	4	14	461	1656	11895	28050	53175	71630	1	-8	5	-2
39	1	0	18	50	423	2292	8853	27246	56241	71896	0	18	3	-58
38	1	0	14	52	379	2152	9009	27788	56133	71088	0	14	3	-32

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
38	1	1	15	68	454	2452	9802	28476	55264	69078	1	3	3	-14
38	1	0	3	8	386	1296	11102	27512	54044	73440	0	3	5	-10
38	1	0	2	18	311	1588	10309	28302	54913	71256	0	2	4	6
38	1	0	12	56	357	2064	9087	28104	56079	70624	0	12	3	-16
38	1	0	13	30	432	1868	9880	27074	55210	73128	0	13	4	-48
38	1	1	13	52	432	2484	9880	28492	55210	69014	1	1	3	-18
38	1	2	3	28	386	2672	11102	29988	54044	65692	2	-21	3	26
38	1	0	15	28	454	1944	9802	26788	55264	73552	0	15	4	-62
38	1	1	2	10	311	2384	10309	29270	54913	67742	1	-10	3	6
38	1	0	14	26	379	2308	9009	27398	56133	71608	0	14	3	-58
37	1	0	12	32	421	1824	9919	27232	55183	72896	0	12	4	-40
37	1	1	12	42	421	2512	9919	28470	55183	69022	1	0	3	-22
37	1	0	16	34	401	2324	8931	27262	56187	71832	0	16	3	-62
37	1	0	19	52	434	2312	8814	27148	56268	72048	0	19	3	-62
37	1	0	10	12	399	1880	9997	27188	55129	72912	0	10	4	-48
37	1	1	10	70	399	2280	9997	29146	55129	68078	1	-2	3	18
36	1	2	5	32	408	2712	11024	29792	54098	65996	2	-19	3	18
36	1	0	14	62	379	2092	9009	27938	56133	70888	0	14	3	-22
36	1	0	11	68	346	1960	9126	28412	56052	70192	0	11	3	2

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
36	1	0	13	30	368	2252	9048	27586	56106	71336	0	13	3	-48
36	1	1	13	48	432	2508	9880	28432	55210	69094	1	1	3	-22
36	1	0	9	8	388	1872	10036	27256	55102	72800	0	9	4	-46
36	1	0	13	32	432	1856	9880	27104	55210	73088	0	13	4	-46
36	1	0	17	40	412	2320	8892	27224	56214	71904	0	17	3	-62
36	1	0	5	12	408	1336	11024	27316	54098	73744	0	5	5	-18
36	1	1	9	72	388	2236	10036	29304	55102	67846	1	-3	3	26
36	1	0	14	32	443	1888	9841	26976	55237	73280	0	14	4	-52
36	1	1	14	54	443	2504	9841	28394	55237	69166	1	2	3	-22
35	1	0	9	10	324	2244	9204	27798	55998	70968	0	9	3	-44
35	1	1	5	16	472	1676	11856	27952	53202	71782	1	-7	5	-6
35	1	1	9	24	516	1756	11700	27560	53310	72390	1	-3	5	-22
35	1	1	3	12	450	1636	11934	28148	53148	71478	1	-9	5	2
35	1	0	10	56	335	2000	9165	28360	56025	70240	0	10	3	-4
35	1	0	15	68	390	2088	8970	27900	56160	70960	0	15	3	-22
34	1	0	7	4	302	2216	9282	27964	55944	70704	0	7	3	-38
34	1	1	7	20	366	2484	10114	28780	55048	68502	1	-5	3	-14
34	1	0	7	28	366	1688	10114	27812	55048	72016	0	7	4	-14
34	1	2	7	60	430	2608	10946	29956	54152	65820	2	-17	3	34

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
34	1	0	10	10	335	2276	9165	27670	56025	71160	0	10	3	-50
34	1	0	7	4	430	1448	10946	26940	54152	74288	0	7	5	-38
33	1	2	4	42	397	2620	11063	30070	54071	65604	2	-20	3	34
33	1	0	12	16	421	1920	9919	26992	55183	73216	0	12	4	-56
33	1	0	13	38	368	2204	9048	27706	56106	71176	0	13	3	-40
33	1	1	11	40	410	2492	9958	28568	55156	68870	1	-1	3	-18
33	1	0	11	58	346	2020	9126	28262	56052	70392	0	11	3	-8
33	1	0	7	16	430	1376	10946	27120	54152	74048	0	7	5	-26
33	1	0	11	30	410	1804	9958	27330	55156	72744	0	11	4	-36
33	1	2	7	36	430	2752	10946	29596	54152	66300	2	-17	3	10
33	1	1	9	28	388	2500	10036	28644	55102	68726	1	-3	3	-18
33	1	0	11	64	346	1984	9126	28352	56052	70272	0	11	3	-2
33	1	1	1	36	300	2196	10348	29788	54886	67030	1	-11	3	38
33	1	0	4	4	397	1352	11063	27324	54071	73712	0	4	5	-20
33	1	0	10	32	399	1760	9997	27488	55129	72512	0	10	4	-28
33	1	0	17	24	412	2416	8892	26984	56214	72224	0	17	3	-78
33	1	0	9	30	388	1740	10036	27586	55102	72360	0	9	4	-24
33	1	0	1	2	300	1652	10348	28190	54886	71384	0	1	4	-4
33	1	0	15	20	390	2376	8970	27180	56160	71920	0	15	3	-70

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
33	1	1	10	30	399	2520	9997	28546	55129	68878	1	-2	3	-22
33	1	1	12	74	421	2320	9919	28950	55183	68382	1	0	3	10
32	1	0	13	50	368	2132	9048	27886	56106	70936	0	13	3	-28
31	1	0	15	38	390	2268	8970	27450	56160	71560	0	15	3	-52
31	1	0	9	12	452	1464	10868	26804	54206	74512	0	9	5	-42
31	1	1	6	18	355	2464	10153	28878	55021	68350	1	-6	3	-10
31	1	0	6	26	355	1668	10153	27910	55021	71864	0	6	4	-10
31	1	0	1	40	236	1808	9516	29272	55782	68832	0	1	3	34
31	1	0	7	6	302	2204	9282	27994	55944	70664	0	7	3	-36
31	1	2	9	56	452	2696	10868	29640	54206	66284	2	-15	3	18
31	1	0	11	76	346	1912	9126	28532	56052	70032	0	11	3	10
30	1	0	19	40	434	2384	8814	26968	56268	72288	0	19	3	-74
30	1	0	9	8	452	1488	10868	26744	54206	74592	0	9	5	-46
30	1	1	13	56	432	2460	9880	28552	55210	68934	1	1	3	-14
30	1	0	7	54	302	1916	9282	28714	55944	69704	0	7	3	12
30	1	0	13	28	432	1880	9880	27044	55210	73168	0	13	4	-50
30	1	0	2	2	311	1684	10309	28062	54913	71576	0	2	4	-10
30	1	1	2	42	311	2192	10309	29750	54913	67102	1	-10	3	38
30	1	2	9	64	452	2648	10868	29760	54206	66124	2	-15	3	26

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
29	1	2	9	48	452	2744	10868	29520	54206	66444	2	-15	3	10
29	1	2	11	60	474	2736	10790	29444	54260	66588	2	-13	3	10
29	1	0	9	16	452	1440	10868	26864	54206	74432	0	9	5	-38
29	1	0	11	16	474	1504	10790	26608	54260	74816	0	11	5	-50
29	1	1	10	26	527	1776	11661	27462	53337	72542	1	-2	5	-26
29	1	0	10	70	335	1916	9165	28570	56025	69960	0	10	3	10
29	1	1	9	24	388	2524	10036	28584	55102	68806	1	-3	3	-22
29	1	0	9	32	388	1728	10036	27616	55102	72320	0	9	4	-22
28	1	0	4	8	397	1328	11063	27384	54071	73632	0	4	5	-16
28	1	0	19	56	434	2288	8814	27208	56268	71968	0	19	3	-58
28	1	2	4	34	397	2668	11063	29950	54071	65764	2	-20	3	26
28	1	0	13	22	368	2300	9048	27466	56106	71496	0	13	3	-56
28	1	0	16	36	401	2312	8931	27292	56187	71792	0	16	3	-60
28	1	0	17	64	412	2176	8892	27584	56214	71424	0	17	3	-38
28	1	0	15	64	390	2112	8970	27840	56160	71040	0	15	3	-26
28	1	1	12	66	421	2368	9919	28830	55183	68542	1	0	3	2
28	1	1	8	22	505	1736	11739	27658	53283	72238	1	-4	5	-18
28	1	0	6	8	419	1392	10985	27128	54125	74016	0	6	5	-28
28	1	1	17	72	476	2492	9724	28280	55318	69382	1	5	3	-22

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
28	1	0	12	14	357	2316	9087	27474	56079	71464	0	12	3	-58
28	1	0	12	20	421	1896	9919	27052	55183	73136	0	12	4	-52
28	1	0	14	56	379	2128	9009	27848	56133	71008	0	14	3	-28
28	1	2	6	46	419	2660	10985	29874	54125	65908	2	-18	3	26
28	1	0	17	32	476	1984	9724	26592	55318	73856	0	17	4	-70
27	1	0	16	70	401	2108	8931	27802	56187	71112	0	16	3	-26
27	1	0	12	26	421	1860	9919	27142	55183	73016	0	12	4	-46
27	1	2	3	44	386	2576	11102	30228	54044	65372	2	-21	3	42
27	1	0	2	40	247	1840	9477	29144	55809	69024	0	2	3	28
27	1	1	12	46	421	2488	9919	28530	55183	68942	1	0	3	-18
27	1	0	17	60	412	2200	8892	27524	56214	71504	0	17	3	-42
27	1	1	12	54	421	2440	9919	28650	55183	68782	1	0	3	-10
27	1	0	12	22	421	1884	9919	27082	55183	73096	0	12	4	-50
27	1	1	12	62	421	2392	9919	28770	55183	68622	1	0	3	-2
27	1	1	1	8	300	2364	10348	29368	54886	67590	1	-11	3	10
27	1	0	16	42	401	2276	8931	27382	56187	71672	0	16	3	-54
27	1	0	4	6	397	1340	11063	27354	54071	73672	0	4	5	-18
27	1	0	3	0	386	1344	11102	27392	54044	73600	0	3	5	-18
27	1	0	1	16	300	1568	10348	28400	54886	71104	0	1	4	10

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
27	1	1	13	80	432	2316	9880	28912	55210	68454	1	1	3	10
27	1	2	4	38	397	2644	11063	30010	54071	65684	2	-20	3	30
27	1	0	12	30	421	1836	9919	27202	55183	72936	0	12	4	-42
27	1	0	13	16	432	1952	9880	26864	55210	73408	0	13	4	-62
27	1	0	10	66	335	1940	9165	28510	56025	70040	0	10	3	6
26	1	0	16	36	465	1928	9763	26780	55291	73584	0	16	4	-60
26	1	0	8	62	313	1900	9243	28706	55971	69736	0	8	3	14
26	1	0	4	10	397	1316	11063	27414	54071	73592	0	4	5	-14
26	1	0	11	8	346	2320	9126	27512	56052	71392	0	11	3	-58
26	1	0	12	74	357	1956	9087	28374	56079	70264	0	12	3	2
26	1	2	4	30	397	2692	11063	29890	54071	65844	2	-20	3	22
26	1	0	17	44	412	2296	8892	27284	56214	71824	0	17	3	-58
26	1	1	13	40	432	2556	9880	28312	55210	69254	1	1	3	-30
26	1	0	13	36	432	1832	9880	27164	55210	73008	0	13	4	-42
26	1	0	13	26	368	2276	9048	27526	56106	71416	0	13	3	-52
26	1	0	6	4	291	2184	9321	28092	55917	70512	0	6	3	-32
26	1	1	16	58	465	2544	9763	28198	55291	69470	1	4	3	-30
25	1	1	12	30	549	1816	11583	27266	53391	72846	1	0	5	-34
25	1	0	0	0	225	2016	9555	28800	55755	69440	0	0	3	0

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
25	1	1	11	28	538	1796	11622	27364	53364	72694	1	-1	5	-30
25	1	0	3	48	258	1824	9438	29136	55836	69056	0	3	3	30
25	1	0	19	32	434	2432	8814	26848	56268	72448	0	19	3	-82
25	1	0	19	68	434	2216	8814	27388	56268	71728	0	19	3	-46
25	1	0	12	60	357	2040	9087	28164	56079	70544	0	12	3	-12
25	1	0	3	0	258	2112	9438	28416	55836	70016	0	3	3	-18
25	1	0	2	4	375	1288	11141	27580	54017	73328	0	2	5	-8
25	1	0	18	62	423	2220	8853	27426	56241	71656	0	18	3	-46
25	1	0	8	6	313	2236	9243	27866	55971	70856	0	8	3	-42
25	1	2	2	30	375	2628	11141	30146	54017	65460	2	-22	3	34
25	1	0	6	58	291	1860	9321	28902	55917	69432	0	6	3	22
25	1	0	13	54	368	2108	9048	27946	56106	70856	0	13	3	-24
25	1	0	16	28	401	2360	8931	27172	56187	71952	0	16	3	-68
25	1	0	0	34	225	1812	9555	29310	55755	68760	0	0	3	34
24	1	1	14	62	443	2456	9841	28514	55237	69006	1	2	3	-14
24	1	1	12	34	421	2560	9919	28350	55183	69182	1	0	3	-30
24	1	1	15	60	454	2500	9802	28356	55264	69238	1	3	3	-22
24	1	0	14	28	443	1912	9841	26916	55237	73360	0	14	4	-56
24	1	0	12	34	421	1812	9919	27262	55183	72856	0	12	4	-38

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
24	1	2	11	76	474	2640	10790	29684	54260	66268	2	-13	3	26
24	1	0	15	32	454	1920	9802	26848	55264	73472	0	15	4	-58
24	1	0	14	36	443	1864	9841	27036	55237	73200	0	14	4	-48
24	1	0	12	36	421	1800	9919	27292	55183	72816	0	12	4	-36
24	1	0	3	2	258	2100	9438	28446	55836	69976	0	3	3	-16
24	1	0	14	20	379	2344	9009	27308	56133	71728	0	14	3	-64
24	1	0	11	8	474	1552	10790	26488	54260	74976	0	11	5	-58
24	1	1	14	46	443	2552	9841	28274	55237	69326	1	2	3	-30
24	1	1	12	38	421	2536	9919	28410	55183	69102	1	0	3	-26
24	1	1	2	10	439	1616	11973	28246	53121	71326	1	-10	5	6
23	1	0	5	50	280	1876	9360	28910	55890	69400	0	5	3	20
23	1	0	16	52	401	2216	8931	27532	56187	71472	0	16	3	-44
23	1	2	5	36	408	2688	11024	29852	54098	65916	2	-19	3	22
23	1	0	9	58	324	1956	9204	28518	55998	70008	0	9	3	4
23	1	0	14	22	379	2332	9009	27338	56133	71688	0	14	3	-62
23	1	1	15	76	454	2404	9802	28596	55264	68918	1	3	3	-6
23	1	0	16	54	401	2204	8931	27562	56187	71432	0	16	3	-42
23	1	0	16	50	401	2228	8931	27502	56187	71512	0	16	3	-46
23	1	2	5	56	408	2568	11024	30152	54098	65516	2	-19	3	42

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
23	1	0	1	0	236	2048	9516	28672	55782	69632	0	1	3	-6
23	1	0	15	24	454	1968	9802	26728	55264	73632	0	15	4	-66
23	1	0	3	6	386	1308	11102	27482	54044	73480	0	3	5	-12
23	1	2	3	32	386	2648	11102	30048	54044	65612	2	-21	3	30
23	1	0	11	14	346	2284	9126	27602	56052	71272	0	11	3	-52
23	1	0	5	0	408	1408	11024	27136	54098	73984	0	5	5	-30
23	1	0	5	10	408	1348	11024	27286	54098	73784	0	5	5	-20
23	1	0	17	80	412	2080	8892	27824	56214	71104	0	17	3	-22
23	1	0	8	66	313	1876	9243	28766	55971	69656	0	8	3	18
23	1	0	10	60	335	1976	9165	28420	56025	70160	0	10	3	0
22	1	0	19	64	434	2240	8814	27328	56268	71808	0	19	3	-50
22	1	1	11	76	410	2276	9958	29108	55156	68150	1	-1	3	18
22	1	0	15	76	390	2040	8970	28020	56160	70800	0	15	3	-14
22	1	0	14	34	443	1876	9841	27006	55237	73240	0	14	4	-50
22	1	0	11	20	474	1480	10790	26668	54260	74736	0	11	5	-46
22	1	2	6	54	419	2612	10985	29994	54125	65748	2	-18	3	34
22	1	0	6	52	291	1896	9321	28812	55917	69552	0	6	3	16
22	1	1	6	58	355	2224	10153	29478	55021	67550	1	-6	3	30
22	1	1	14	66	443	2432	9841	28574	55237	68926	1	2	3	-10

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
22	1	0	15	50	390	2196	8970	27630	56160	71320	0	15	3	-40
22	1	2	11	52	474	2784	10790	29324	54260	66748	2	-13	3	2
22	1	0	0	14	289	1548	10387	28498	54859	70952	0	0	4	14
22	1	0	6	4	419	1416	10985	27068	54125	74096	0	6	5	-32
22	1	1	14	50	443	2528	9841	28334	55237	69246	1	2	3	-26
22	1	1	0	6	289	2344	10387	29466	54859	67438	1	-12	3	14
22	1	0	14	26	443	1924	9841	26886	55237	73400	0	14	4	-58
22	1	0	14	60	379	2104	9009	27908	56133	70928	0	14	3	-24
22	1	0	11	12	410	1912	9958	27060	55156	73104	0	11	4	-54
22	1	0	14	18	379	2356	9009	27278	56133	71768	0	14	3	-66
22	1	0	25	64	500	2432	8580	26560	56430	72960	0	25	3	-86
22	1	0	6	6	355	1788	10153	27610	55021	72264	0	6	4	-30
22	1	1	13	32	560	1836	11544	27168	53418	72998	1	1	5	-38
22	1	0	16	38	401	2300	8931	27322	56187	71752	0	16	3	-58
21	1	0	14	24	443	1936	9841	26856	55237	73440	0	14	4	-60
21	1	1	11	64	410	2348	9958	28928	55156	68390	1	-1	3	6
21	1	0	6	12	419	1368	10985	27188	54125	73936	0	6	5	-24
21	1	2	6	50	419	2636	10985	29934	54125	65828	2	-18	3	30
21	1	1	14	70	443	2408	9841	28634	55237	68846	1	2	3	-6

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
21	1	0	13	58	368	2084	9048	28006	56106	70776	0	13	3	-20
21	1	0	18	38	423	2364	8853	27066	56241	72136	0	18	3	-70
21	1	0	8	56	313	1936	9243	28616	55971	69856	0	8	3	8
21	1	0	17	52	412	2248	8892	27404	56214	71664	0	17	3	-50
21	1	0	6	6	419	1404	10985	27098	54125	74056	0	6	5	-30
21	1	2	6	42	419	2684	10985	29814	54125	65988	2	-18	3	22
21	1	1	1	8	428	1596	12012	28344	53094	71174	1	-11	5	10
21	1	0	6	10	419	1380	10985	27158	54125	73976	0	6	5	-26
21	1	0	16	66	401	2132	8931	27742	56187	71192	0	16	3	-30
21	1	0	5	6	408	1372	11024	27226	54098	73864	0	5	5	-24
21	1	0	21	32	456	2496	8736	26592	56322	72832	0	21	3	-94
21	1	2	3	20	386	2720	11102	29868	54044	65852	2	-21	3	18
21	1	2	6	38	419	2708	10985	29754	54125	66068	2	-18	3	18
21	1	2	5	44	408	2640	11024	29972	54098	65756	2	-19	3	30
21	1	0	3	12	386	1272	11102	27572	54044	73360	0	3	5	-6
21	1	0	11	18	410	1876	9958	27150	55156	72984	0	11	4	-48
20	1	0	7	0	430	1472	10946	26880	54152	74368	0	7	5	-42
20	1	0	16	56	401	2192	8931	27592	56187	71392	0	16	3	-40
20	1	2	1	24	364	2632	11180	30184	53990	65388	2	-23	3	34

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
20	1	2	13	72	496	2728	10712	29368	54314	66732	2	-11	3	10
20	1	0	1	4	364	1256	11180	27708	53990	73136	0	1	5	-2
20	1	0	10	8	335	2288	9165	27640	56025	71200	0	10	3	-52
20	1	0	13	16	496	1568	10712	26352	54314	75200	0	13	5	-62
20	1	0	0	32	225	1824	9555	29280	55755	68800	0	0	3	32
20	1	0	6	4	355	1800	10153	27580	55021	72304	0	6	4	-32
20	1	0	15	16	390	2400	8970	27120	56160	72000	0	15	3	-74
20	1	2	7	68	430	2560	10946	30076	54152	65660	2	-17	3	42
20	1	0	15	36	454	1896	9802	26908	55264	73392	0	15	4	-54
20	1	0	15	72	390	2064	8970	27960	56160	70880	0	15	3	-18
20	1	0	13	68	368	2024	9048	28156	56106	70576	0	13	3	-10
20	1	1	6	62	355	2200	10153	29538	55021	67470	1	-6	3	34
20	1	0	16	30	401	2348	8931	27202	56187	71912	0	16	3	-66
20	1	1	15	52	454	2548	9802	28236	55264	69398	1	3	3	-30
19	1	2	13	64	496	2776	10712	29248	54314	66892	2	-11	3	2
19	1	0	9	20	452	1416	10868	26924	54206	74352	0	9	5	-34
19	1	0	20	66	445	2260	8775	27230	56295	71960	0	20	3	-54
19	1	2	9	40	452	2792	10868	29400	54206	66604	2	-15	3	2
19	1	0	8	8	441	1456	10907	26872	54179	74400	0	8	5	-40

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
19	1	0	21	64	456	2304	8736	27072	56322	72192	0	21	3	-62
19	1	0	1	0	364	1280	11180	27648	53990	73216	0	1	5	-6
19	1	0	19	76	434	2168	8814	27508	56268	71568	0	19	3	-38
19	1	0	19	44	434	2360	8814	27028	56268	72208	0	19	3	-70
19	1	1	19	76	498	2532	9646	28084	55372	69686	1	7	3	-30
19	1	1	13	72	432	2364	9880	28792	55210	68614	1	1	3	2
19	1	0	19	36	498	2024	9646	26396	55372	74160	0	19	4	-78
19	1	2	8	58	441	2652	10907	29798	54179	66052	2	-16	3	26
19	1	0	8	12	441	1432	10907	26932	54179	74320	0	8	5	-36
19	1	0	18	32	423	2400	8853	26976	56241	72256	0	18	3	-76
19	1	0	13	20	496	1544	10712	26412	54314	75120	0	13	5	-58
19	1	0	16	32	401	2336	8931	27232	56187	71872	0	16	3	-64
19	1	0	16	48	401	2240	8931	27472	56187	71552	0	16	3	-48
19	1	0	17	42	412	2308	8892	27254	56214	71864	0	17	3	-60
19	1	0	13	20	432	1928	9880	26924	55210	73328	0	13	4	-58
19	1	2	1	32	364	2584	11180	30304	53990	65228	2	-23	3	42
19	1	2	8	50	441	2700	10907	29678	54179	66212	2	-16	3	18
18	1	1	11	28	410	2564	9958	28388	55156	69110	1	-1	3	-30
18	1	0	8	10	441	1444	10907	26902	54179	74360	0	8	5	-38

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
18	1	1	16	38	593	1896	11427	26874	53499	73454	1	4	5	-50
18	1	0	15	84	390	1992	8970	28140	56160	70640	0	15	3	-6
18	1	0	19	60	434	2264	8814	27268	56268	71888	0	19	3	-54
18	1	0	18	44	423	2328	8853	27156	56241	72016	0	18	3	-64
18	1	0	18	56	423	2256	8853	27336	56241	71776	0	18	3	-52
18	1	0	19	48	434	2336	8814	27088	56268	72128	0	19	3	-66
18	1	0	11	8	410	1936	9958	27000	55156	73184	0	11	4	-58
18	1	2	8	54	441	2676	10907	29738	54179	66132	2	-16	3	22
18	1	0	11	36	410	1768	9958	27420	55156	72624	0	11	4	-30
18	1	0	12	64	357	2016	9087	28224	56079	70464	0	12	3	-8
18	1	2	11	68	474	2688	10790	29564	54260	66428	2	-13	3	18
18	1	1	11	84	410	2228	9958	29228	55156	67990	1	-1	3	26
18	1	1	15	36	582	1876	11466	26972	53472	73302	1	3	5	-46
18	1	0	11	12	474	1528	10790	26548	54260	74896	0	11	5	-54
17	1	2	5	24	408	2760	11024	29672	54098	66156	2	-19	3	10
17	1	0	6	14	419	1356	10985	27218	54125	73896	0	6	5	-22
17	1	1	16	70	465	2472	9763	28378	55291	69230	1	4	3	-18
17	1	0	16	30	465	1964	9763	26690	55291	73704	0	16	4	-66
17	1	1	8	22	377	2504	10075	28682	55075	68654	1	-4	3	-18

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
17	1	0	14	78	379	1996	9009	28178	56133	70568	0	14	3	-6
17	1	0	2	6	375	1276	11141	27610	54017	73288	0	2	5	-6
17	1	0	7	4	366	1832	10114	27452	55048	72496	0	7	4	-38
17	1	1	14	34	571	1856	11505	27070	53445	73150	1	2	5	-42
17	1	0	16	44	401	2264	8931	27412	56187	71632	0	16	3	-52
17	1	2	2	26	375	2652	11141	30086	54017	65540	2	-22	3	30
17	1	2	6	34	419	2732	10985	29694	54125	66148	2	-18	3	14
17	1	0	9	72	324	1872	9204	28728	55998	69728	0	9	3	18
17	1	0	4	2	269	2132	9399	28318	55863	70168	0	4	3	-22
17	1	0	8	30	377	1708	10075	27714	55075	72168	0	8	4	-18
17	1	0	5	16	408	1312	11024	27376	54098	73664	0	5	5	-14
17	1	1	3	52	322	2164	10270	29772	54940	67094	1	-9	3	42
17	1	0	4	0	397	1376	11063	27264	54071	73792	0	4	5	-24
17	1	0	21	48	456	2400	8736	26832	56322	72512	0	21	3	-78
17	1	0	3	0	322	1728	10270	27904	54940	71808	0	3	4	-18
17	1	2	4	50	397	2572	11063	30190	54071	65444	2	-20	3	42
17	1	1	7	68	366	2196	10114	29500	55048	67542	1	-5	3	34
17	1	0	17	68	412	2152	8892	27644	56214	71344	0	17	3	-34
17	1	0	4	48	269	1856	9399	29008	55863	69248	0	4	3	24

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
16	1	0	9	0	516	1152	11700	26112	53310	76544	0	9	6	-54
16	1	1	16	82	465	2400	9763	28558	55291	68990	1	4	3	-6
16	1	0	3	2	322	1716	10270	27934	54940	71768	0	3	4	-16
16	1	0	10	8	463	1520	10829	26616	54233	74784	0	10	5	-52
16	1	0	13	12	368	2360	9048	27316	56106	71696	0	13	3	-66
16	1	1	3	48	322	2188	10270	29712	54940	67174	1	-9	3	38
16	1	1	0	34	289	2176	10387	29886	54859	66878	1	-12	3	42
16	1	2	13	88	496	2632	10712	29608	54314	66412	2	-11	3	26
16	1	0	2	46	247	1804	9477	29234	55809	68904	0	2	3	34
16	1	1	15	44	454	2596	9802	28116	55264	69558	1	3	3	-38
16	1	1	14	78	443	2360	9841	28754	55237	68686	1	2	3	2
16	1	0	18	74	423	2148	8853	27606	56241	71416	0	18	3	-34
16	1	0	13	8	496	1616	10712	26232	54314	75360	0	13	5	-70
16	1	0	8	10	377	1828	10075	27414	55075	72568	0	8	4	-38
16	1	2	10	70	463	2644	10829	29722	54233	66196	2	-14	3	26
16	1	0	14	30	443	1900	9841	26946	55237	73320	0	14	4	-54
16	1	1	14	58	443	2480	9841	28454	55237	69086	1	2	3	-18
16	1	0	2	8	375	1264	11141	27640	54017	73248	0	2	5	-4
16	1	3	9	72	516	2964	11700	30456	53310	64082	3	-27	3	42

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
16	1	2	2	22	375	2676	11141	30026	54017	65620	2	-22	3	26
16	1	0	0	0	289	1632	10387	28288	54859	71232	0	0	4	0
16	1	1	8	62	377	2264	10075	29282	55075	67854	1	-4	3	22
16	1	0	17	16	412	2464	8892	26864	56214	72384	0	17	3	-86
16	1	0	16	24	465	2000	9763	26600	55291	73824	0	16	4	-72
16	1	0	15	40	454	1872	9802	26968	55264	73312	0	15	4	-50
16	1	0	16	24	401	2384	8931	27112	56187	72032	0	16	3	-72
16	1	0	14	20	443	1960	9841	26796	55237	73520	0	14	4	-64
15	1	0	8	14	441	1420	10907	26962	54179	74280	0	8	5	-34
15	1	0	21	96	456	2112	8736	27552	56322	71552	0	21	3	-30
15	1	2	9	72	452	2600	10868	29880	54206	65964	2	-15	3	34
15	1	1	11	32	410	2540	9958	28448	55156	69030	1	-1	3	-26
15	1	0	6	0	419	1440	10985	27008	54125	74176	0	6	5	-36
15	1	0	13	88	368	1904	9048	28456	56106	70176	0	13	3	10
15	1	1	13	60	432	2436	9880	28612	55210	68854	1	1	3	-10
15	1	0	7	0	494	1088	11778	26368	53256	76160	0	7	6	-42
15	1	0	2	0	375	1312	11141	27520	54017	73408	0	2	5	-12
15	1	0	8	16	441	1408	10907	26992	54179	74240	0	8	5	-32
15	1	1	1	40	300	2172	10348	29848	54886	66950	1	-11	3	42

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
15	1	0	20	48	445	2368	8775	26960	56295	72320	0	20	3	-72
15	1	0	11	34	410	1780	9958	27390	55156	72664	0	11	4	-32
15	1	2	8	46	441	2724	10907	29618	54179	66292	2	-16	3	14
15	1	0	4	2	397	1364	11063	27294	54071	73752	0	4	5	-22
15	1	0	8	4	441	1480	10907	26812	54179	74480	0	8	5	-44
15	1	0	15	24	518	1584	10634	26216	54368	75424	0	15	5	-66
15	1	0	9	4	452	1512	10868	26684	54206	74672	0	9	5	-50
15	1	0	13	26	432	1892	9880	27014	55210	73208	0	13	4	-52
15	1	0	18	40	487	1968	9685	26584	55345	73888	0	18	4	-68
15	1	1	16	54	465	2568	9763	28138	55291	69550	1	4	3	-34
15	1	0	21	80	456	2208	8736	27312	56322	71872	0	21	3	-46
15	1	2	6	62	419	2564	10985	30114	54125	65588	2	-18	3	42
15	1	2	4	46	397	2596	11063	30130	54071	65524	2	-20	3	38
15	1	0	16	38	465	1916	9763	26810	55291	73544	0	16	4	-58
15	1	0	3	2	386	1332	11102	27422	54044	73560	0	3	5	-16
15	1	2	2	38	375	2580	11141	30266	54017	65300	2	-22	3	42
15	1	0	14	38	443	1852	9841	27066	55237	73160	0	14	4	-46
15	1	2	3	40	386	2600	11102	30168	54044	65452	2	-21	3	38
15	1	2	8	66	441	2604	10907	29918	54179	65892	2	-16	3	34

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
15	1	1	14	42	443	2576	9841	28214	55237	69406	1	2	3	-34
15	1	0	15	26	390	2340	8970	27270	56160	71800	0	15	3	-64
15	1	2	15	68	518	2816	10634	29052	54368	67196	2	-9	3	-6
15	1	0	1	0	300	1664	10348	28160	54886	71424	0	1	4	-6
15	1	3	7	60	494	2972	11778	30532	53256	63938	3	-29	3	42
15	1	2	8	42	441	2748	10907	29558	54179	66372	2	-16	3	10
15	1	1	18	62	487	2584	9685	28002	55345	69774	1	6	3	-38
14	1	2	7	48	430	2680	10946	29776	54152	66060	2	-17	3	22
14	1	0	5	2	408	1396	11024	27166	54098	73944	0	5	5	-28
14	1	0	10	12	463	1496	10829	26676	54233	74704	0	10	5	-48
14	1	0	15	34	454	1908	9802	26878	55264	73432	0	15	4	-56
14	1	0	13	18	368	2324	9048	27406	56106	71576	0	13	3	-60
14	1	0	23	60	478	2392	8658	26756	56376	72656	0	23	3	-78
14	1	0	20	54	445	2332	8775	27050	56295	72200	0	20	3	-66
14	1	0	2	2	375	1300	11141	27550	54017	73368	0	2	5	-10
14	1	0	13	80	368	1952	9048	28336	56106	70336	0	13	3	2
14	1	0	12	70	357	1980	9087	28314	56079	70344	0	12	3	-2
14	1	0	12	12	357	2328	9087	27444	56079	71504	0	12	3	-60
14	1	0	7	0	302	2240	9282	27904	55944	70784	0	7	3	-42

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
14	1	2	9	80	452	2552	10868	30000	54206	65804	2	-15	3	42
14	1	0	9	0	452	1536	10868	26624	54206	74752	0	9	5	-54
14	1	0	7	10	430	1412	10946	27030	54152	74168	0	7	5	-32
14	1	2	2	34	375	2604	11141	30206	54017	65380	2	-22	3	38
14	1	2	10	54	463	2740	10829	29482	54233	66516	2	-14	3	10
14	1	1	11	72	410	2300	9958	29048	55156	68230	1	-1	3	14
14	1	1	15	56	454	2524	9802	28296	55264	69318	1	3	3	-26
14	1	0	14	70	379	2044	9009	28058	56133	70728	0	14	3	-14
14	1	0	11	14	410	1900	9958	27090	55156	73064	0	11	4	-52
14	1	2	10	62	463	2692	10829	29602	54233	66356	2	-14	3	18
14	1	2	5	52	408	2592	11024	30092	54098	65596	2	-19	3	38
14	1	0	7	6	366	1820	10114	27482	55048	72456	0	7	4	-36
14	1	1	7	64	366	2220	10114	29440	55048	67622	1	-5	3	30
14	1	0	10	16	463	1472	10829	26736	54233	74624	0	10	5	-44
14	1	0	6	62	291	1836	9321	28962	55917	69352	0	6	3	26
14	1	0	7	68	302	1832	9282	28924	55944	69424	0	7	3	26
13	1	0	9	0	324	2304	9204	27648	55998	71168	0	9	3	-54
13	1	0	18	54	423	2268	8853	27306	56241	71816	0	18	3	-54
13	1	1	13	76	432	2340	9880	28852	55210	68534	1	1	3	6

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
13	1	1	19	44	626	1956	11310	26580	53580	73910	1	7	5	-62
13	1	1	10	26	399	2544	9997	28486	55129	68958	1	-2	3	-26
13	1	0	14	16	379	2368	9009	27248	56133	71808	0	14	3	-68
13	1	0	19	36	434	2408	8814	26908	56268	72368	0	19	3	-78
13	1	0	11	62	346	1996	9126	28322	56052	70312	0	11	3	-4
13	1	0	9	4	324	2280	9204	27708	55998	71088	0	9	3	-50
13	1	0	13	24	496	1520	10712	26472	54314	75040	0	13	5	-54
13	1	0	15	16	454	2016	9802	26608	55264	73792	0	15	4	-74
13	1	1	18	42	615	1936	11349	26678	53553	73758	1	6	5	-58
13	1	0	10	36	399	1736	9997	27548	55129	72432	0	10	4	-24
13	1	1	13	68	432	2388	9880	28732	55210	68694	1	1	3	-2
13	1	0	14	64	379	2080	9009	27968	56133	70848	0	14	3	-20
13	1	1	10	22	399	2568	9997	28426	55129	69038	1	-2	3	-30
13	1	0	13	18	432	1940	9880	26894	55210	73368	0	13	4	-60
13	1	2	13	56	496	2824	10712	29128	54314	67052	2	-11	3	-6
13	1	0	13	22	432	1916	9880	26954	55210	73288	0	13	4	-56
13	1	0	11	72	346	1936	9126	28472	56052	70112	0	11	3	6
13	1	1	15	92	454	2308	9802	28836	55264	68598	1	3	3	10
13	1	0	12	12	421	1944	9919	26932	55183	73296	0	12	4	-60

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
13	1	1	17	64	476	2540	9724	28160	55318	69542	1	5	3	-30
13	1	0	23	48	478	2464	8658	26576	56376	72896	0	23	3	-90
13	1	0	16	62	401	2156	8931	27682	56187	71272	0	16	3	-34
13	1	0	17	36	476	1960	9724	26652	55318	73776	0	17	4	-66
13	1	0	11	66	346	1972	9126	28382	56052	70232	0	11	3	0
13	1	1	12	82	421	2272	9919	29070	55183	68222	1	0	3	18
13	1	0	10	34	399	1748	9997	27518	55129	72472	0	10	4	-26
12	1	0	16	40	465	1904	9763	26840	55291	73504	0	16	4	-56
12	1	0	21	24	456	2544	8736	26472	56322	72992	0	21	3	-102
12	1	0	8	18	441	1396	10907	27022	54179	74200	0	8	5	-30
12	1	0	15	46	390	2220	8970	27570	56160	71400	0	15	3	-44
12	1	0	3	10	386	1284	11102	27542	54044	73400	0	3	5	-8
12	1	2	3	24	386	2696	11102	29928	54044	65772	2	-21	3	22
12	1	0	16	34	465	1940	9763	26750	55291	73624	0	16	4	-62
12	1	0	7	6	430	1436	10946	26970	54152	74248	0	7	5	-36
12	1	2	8	62	441	2628	10907	29858	54179	65972	2	-16	3	30
12	1	0	10	6	335	2300	9165	27610	56025	71240	0	10	3	-54
12	1	1	4	54	333	2184	10231	29674	54967	67246	1	-8	3	38
12	1	0	5	0	280	2176	9360	28160	55890	70400	0	5	3	-30

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
12	1	1	13	44	432	2532	9880	28372	55210	69174	1	1	3	-26
12	1	0	9	10	388	1860	10036	27286	55102	72760	0	9	4	-44
12	1	0	15	80	390	2016	8970	28080	56160	70720	0	15	3	-10
12	1	0	14	74	379	2020	9009	28118	56133	70648	0	14	3	-10
12	1	2	10	58	463	2716	10829	29542	54233	66436	2	-14	3	14
12	1	0	18	42	423	2340	8853	27126	56241	72056	0	18	3	-66
12	1	2	4	26	397	2716	11063	29830	54071	65924	2	-20	3	18
12	1	0	17	16	540	1696	10556	25840	54422	75968	0	17	5	-86
12	1	0	4	2	333	1748	10231	27806	54967	71960	0	4	4	-22
12	1	2	17	72	540	2856	10556	28856	54422	67500	2	-7	3	-14
12	1	0	21	40	456	2448	8736	26712	56322	72672	0	21	3	-86
12	1	0	16	60	401	2168	8931	27652	56187	71312	0	16	3	-36
12	1	2	7	56	430	2632	10946	29896	54152	65900	2	-17	3	30
12	1	1	9	68	388	2260	10036	29244	55102	67926	1	-3	3	22
12	1	1	16	62	465	2520	9763	28258	55291	69390	1	4	3	-26
12	1	0	21	24	584	1776	10400	25448	54530	76576	0	21	5	-102
12	1	0	22	46	467	2444	8697	26674	56349	72744	0	22	3	-86
12	1	0	3	52	258	1800	9438	29196	55836	68976	0	3	3	34
12	1	0	8	32	377	1696	10075	27744	55075	72128	0	8	4	-16

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
12	1	2	17	96	540	2712	10556	29216	54422	67020	2	-7	3	10
12	1	0	17	28	540	1624	10556	26020	54422	75728	0	17	5	-74
12	1	2	9	32	452	2840	10868	29280	54206	66764	2	-15	3	-6
12	1	1	17	60	476	2564	9724	28100	55318	69622	1	5	3	-34
12	1	0	19	24	434	2480	8814	26728	56268	72608	0	19	3	-90
12	1	0	21	44	456	2424	8736	26772	56322	72592	0	21	3	-82
12	1	0	9	24	452	1392	10868	26984	54206	74272	0	9	5	-30
12	1	0	16	64	401	2144	8931	27712	56187	71232	0	16	3	-32
12	1	0	5	0	472	1024	11856	26624	53202	75776	0	5	6	-30
12	1	1	16	66	465	2496	9763	28318	55291	69310	1	4	3	-22
12	1	0	16	32	465	1952	9763	26720	55291	73664	0	16	4	-64
12	1	0	13	34	432	1844	9880	27134	55210	73048	0	13	4	-44
12	1	0	10	14	463	1484	10829	26706	54233	74664	0	10	5	-46
12	1	1	10	78	399	2232	9997	29266	55129	67918	1	-2	3	26
12	1	0	25	32	500	2624	8580	26080	56430	73600	0	25	3	-118
12	1	0	8	6	441	1468	10907	26842	54179	74440	0	8	5	-42
12	1	0	17	38	476	1948	9724	26682	55318	73736	0	17	4	-64
12	1	0	4	12	397	1304	11063	27444	54071	73552	0	4	5	-12
12	1	1	16	50	465	2592	9763	28078	55291	69630	1	4	3	-38

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
12	1	2	8	38	441	2772	10907	29498	54179	66452	2	-16	3	6
12	1	3	9	56	516	3060	11700	30216	53310	64402	3	-27	3	26
12	1	2	21	104	584	2792	10400	28824	54530	67628	2	-3	3	-6
12	1	0	9	8	516	1104	11700	26232	53310	76384	0	9	6	-46
12	1	3	5	48	472	2980	11856	30608	53202	63794	3	-31	3	42
12	1	0	17	28	412	2392	8892	27044	56214	72144	0	17	3	-74
12	1	0	10	8	399	1904	9997	27128	55129	72992	0	10	4	-52
12	1	0	7	64	302	1856	9282	28864	55944	69504	0	7	3	22
12	1	1	8	18	377	2528	10075	28622	55075	68734	1	-4	3	-22
11	1	0	17	44	476	1912	9724	26772	55318	73616	0	17	4	-58
11	1	0	6	28	355	1656	10153	27940	55021	71824	0	6	4	-8
11	1	0	10	18	463	1460	10829	26766	54233	74584	0	10	5	-42
11	1	0	7	20	430	1352	10946	27180	54152	73968	0	7	5	-22
11	1	0	11	0	538	1216	11622	25856	53364	76928	0	11	6	-66
11	1	0	4	24	333	1616	10231	28136	54967	71520	0	4	4	0
11	1	0	11	4	474	1576	10790	26428	54260	75056	0	11	5	-62
11	1	0	25	48	564	2144	9412	25808	55534	75072	0	25	4	-102
11	1	0	15	16	518	1632	10634	26096	54368	75584	0	15	5	-74
11	1	0	16	26	401	2372	8931	27142	56187	71992	0	16	3	-70

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
11	1	0	19	28	434	2456	8814	26788	56268	72528	0	19	3	-86
11	1	1	4	10	333	2448	10231	29014	54967	68126	1	-8	3	-6
11	1	0	12	12	485	1560	10751	26420	54287	75088	0	12	5	-60
11	1	1	0	6	417	1576	12051	28442	53067	71022	1	-12	5	14
11	1	0	23	44	542	2104	9490	26004	55480	74768	0	23	4	-94
11	1	1	17	56	476	2588	9724	28040	55318	69702	1	5	3	-38
11	1	0	15	34	390	2292	8970	27390	56160	71640	0	15	3	-56
11	1	1	13	32	432	2604	9880	28192	55210	69414	1	1	3	-38
11	1	1	6	14	355	2488	10153	28818	55021	68430	1	-6	3	-14
11	1	0	2	10	375	1252	11141	27670	54017	73208	0	2	5	-2
11	1	1	17	48	476	2636	9724	27920	55318	69862	1	5	3	-46
11	1	0	17	40	476	1936	9724	26712	55318	73696	0	17	4	-62
11	1	0	11	10	346	2308	9126	27542	56052	71352	0	11	3	-56
11	1	0	13	62	368	2060	9048	28066	56106	70696	0	13	3	-16
11	1	2	7	28	430	2800	10946	29476	54152	66460	2	-17	3	2
11	1	0	15	28	518	1560	10634	26276	54368	75344	0	15	5	-62
11	1	0	16	20	401	2408	8931	27052	56187	72112	0	16	3	-76
11	1	2	1	16	364	2680	11180	30064	53990	65548	2	-23	3	26
11	1	0	4	54	269	1820	9399	29098	55863	69128	0	4	3	30

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
11	1	0	1	8	364	1232	11180	27768	53990	73056	0	1	5	2
11	1	2	15	84	518	2720	10634	29292	54368	66876	2	-9	3	10
11	1	1	20	66	509	2624	9607	27806	55399	70078	1	8	3	-46
11	1	0	15	12	518	1656	10634	26036	54368	75664	0	15	5	-78
11	1	0	16	74	401	2084	8931	27862	56187	71032	0	16	3	-22
11	1	1	25	88	564	2652	9412	27496	55534	70598	1	13	3	-54
11	1	1	17	40	604	1916	11388	26776	53526	73606	1	5	5	-54
11	1	1	23	84	542	2612	9490	27692	55480	70294	1	11	3	-46
11	1	0	21	72	456	2256	8736	27192	56322	72032	0	21	3	-54
11	1	2	10	50	463	2764	10829	29422	54233	66596	2	-14	3	6
11	1	0	20	44	509	2008	9607	26388	55399	74192	0	20	4	-76
11	1	0	13	40	432	1808	9880	27224	55210	72928	0	13	4	-38
11	1	1	21	80	520	2572	9568	27888	55426	69990	1	9	3	-38
11	1	3	11	84	538	2956	11622	30380	53364	64226	3	-25	3	42
11	1	2	12	74	485	2684	10751	29526	54287	66500	2	-12	3	18
11	1	0	18	46	423	2316	8853	27186	56241	71976	0	18	3	-62
11	1	2	2	18	375	2700	11141	29966	54017	65700	2	-22	3	22
11	1	0	5	2	280	2164	9360	28190	55890	70360	0	5	3	-28
11	1	0	21	40	520	2064	9568	26200	55426	74464	0	21	4	-86

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
11	1	2	15	92	518	2672	10634	29412	54368	66716	2	-9	3	18
11	1	2	11	84	474	2592	10790	29804	54260	66108	2	-13	3	34
11	1	2	15	60	518	2864	10634	28932	54368	67356	2	-9	3	-14
11	1	0	18	48	423	2304	8853	27216	56241	71936	0	18	3	-60
10	1	1	14	86	443	2312	9841	28874	55237	68526	1	2	3	10
10	1	0	14	40	443	1840	9841	27096	55237	73120	0	14	4	-44
10	1	0	5	14	408	1324	11024	27346	54098	73704	0	5	5	-16
10	1	0	6	2	419	1428	10985	27038	54125	74136	0	6	5	-34
10	1	2	17	80	540	2808	10556	28976	54422	67340	2	-7	3	-6
10	1	1	19	60	498	2628	9646	27844	55372	70006	1	7	3	-46
10	1	1	14	38	443	2600	9841	28154	55237	69486	1	2	3	-38
10	1	2	5	28	408	2736	11024	29732	54098	66076	2	-19	3	14
10	1	0	13	28	496	1496	10712	26532	54314	74960	0	13	5	-50
10	1	0	7	30	366	1676	10114	27842	55048	71976	0	7	4	-12
10	1	4	13	88	624	3360	12376	30760	52522	62648	4	-35	3	42
10	1	0	22	40	467	2480	8697	26584	56349	72864	0	22	3	-92
10	1	2	6	58	419	2588	10985	30054	54125	65668	2	-18	3	38
10	1	0	23	44	478	2488	8658	26516	56376	72976	0	23	3	-94
10	1	2	11	44	474	2832	10790	29204	54260	66908	2	-13	3	-6

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
10	1	0	8	0	505	1120	11739	26240	53283	76352	0	8	6	-48
10	1	0	9	62	324	1932	9204	28578	55998	69928	0	9	3	8
10	1	0	13	12	496	1592	10712	26292	54314	75280	0	13	5	-66
10	1	1	5	12	344	2468	10192	28916	54994	68278	1	-7	3	-10
10	1	0	13	0	624	896	12376	25088	52522	79104	0	13	7	-78
10	1	0	17	24	540	1648	10556	25960	54422	75808	0	17	5	-78
10	1	0	7	14	430	1388	10946	27090	54152	74088	0	7	5	-28
10	1	0	10	10	463	1508	10829	26646	54233	74744	0	10	5	-50
10	1	1	14	74	443	2384	9841	28694	55237	68766	1	2	3	-2
10	1	0	19	44	498	1976	9646	26516	55372	74000	0	19	4	-70
10	1	0	10	14	399	1868	9997	27218	55129	72872	0	10	4	-46
10	1	2	13	80	496	2680	10712	29488	54314	66572	2	-11	3	18
10	1	0	14	22	443	1948	9841	26826	55237	73480	0	14	4	-62
10	1	0	16	22	401	2396	8931	27082	56187	72072	0	16	3	-74
10	1	0	17	16	476	2080	9724	26352	55318	74176	0	17	4	-86
10	1	2	13	48	496	2872	10712	29008	54314	67212	2	-11	3	-14
10	1	3	8	66	505	2968	11739	30494	53283	64010	3	-28	3	42
10	1	0	9	80	324	1824	9204	28848	55998	69568	0	9	3	26
10	1	0	14	12	379	2392	9009	27188	56133	71888	0	14	3	-72

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
10	1	0	22	58	467	2372	8697	26854	56349	72504	0	22	3	-74
10	1	0	27	68	522	2472	8502	26364	56484	73264	0	27	3	-94
10	1	1	7	16	366	2508	10114	28720	55048	68582	1	-5	3	-18
10	1	1	17	104	476	2300	9724	28760	55318	68742	1	5	3	10
10	1	0	12	8	357	2352	9087	27384	56079	71584	0	12	3	-64
10	1	0	14	16	443	1984	9841	26736	55237	73600	0	14	4	-68
10	1	3	6	54	483	2976	11817	30570	53229	63866	3	-30	3	42
10	1	0	14	72	379	2032	9009	28088	56133	70688	0	14	3	-12
10	1	2	7	40	430	2728	10946	29656	54152	66220	2	-17	3	14
10	1	2	10	66	463	2668	10829	29662	54233	66276	2	-14	3	22
10	1	0	16	42	465	1892	9763	26870	55291	73464	0	16	4	-54
10	1	1	16	46	465	2616	9763	28018	55291	69710	1	4	3	-42
10	1	0	6	0	483	1056	11817	26496	53229	75968	0	6	6	-36
10	1	0	11	24	474	1456	10790	26728	54260	74656	0	11	5	-42
10	1	0	18	40	423	2352	8853	27096	56241	72096	0	18	3	-68
10	1	1	10	66	399	2304	9997	29086	55129	68158	1	-2	3	14
10	1	0	15	42	390	2244	8970	27510	56160	71480	0	15	3	-48
10	1	0	5	26	344	1636	10192	28038	54994	71672	0	5	4	-4
9	1	0	6	2	291	2196	9321	28062	55917	70552	0	6	3	-34

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
9	1	1	12	70	421	2344	9919	28890	55183	68462	1	0	3	6
9	1	0	18	58	423	2244	8853	27366	56241	71736	0	18	3	-50
9	1	0	9	6	324	2268	9204	27738	55998	71048	0	9	3	-48
9	1	0	1	2	364	1268	11180	27678	53990	73176	0	1	5	-4
9	1	0	20	32	509	2080	9607	26208	55399	74432	0	20	4	-88
9	1	0	3	0	450	960	11934	26880	53148	75392	0	3	6	-18
9	1	0	13	8	368	2384	9048	27256	56106	71776	0	13	3	-70
9	1	0	14	16	507	1600	10673	26224	54341	75392	0	14	5	-68
9	1	0	20	36	445	2440	8775	26780	56295	72560	0	20	3	-84
9	1	1	16	74	465	2448	9763	28438	55291	69150	1	4	3	-14
9	1	1	21	64	520	2668	9568	27648	55426	70310	1	9	3	-54
9	1	0	12	18	421	1908	9919	27022	55183	73176	0	12	4	-54
9	1	0	4	14	397	1292	11063	27474	54071	73512	0	4	5	-10
9	1	2	4	22	397	2740	11063	29770	54071	66004	2	-20	3	14
9	1	0	8	4	313	2248	9243	27836	55971	70896	0	8	3	-44
9	1	0	7	58	302	1892	9282	28774	55944	69624	0	7	3	16
9	1	1	2	46	311	2168	10309	29810	54913	67022	1	-10	3	42
9	1	1	12	30	421	2584	9919	28290	55183	69262	1	0	3	-34
9	1	0	6	18	419	1332	10985	27278	54125	73816	0	6	5	-18

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
9	1	0	12	18	485	1524	10751	26510	54287	74968	0	12	5	-54
9	1	0	19	24	498	2096	9646	26216	55372	74400	0	19	4	-90
9	1	1	20	46	637	1976	11271	26482	53607	74062	1	8	5	-66
9	1	0	13	0	560	1280	11544	25600	53418	77312	0	13	6	-78
9	1	3	3	36	450	2988	11934	30684	53148	63650	3	-33	3	42
9	1	0	25	56	500	2480	8580	26440	56430	73120	0	25	3	-94
9	1	1	19	100	498	2388	9646	28444	55372	69206	1	7	3	-6
9	1	0	12	10	357	2340	9087	27414	56079	71544	0	12	3	-62
9	1	0	17	96	412	1984	8892	28064	56214	70784	0	17	3	-6
9	1	1	19	92	498	2436	9646	28324	55372	69366	1	7	3	-14
9	1	0	6	56	291	1872	9321	28872	55917	69472	0	6	3	20
9	1	0	10	78	335	1868	9165	28690	56025	69800	0	10	3	18
9	1	0	18	70	423	2172	8853	27546	56241	71496	0	18	3	-38
9	1	2	15	100	518	2624	10634	29532	54368	66556	2	-9	3	26
9	1	0	19	28	498	2072	9646	26276	55372	74320	0	19	4	-86
9	1	0	23	56	478	2416	8658	26696	56376	72736	0	23	3	-82
9	1	2	1	28	364	2608	11180	30244	53990	65308	2	-23	3	38
9	1	0	33	80	588	2592	8268	25776	56646	74176	0	33	3	-118
9	1	0	20	24	445	2512	8775	26600	56295	72800	0	20	3	-96

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
9	1	0	18	42	487	1956	9685	26614	55345	73848	0	18	4	-66
9	1	0	15	20	518	1608	10634	26156	54368	75504	0	15	5	-70
9	1	0	13	12	432	1976	9880	26804	55210	73488	0	13	4	-66
9	1	0	17	20	412	2440	8892	26924	56214	72304	0	17	3	-82
9	1	2	6	26	419	2780	10985	29574	54125	66308	2	-18	3	6
9	1	0	15	8	390	2448	8970	27000	56160	72160	0	15	3	-82
9	1	0	21	48	520	2016	9568	26320	55426	74304	0	21	4	-78
9	1	1	13	88	432	2268	9880	29032	55210	68294	1	1	3	18
9	1	0	19	40	498	2000	9646	26456	55372	74080	0	19	4	-74
9	1	3	13	96	560	2948	11544	30304	53418	64370	3	-23	3	42
9	1	2	15	76	518	2768	10634	29172	54368	67036	2	-9	3	2
9	1	2	12	62	485	2756	10751	29346	54287	66740	2	-12	3	6
9	1	1	20	90	509	2480	9607	28166	55399	69598	1	8	3	-22
9	1	0	12	38	421	1788	9919	27322	55183	72776	0	12	4	-34
9	1	1	19	68	498	2580	9646	27964	55372	69846	1	7	3	-38
9	1	0	14	42	443	1828	9841	27126	55237	73080	0	14	4	-42
9	1	0	16	16	401	2432	8931	26992	56187	72192	0	16	3	-80
9	1	2	14	78	507	2724	10673	29330	54341	66804	2	-10	3	10
9	1	0	16	28	465	1976	9763	26660	55291	73744	0	16	4	-68

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
9	1	0	2	0	311	1696	10309	28032	54913	71616	0	2	4	-12
9	1	1	14	34	443	2624	9841	28094	55237	69566	1	2	3	-42
9	1	1	18	58	487	2608	9685	27942	55345	69854	1	6	3	-42
9	1	0	19	32	498	2048	9646	26336	55372	74240	0	19	4	-82
9	1	0	15	8	518	1680	10634	25976	54368	75744	0	15	5	-82
9	1	1	19	84	498	2484	9646	28204	55372	69526	1	7	3	-22
9	1	0	15	62	390	2124	8970	27810	56160	71080	0	15	3	-28
8	1	0	23	32	478	2560	8658	26336	56376	73216	0	23	3	-106
8	1	1	13	36	432	2580	9880	28252	55210	69334	1	1	3	-34
8	1	0	13	66	368	2036	9048	28126	56106	70616	0	13	3	-12
8	1	2	17	64	540	2904	10556	28736	54422	67660	2	-7	3	-22
8	1	0	10	64	335	1952	9165	28480	56025	70080	0	10	3	4
8	1	0	15	26	454	1956	9802	26758	55264	73592	0	15	4	-64
8	1	1	18	66	487	2560	9685	28062	55345	69694	1	6	3	-34
8	1	0	13	38	432	1820	9880	27194	55210	72968	0	13	4	-40
8	1	0	24	62	489	2412	8619	26658	56403	72808	0	24	3	-82
8	1	0	14	14	379	2380	9009	27218	56133	71848	0	14	3	-70
8	1	1	5	64	344	2156	10192	29696	54994	67238	1	-7	3	42
8	1	0	18	36	423	2376	8853	27036	56241	72176	0	18	3	-72

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
8	1	0	11	8	538	1168	11622	25976	53364	76768	0	11	6	-58
8	1	0	1	6	364	1244	11180	27738	53990	73096	0	1	5	0
8	1	1	22	50	659	2016	11193	26286	53661	74366	1	10	5	-74
8	1	0	19	80	434	2144	8814	27568	56268	71488	0	19	3	-34
8	1	0	18	68	423	2184	8853	27516	56241	71536	0	18	3	-40
8	1	2	1	20	364	2656	11180	30124	53990	65468	2	-23	3	30
8	1	0	10	4	463	1544	10829	26556	54233	74864	0	10	5	-56
8	1	1	25	56	692	2076	11076	25992	53742	74822	1	13	5	-86
8	1	0	12	40	421	1776	9919	27352	55183	72736	0	12	4	-32
8	1	0	20	30	445	2476	8775	26690	56295	72680	0	20	3	-90
8	1	1	18	74	487	2512	9685	28182	55345	69534	1	6	3	-26
8	1	0	18	28	423	2424	8853	26916	56241	72336	0	18	3	-80
8	1	1	8	74	377	2192	10075	29462	55075	67614	1	-4	3	34
8	1	0	23	84	478	2248	8658	27116	56376	72176	0	23	3	-54
8	1	0	18	34	487	2004	9685	26494	55345	74008	0	18	4	-74
8	1	0	10	6	463	1532	10829	26586	54233	74824	0	10	5	-54
8	1	0	12	16	485	1536	10751	26480	54287	75008	0	12	5	-56
8	1	0	14	68	379	2056	9009	28028	56133	70768	0	14	3	-16
8	1	0	20	42	445	2404	8775	26870	56295	72440	0	20	3	-78

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
8	1	0	7	8	494	1040	11778	26488	53256	76000	0	7	6	-34
8	1	1	18	86	487	2440	9685	28362	55345	69294	1	6	3	-14
8	1	3	7	44	494	3068	11778	30292	53256	64258	3	-29	3	26
8	1	0	18	38	487	1980	9685	26554	55345	73928	0	18	4	-70
8	1	0	19	28	562	1688	10478	25764	54476	76112	0	19	5	-86
8	1	0	18	28	487	2040	9685	26404	55345	74128	0	18	4	-80
8	1	0	17	32	540	1600	10556	26080	54422	75648	0	17	5	-70
8	1	0	17	8	540	1744	10556	25720	54422	76128	0	17	5	-94
8	1	1	21	48	648	1996	11232	26384	53634	74214	1	9	5	-70
8	1	0	7	0	366	1856	10114	27392	55048	72576	0	7	4	-42
8	1	2	10	78	463	2596	10829	29842	54233	66036	2	-14	3	34
8	1	0	25	80	500	2336	8580	26800	56430	72640	0	25	3	-70
8	1	2	17	112	540	2616	10556	29456	54422	66700	2	-7	3	26
8	1	1	12	26	421	2608	9919	28230	55183	69342	1	0	3	-38
8	1	3	13	80	560	3044	11544	30064	53418	64690	3	-23	3	26
8	1	0	21	104	456	2064	8736	27672	56322	71392	0	21	3	-22
8	1	0	6	0	291	2208	9321	28032	55917	70592	0	6	3	-36
8	1	0	8	4	377	1864	10075	27324	55075	72688	0	8	4	-44
8	1	2	12	66	485	2732	10751	29406	54287	66660	2	-12	3	10

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
8	1	1	27	60	714	2116	10998	25796	53796	75126	1	15	5	-94
8	1	2	19	84	562	2848	10478	28780	54476	67644	2	-5	3	-14
8	1	0	5	0	344	1792	10192	27648	54994	72192	0	5	4	-30
8	1	3	11	68	538	3052	11622	30140	53364	64546	3	-25	3	26
8	1	0	17	30	412	2380	8892	27074	56214	72104	0	17	3	-72
8	1	0	13	14	368	2348	9048	27346	56106	71656	0	13	3	-64
8	1	0	18	66	423	2196	8853	27486	56241	71576	0	18	3	-42
8	1	0	13	70	368	2012	9048	28186	56106	70536	0	13	3	-8
8	1	2	10	74	463	2620	10829	29782	54233	66116	2	-14	3	30
8	1	0	29	96	544	2368	8424	26528	56538	73088	0	29	3	-78
8	1	0	17	76	412	2104	8892	27764	56214	71184	0	17	3	-26
8	1	1	7	76	366	2148	10114	29620	55048	67382	1	-5	3	42
8	1	0	13	8	560	1232	11544	25720	53418	77152	0	13	6	-70
8	1	1	15	72	454	2428	9802	28536	55264	68998	1	3	3	-10
8	1	0	17	8	412	2512	8892	26744	56214	72544	0	17	3	-94
8	1	0	21	68	456	2280	8736	27132	56322	72112	0	21	3	-58
8	1	0	18	24	423	2448	8853	26856	56241	72416	0	18	3	-84
8	1	0	23	52	478	2440	8658	26636	56376	72816	0	23	3	-86
8	1	0	23	72	478	2320	8658	26936	56376	72416	0	23	3	-66

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
8	1	0	16	72	401	2096	8931	27832	56187	71072	0	16	3	-24
7	1	0	19	84	434	2120	8814	27628	56268	71408	0	19	3	-30
7	1	0	17	54	412	2236	8892	27434	56214	71624	0	17	3	-48
7	1	0	19	16	434	2528	8814	26608	56268	72768	0	19	3	-98
7	1	0	15	0	582	1344	11466	25344	53472	77696	0	15	6	-90
7	1	0	17	0	604	1408	11388	25088	53526	78080	0	17	6	-102
7	1	0	10	4	527	1160	11661	26044	53337	76656	0	10	6	-56
7	1	0	23	76	478	2296	8658	26996	56376	72336	0	23	3	-62
7	1	1	16	34	465	2688	9763	27838	55291	69950	1	4	3	-54
7	1	0	12	20	485	1512	10751	26540	54287	74928	0	12	5	-52
7	1	1	23	108	542	2468	9490	28052	55480	69814	1	11	3	-22
7	1	1	19	52	498	2676	9646	27724	55372	70166	1	7	3	-54
7	1	0	18	24	487	2064	9685	26344	55345	74208	0	18	4	-84
7	1	0	9	10	452	1476	10868	26774	54206	74552	0	9	5	-44
7	1	0	4	58	269	1796	9399	29158	55863	69048	0	4	3	34
7	1	1	15	80	454	2380	9802	28656	55264	68838	1	3	3	-2
7	1	3	15	92	582	3036	11466	29988	53472	64834	3	-21	3	26
7	1	0	20	50	509	1972	9607	26478	55399	74072	0	20	4	-70
7	1	2	12	54	485	2804	10751	29226	54287	66900	2	-12	3	-2

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
7	1	0	18	86	423	2076	8853	27786	56241	71176	0	18	3	-22
7	1	2	19	76	562	2896	10478	28660	54476	67804	2	-5	3	-22
7	1	1	17	84	476	2420	9724	28460	55318	69142	1	5	3	-10
7	1	0	19	58	434	2276	8814	27238	56268	71928	0	19	3	-56
7	1	1	5	60	344	2180	10192	29636	54994	67318	1	-7	3	38
7	1	0	20	78	445	2188	8775	27410	56295	71720	0	20	3	-42
7	1	2	19	108	562	2704	10478	29140	54476	67164	2	-5	3	10
7	1	0	2	0	247	2080	9477	28544	55809	69824	0	2	3	-12
7	1	3	10	78	527	2960	11661	30418	53337	64154	3	-26	3	42
7	1	0	21	24	520	2160	9568	25960	55426	74784	0	21	4	-102
7	1	1	20	78	509	2552	9607	27986	55399	69838	1	8	3	-34
7	1	0	15	30	390	2316	8970	27330	56160	71720	0	15	3	-60
7	1	0	11	0	474	1600	10790	26368	54260	75136	0	11	5	-66
7	1	2	12	70	485	2708	10751	29466	54287	66580	2	-12	3	14
7	1	0	5	2	344	1780	10192	27678	54994	72152	0	5	4	-28
7	1	0	29	72	544	2512	8424	26168	56538	73568	0	29	3	-102
7	1	0	19	32	562	1664	10478	25824	54476	76032	0	19	5	-82
7	1	0	23	32	542	2176	9490	25824	55480	75008	0	23	4	-106
7	1	0	6	16	419	1344	10985	27248	54125	73856	0	6	5	-20

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
7	1	0	12	14	485	1548	10751	26450	54287	75048	0	12	5	-58
7	1	0	22	94	467	2156	8697	27394	56349	71784	0	22	3	-38
7	1	0	15	12	390	2424	8970	27060	56160	72080	0	15	3	-78
7	1	0	10	0	527	1184	11661	25984	53337	76736	0	10	6	-60
7	1	0	15	44	454	1848	9802	27028	55264	73232	0	15	4	-46
7	1	0	4	0	333	1760	10231	27776	54967	72000	0	4	4	-24
7	1	0	4	52	269	1832	9399	29068	55863	69168	0	4	3	28
7	1	0	19	24	562	1712	10478	25704	54476	76192	0	19	5	-90
7	1	0	19	72	434	2192	8814	27448	56268	71648	0	19	3	-42
7	1	0	25	88	500	2288	8580	26920	56430	72480	0	25	3	-62
7	1	0	15	8	454	2064	9802	26488	55264	73952	0	15	4	-82
7	1	0	17	66	412	2164	8892	27614	56214	71384	0	17	3	-36
7	1	2	9	16	708	1400	14196	26992	50622	74252	2	-15	7	-22
7	1	2	13	104	496	2536	10712	29848	54314	66092	2	-11	3	42
7	1	2	11	92	474	2544	10790	29924	54260	65948	2	-13	3	42
7	1	2	6	30	419	2756	10985	29634	54125	66228	2	-18	3	10
7	1	2	9	52	452	2720	10868	29580	54206	66364	2	-15	3	14
7	1	0	15	8	582	1296	11466	25464	53472	77536	0	15	6	-82
7	1	1	15	84	454	2356	9802	28716	55264	68758	1	3	3	2

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
7	1	0	5	60	280	1816	9360	29060	55890	69200	0	5	3	30
7	1	0	19	16	562	1760	10478	25584	54476	76352	0	19	5	-98
7	1	1	15	108	454	2212	9802	29076	55264	68278	1	3	3	26
7	1	0	23	36	478	2536	8658	26396	56376	73136	0	23	3	-102
7	1	0	13	0	496	1664	10712	26112	54314	75520	0	13	5	-78
7	1	2	9	60	452	2672	10868	29700	54206	66204	2	-15	3	22
7	1	1	4	58	333	2160	10231	29734	54967	67166	1	-8	3	42
7	1	0	16	48	465	1856	9763	26960	55291	73344	0	16	4	-48
7	1	0	23	24	478	2608	8658	26216	56376	73376	0	23	3	-114
7	1	1	18	94	487	2392	9685	28482	55345	69134	1	6	3	-6
7	1	0	15	22	454	1980	9802	26698	55264	73672	0	15	4	-68
7	1	0	19	48	498	1952	9646	26576	55372	73920	0	19	4	-66
7	1	2	19	92	562	2800	10478	28900	54476	67484	2	-5	3	-6
7	1	0	19	20	434	2504	8814	26668	56268	72688	0	19	3	-94
7	1	3	15	108	582	2940	11466	30228	53472	64514	3	-21	3	42
7	1	1	15	36	454	2644	9802	27996	55264	69718	1	3	3	-46
7	1	0	18	64	423	2208	8853	27456	56241	71616	0	18	3	-44
7	1	2	12	58	485	2780	10751	29286	54287	66820	2	-12	3	2
7	1	0	12	22	485	1500	10751	26570	54287	74888	0	12	5	-50

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
7	1	0	20	38	509	2044	9607	26298	55399	74312	0	20	4	-82
7	1	4	17	112	668	3344	12220	30608	52630	62936	4	-31	3	42
7	1	3	17	120	604	2932	11388	30152	53526	64658	3	-19	3	42
7	1	0	15	20	454	1992	9802	26668	55264	73712	0	15	4	-70
7	1	0	17	0	668	1024	12220	24576	52630	79872	0	17	7	-102
7	1	0	17	26	476	2020	9724	26502	55318	73976	0	17	4	-76
7	1	1	20	54	509	2696	9607	27626	55399	70318	1	8	3	-58
7	1	0	9	14	452	1452	10868	26834	54206	74472	0	9	5	-40
7	1	1	21	112	520	2380	9568	28368	55426	69350	1	9	3	-6
7	1	3	10	70	527	3008	11661	30298	53337	64314	3	-26	3	34
6	1	0	15	32	518	1536	10634	26336	54368	75264	0	15	5	-58
6	1	0	14	8	379	2416	9009	27128	56133	71968	0	14	3	-76
6	1	0	16	78	401	2060	8931	27922	56187	70952	0	16	3	-18
6	1	2	11	36	474	2880	10790	29084	54260	67068	2	-13	3	-14
6	1	0	29	40	672	1936	10088	24664	54746	77792	0	29	5	-134
6	1	0	17	48	476	1888	9724	26832	55318	73536	0	17	4	-54
6	1	0	10	20	463	1448	10829	26796	54233	74544	0	10	5	-40
6	1	0	25	32	628	1856	10244	25056	54638	77184	0	25	5	-118
6	1	0	23	36	542	2152	9490	25884	55480	74928	0	23	4	-102

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
6	1	0	18	60	423	2232	8853	27396	56241	71696	0	18	3	-48
6	1	0	17	24	476	2032	9724	26472	55318	74016	0	17	4	-78
6	1	0	25	16	692	1568	11076	24304	53742	79296	0	25	6	-134
6	1	1	17	96	476	2348	9724	28640	55318	68902	1	5	3	2
6	1	0	20	60	445	2296	8775	27140	56295	72080	0	20	3	-60
6	1	0	23	92	478	2200	8658	27236	56376	72016	0	23	3	-46
6	1	0	20	56	445	2320	8775	27080	56295	72160	0	20	3	-64
6	1	1	24	54	681	2056	11115	26090	53715	74670	1	12	5	-82
6	1	1	17	40	476	2684	9724	27800	55318	70022	1	5	3	-54
6	1	3	8	58	505	3016	11739	30374	53283	64170	3	-28	3	34
6	1	1	12	90	421	2224	9919	29190	55183	68062	1	0	3	26
6	1	0	13	76	368	1976	9048	28276	56106	70416	0	13	3	-2
6	1	0	19	20	562	1736	10478	25644	54476	76272	0	19	5	-94
6	1	0	21	32	520	2112	9568	26080	55426	74624	0	21	4	-94
6	1	0	18	32	487	2016	9685	26464	55345	74048	0	18	4	-76
6	1	4	9	64	580	3376	12532	30912	52414	62360	4	-39	3	42
6	1	0	27	32	522	2688	8502	25824	56484	73984	0	27	3	-130
6	1	2	10	42	463	2812	10829	29302	54233	66756	2	-14	3	-2
6	1	3	12	82	549	3000	11583	30222	53391	64458	3	-24	3	34

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
6	1	0	11	28	474	1432	10790	26788	54260	74576	0	11	5	-38
6	1	0	2	20	311	1576	10309	28332	54913	71216	0	2	4	8
6	1	4	11	76	602	3368	12454	30836	52468	62504	4	-37	3	42
6	1	0	16	76	401	2072	8931	27892	56187	70992	0	16	3	-20
6	1	0	16	44	465	1880	9763	26900	55291	73424	0	16	4	-52
6	1	3	6	46	483	3024	11817	30450	53229	64026	3	-30	3	34
6	1	0	25	96	500	2240	8580	27040	56430	72320	0	25	3	-54
6	1	0	12	8	485	1584	10751	26360	54287	75168	0	12	5	-64
6	1	1	14	30	443	2648	9841	28034	55237	69646	1	2	3	-46
6	1	1	18	50	487	2656	9685	27822	55345	70014	1	6	3	-50
6	1	0	13	0	368	2432	9048	27136	56106	71936	0	13	3	-78
6	1	0	18	20	423	2472	8853	26796	56241	72496	0	18	3	-88
6	1	0	8	2	441	1492	10907	26782	54179	74520	0	8	5	-46
6	1	0	17	20	476	2056	9724	26412	55318	74096	0	17	4	-82
6	1	2	23	108	606	2832	10322	28628	54584	67932	2	-1	3	-14
6	1	1	18	78	487	2488	9685	28242	55345	69454	1	6	3	-22
6	1	0	12	8	421	1968	9919	26872	55183	73376	0	12	4	-64
6	1	0	12	4	549	1224	11583	25788	53391	77040	0	12	6	-68
6	1	0	19	42	498	1988	9646	26486	55372	74040	0	19	4	-72

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
6	1	0	22	70	467	2300	8697	27034	56349	72264	0	22	3	-62
6	1	1	23	100	542	2516	9490	27932	55480	69974	1	11	3	-30
6	1	0	8	60	313	1912	9243	28676	55971	69776	0	8	3	12
6	1	0	7	4	494	1064	11778	26428	53256	76080	0	7	6	-38
6	1	0	31	76	566	2552	8346	25972	56592	73872	0	31	3	-110
6	1	0	15	0	646	960	12298	24832	52576	79488	0	15	7	-90
6	1	0	14	44	443	1816	9841	27156	55237	73040	0	14	4	-40
6	1	2	14	66	507	2796	10673	29150	54341	67044	2	-10	3	-2
6	1	0	8	4	505	1096	11739	26300	53283	76272	0	8	6	-44
6	1	0	11	38	410	1756	9958	27450	55156	72584	0	11	4	-28
6	1	0	10	22	463	1436	10829	26826	54233	74504	0	10	5	-38
6	1	0	9	0	580	768	12532	25600	52414	78336	0	9	7	-54
6	1	1	2	6	311	2408	10309	29210	54913	67822	1	-10	3	2
6	1	2	25	112	628	2872	10244	28432	54638	68236	2	1	3	-22
6	1	3	7	52	494	3020	11778	30412	53256	64098	3	-29	3	34
6	1	2	19	100	562	2752	10478	29020	54476	67324	2	-5	3	2
6	1	1	19	116	498	2292	9646	28684	55372	68886	1	7	3	10
6	1	0	21	36	456	2472	8736	26652	56322	72752	0	21	3	-90
6	1	0	25	48	500	2528	8580	26320	56430	73280	0	25	3	-102

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
6	1	0	19	108	434	1976	8814	27988	56268	70928	0	19	3	-6
6	1	0	23	28	606	1816	10322	25252	54584	76880	0	23	5	-110
6	1	0	14	82	379	1972	9009	28238	56133	70488	0	14	3	-2
6	1	0	19	0	690	1088	12142	24320	52684	80256	0	19	7	-114
6	1	0	14	22	507	1564	10673	26314	54341	75272	0	14	5	-62
6	1	2	8	70	441	2580	10907	29978	54179	65812	2	-16	3	38
6	1	2	29	120	672	2952	10088	28040	54746	68844	2	5	3	-38
6	1	2	10	46	463	2788	10829	29362	54233	66676	2	-14	3	2
6	1	0	25	104	500	2192	8580	27160	56430	72160	0	25	3	-46
6	1	0	3	46	258	1836	9438	29106	55836	69096	0	3	3	28
6	1	1	21	96	520	2476	9568	28128	55426	69670	1	9	3	-22
6	1	0	5	54	280	1852	9360	28970	55890	69320	0	5	3	24
6	1	1	16	42	465	2640	9763	27958	55291	69790	1	4	3	-46
6	1	0	14	20	507	1576	10673	26284	54341	75312	0	14	5	-64
6	1	4	19	124	690	3336	12142	30532	52684	63080	4	-29	3	42
6	1	1	17	88	476	2396	9724	28520	55318	69062	1	5	3	-6
6	1	2	23	84	606	2976	10322	28268	54584	68412	2	-1	3	-38
6	1	1	19	64	498	2604	9646	27904	55372	69926	1	7	3	-42
6	1	0	23	68	478	2344	8658	26876	56376	72496	0	23	3	-70

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
6	1	0	19	16	498	2144	9646	26096	55372	74560	0	19	4	-98
6	1	2	12	82	485	2636	10751	29646	54287	66340	2	-12	3	26
6	1	0	18	46	487	1932	9685	26674	55345	73768	0	18	4	-62
6	1	0	21	88	456	2160	8736	27432	56322	71712	0	21	3	-38
6	1	0	17	112	412	1888	8892	28304	56214	70464	0	17	3	10
6	1	2	15	52	518	2912	10634	28812	54368	67516	2	-9	3	-22
6	1	0	11	0	602	832	12454	25344	52468	78720	0	11	7	-66
6	1	0	14	86	379	1948	9009	28298	56133	70408	0	14	3	2
6	1	0	22	42	531	2084	9529	26102	55453	74616	0	22	4	-90
6	1	1	22	82	531	2592	9529	27790	55453	70142	1	10	3	-42
6	1	0	12	82	357	1908	9087	28494	56079	70104	0	12	3	10
6	1	0	11	4	346	2344	9126	27452	56052	71472	0	11	3	-62
6	1	2	14	70	507	2772	10673	29210	54341	66964	2	-10	3	2
6	1	0	6	4	483	1032	11817	26556	53229	75888	0	6	6	-32
6	1	3	25	136	692	3092	11076	29368	53742	65874	3	-11	3	10
6	1	4	15	100	646	3352	12298	30684	52576	62792	4	-33	3	42
6	1	0	23	40	606	1744	10322	25432	54584	76640	0	23	5	-98
6	1	1	11	24	410	2588	9958	28328	55156	69190	1	-1	3	-34
5	1	0	18	24	551	1680	10517	25832	54449	76000	0	18	5	-84

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
5	1	1	9	20	388	2548	10036	28524	55102	68886	1	-3	3	-26
5	1	0	29	32	608	2368	9256	25056	55642	76160	0	29	4	-142
5	1	0	21	32	584	1728	10400	25568	54530	76416	0	21	5	-94
5	1	0	6	60	291	1848	9321	28932	55917	69392	0	6	3	24
5	1	2	9	68	452	2624	10868	29820	54206	66044	2	-15	3	30
5	1	2	14	62	507	2820	10673	29090	54341	67124	2	-10	3	-6
5	1	1	22	70	531	2664	9529	27610	55453	70382	1	10	3	-54
5	1	0	25	0	756	1280	11908	23552	52846	81408	0	25	7	-150
5	1	0	12	8	549	1200	11583	25848	53391	76960	0	12	6	-64
5	1	4	21	136	712	3328	12064	30456	52738	63224	4	-27	3	42
5	1	0	27	56	522	2544	8502	26184	56484	73504	0	27	3	-106
5	1	0	18	50	487	1908	9685	26734	55345	73688	0	18	4	-58
5	1	1	29	144	608	2444	9256	27824	55642	70246	1	17	3	-22
5	1	0	15	30	454	1932	9802	26818	55264	73512	0	15	4	-60
5	1	1	18	42	487	2704	9685	27702	55345	70174	1	6	3	-58
5	1	0	11	10	410	1924	9958	27030	55156	73144	0	11	4	-56
5	1	0	14	18	443	1972	9841	26766	55237	73560	0	14	4	-66
5	1	2	25	144	628	2680	10244	28912	54638	67596	2	1	3	10
5	1	1	22	58	531	2736	9529	27430	55453	70622	1	10	3	-66

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
5	1	0	37	72	696	2384	8944	24632	55858	76896	0	37	4	-150
5	1	0	18	78	423	2124	8853	27666	56241	71336	0	18	3	-30
5	1	0	13	32	496	1472	10712	26592	54314	74880	0	13	5	-46
5	1	0	16	20	529	1640	10595	26028	54395	75696	0	16	5	-76
5	1	0	16	90	401	1988	8931	28102	56187	70712	0	16	3	-6
5	1	0	12	78	357	1932	9087	28434	56079	70184	0	12	3	6
5	1	0	15	66	390	2100	8970	27870	56160	71000	0	15	3	-24
5	1	0	22	82	467	2228	8697	27214	56349	72024	0	22	3	-50
5	1	1	16	38	465	2664	9763	27898	55291	69870	1	4	3	-50
5	1	3	12	74	549	3048	11583	30102	53391	64618	3	-24	3	26
5	1	0	14	12	507	1624	10673	26164	54341	75472	0	14	5	-72
5	1	0	13	16	560	1184	11544	25840	53418	76992	0	13	6	-62
5	1	0	9	0	388	1920	10036	27136	55102	72960	0	9	4	-54
5	1	1	19	44	498	2724	9646	27604	55372	70326	1	7	3	-62
5	1	0	20	50	445	2356	8775	26990	56295	72280	0	20	3	-70
5	1	0	5	8	472	976	11856	26744	53202	75616	0	5	6	-22
5	1	0	8	0	441	1504	10907	26752	54179	74560	0	8	5	-48
5	1	2	13	40	496	2920	10712	28888	54314	67372	2	-11	3	-22
5	1	0	25	40	500	2576	8580	26200	56430	73440	0	25	3	-110

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
5	1	1	16	90	465	2352	9763	28678	55291	68830	1	4	3	2
5	1	3	14	102	571	2944	11505	30266	53445	64442	3	-22	3	42
5	1	2	1	0	620	1240	14508	27776	50406	73036	2	-23	7	10
5	1	1	18	82	487	2464	9685	28302	55345	69374	1	6	3	-18
5	1	2	14	86	507	2676	10673	29450	54341	66644	2	-10	3	18
5	1	1	16	86	465	2376	9763	28618	55291	68910	1	4	3	-2
5	1	3	4	42	461	2984	11895	30646	53175	63722	3	-32	3	42
5	1	0	29	56	608	2224	9256	25416	55642	75680	0	29	4	-118
5	1	1	29	96	608	2732	9256	27104	55642	71206	1	17	3	-70
5	1	1	25	104	564	2556	9412	27736	55534	70278	1	13	3	-38
5	1	0	25	40	564	2192	9412	25688	55534	75232	0	25	4	-110
5	1	0	16	22	465	2012	9763	26570	55291	73864	0	16	4	-74
5	1	0	15	74	390	2052	8970	27990	56160	70840	0	15	3	-16
5	1	0	22	54	531	2012	9529	26282	55453	74376	0	22	4	-78
5	1	0	18	22	423	2460	8853	26826	56241	72456	0	18	3	-86
5	1	0	9	6	452	1500	10868	26714	54206	74632	0	9	5	-48
5	1	1	15	64	454	2476	9802	28416	55264	69158	1	3	3	-18
5	1	1	37	112	696	2892	8944	26320	55858	72422	1	25	3	-102
5	1	0	17	84	412	2056	8892	27884	56214	71024	0	17	3	-18

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
5	1	0	15	38	454	1884	9802	26938	55264	73352	0	15	4	-52
5	1	3	5	32	472	3076	11856	30368	53202	64114	3	-31	3	26
5	1	0	16	82	401	2036	8931	27982	56187	70872	0	16	3	-14
5	1	0	5	20	408	1288	11024	27436	54098	73584	0	5	5	-10
5	1	0	12	0	549	1248	11583	25728	53391	77120	0	12	6	-72
5	1	0	18	30	423	2412	8853	26946	56241	72296	0	18	3	-78
5	1	2	12	78	485	2660	10751	29586	54287	66420	2	-12	3	22
5	1	0	3	16	386	1248	11102	27632	54044	73280	0	3	5	-2
5	1	2	3	12	386	2768	11102	29748	54044	66012	2	-21	3	10
5	1	0	7	2	430	1460	10946	26910	54152	74328	0	7	5	-40
5	1	0	14	0	571	1312	11505	25472	53445	77504	0	14	6	-84
5	1	0	9	18	452	1428	10868	26894	54206	74392	0	9	5	-36
5	1	0	22	48	531	2048	9529	26192	55453	74496	0	22	4	-84
5	1	0	17	16	604	1312	11388	25328	53526	77760	0	17	6	-86
5	1	0	21	40	584	1680	10400	25688	54530	76256	0	21	5	-86
5	1	2	21	72	584	2984	10400	28344	54530	68268	2	-3	3	-38
5	1	1	17	80	476	2444	9724	28400	55318	69222	1	5	3	-14
5	1	0	18	30	487	2028	9685	26434	55345	74088	0	18	4	-78
5	1	0	12	10	485	1572	10751	26390	54287	75128	0	12	5	-62

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
5	1	3	17	88	604	3124	11388	29672	53526	65298	3	-19	3	10
5	1	2	7	12	686	1360	14274	27188	50568	73948	2	-17	7	-14
5	1	1	9	76	388	2212	10036	29364	55102	67766	1	-3	3	30
5	1	1	21	56	520	2716	9568	27528	55426	70470	1	9	3	-62
5	1	0	21	52	456	2376	8736	26892	56322	72432	0	21	3	-74
5	1	4	25	160	756	3312	11908	30304	52846	63512	4	-23	3	42
5	1	2	18	86	551	2804	10517	28938	54449	67412	2	-6	3	-6
5	1	2	21	88	584	2888	10400	28584	54530	67948	2	-3	3	-22
5	1	0	15	42	454	1860	9802	26998	55264	73272	0	15	4	-48
5	1	0	9	4	516	1128	11700	26172	53310	76464	0	9	6	-50
5	1	0	17	28	476	2008	9724	26532	55318	73936	0	17	4	-74
5	1	3	13	64	560	3140	11544	29824	53418	65010	3	-23	3	10
5	1	0	23	80	478	2272	8658	27056	56376	72256	0	23	3	-58
5	1	1	15	40	454	2620	9802	28056	55264	69638	1	3	3	-42
5	1	0	0	42	225	1764	9555	29430	55755	68600	0	0	3	42
5	1	0	14	12	443	2008	9841	26676	55237	73680	0	14	4	-72
5	1	3	6	38	483	3072	11817	30330	53229	64186	3	-30	3	26
5	1	0	0	38	225	1788	9555	29370	55755	68680	0	0	3	38
5	1	2	16	82	529	2764	10595	29134	54395	67108	2	-8	3	2

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
5	1	2	8	30	441	2820	10907	29378	54179	66612	2	-16	3	-2
5	1	0	9	68	324	1896	9204	28668	55998	69808	0	9	3	14
5	1	0	19	52	498	1928	9646	26636	55372	73840	0	19	4	-62
5	1	1	11	80	410	2252	9958	29168	55156	68070	1	-1	3	22
5	1	0	21	0	712	1152	12064	24064	52738	80640	0	21	7	-126
5	1	0	3	22	322	1596	10270	28234	54940	71368	0	3	4	4
5	1	1	14	94	443	2264	9841	28994	55237	68366	1	2	3	18
5	1	2	8	74	441	2556	10907	30038	54179	65732	2	-16	3	42
5	1	0	14	10	379	2404	9009	27158	56133	71928	0	14	3	-74
5	1	0	6	8	483	1008	11817	26616	53229	75808	0	6	6	-28
5	1	0	21	16	456	2592	8736	26352	56322	73152	0	21	3	-110
5	1	3	12	90	549	2952	11583	30342	53391	64298	3	-24	3	42
5	1	0	8	22	441	1372	10907	27082	54179	74120	0	8	5	-26
5	1	0	22	64	467	2336	8697	26944	56349	72384	0	22	3	-68
5	1	0	9	34	388	1716	10036	27646	55102	72280	0	9	4	-20
5	1	0	20	62	445	2284	8775	27170	56295	72040	0	20	3	-58
5	1	3	9	64	516	3012	11700	30336	53310	64242	3	-27	3	34
5	1	2	7	64	430	2584	10946	30016	54152	65740	2	-17	3	38
5	1	0	16	20	465	2024	9763	26540	55291	73904	0	16	4	-76

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
5	1	0	17	8	604	1360	11388	25208	53526	77920	0	17	6	-94
5	1	0	9	6	388	1884	10036	27226	55102	72840	0	9	4	-48
5	1	1	9	88	388	2140	10036	29544	55102	67526	1	-3	3	42
5	1	0	25	16	628	1952	10244	24816	54638	77504	0	25	5	-134
5	1	0	4	0	461	992	11895	26752	53175	75584	0	4	6	-24
5	1	2	15	28	774	1520	13962	26404	50784	75164	2	-9	7	-46
5	1	0	14	24	507	1552	10673	26344	54341	75232	0	14	5	-60
5	1	2	9	44	452	2768	10868	29460	54206	66524	2	-15	3	6
5	1	1	30	66	747	2176	10881	25502	53877	75582	1	18	5	-106
5	1	0	21	52	520	1992	9568	26380	55426	74224	0	21	4	-74
5	1	0	16	16	465	2048	9763	26480	55291	73984	0	16	4	-80
5	1	0	15	58	390	2148	8970	27750	56160	71160	0	15	3	-32
5	1	3	17	104	604	3028	11388	29912	53526	64978	3	-19	3	26
5	1	1	16	98	465	2304	9763	28798	55291	68670	1	4	3	10
5	1	0	16	46	465	1868	9763	26930	55291	73384	0	16	4	-50
5	1	1	3	8	322	2428	10270	29112	54940	67974	1	-9	3	-2
5	1	1	15	48	454	2572	9802	28176	55264	69478	1	3	3	-34
5	1	1	14	82	443	2336	9841	28814	55237	68606	1	2	3	6
5	1	2	5	16	408	2808	11024	29552	54098	66316	2	-19	3	2

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
4	1	1	16	78	465	2424	9763	28498	55291	69070	1	4	3	-10
4	1	3	4	34	461	3032	11895	30526	53175	63882	3	-32	3	34
4	1	0	8	8	505	1072	11739	26360	53283	76192	0	8	6	-40
4	1	1	18	70	487	2536	9685	28122	55345	69614	1	6	3	-30
4	1	0	11	16	538	1120	11622	26096	53364	76608	0	11	6	-50
4	1	0	26	50	575	2164	9373	25710	55561	75224	0	26	4	-106
4	1	2	16	70	529	2836	10595	28954	54395	67348	2	-8	3	-10
4	1	1	21	72	520	2620	9568	27768	55426	70150	1	9	3	-46
4	1	2	11	48	474	2808	10790	29264	54260	66828	2	-13	3	-2
4	1	0	22	54	467	2396	8697	26794	56349	72584	0	22	3	-78
4	1	0	12	26	485	1476	10751	26630	54287	74808	0	12	5	-46
4	1	0	11	84	346	1864	9126	28652	56052	69872	0	11	3	18
4	1	0	15	16	582	1248	11466	25584	53472	77376	0	15	6	-74
4	1	1	45	96	912	2476	10296	24032	54282	77862	1	33	5	-166
4	1	3	19	100	626	3116	11310	29596	53580	65442	3	-17	3	10
4	1	0	6	66	291	1812	9321	29022	55917	69272	0	6	3	30
4	1	3	14	78	571	3088	11505	29906	53445	64922	3	-22	3	18
4	1	1	23	52	670	2036	11154	26188	53688	74518	1	11	5	-78
4	1	0	26	38	575	2236	9373	25530	55561	75464	0	26	4	-118

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
4	1	0	27	80	522	2400	8502	26544	56484	73024	0	27	3	-82
4	1	0	1	10	364	1220	11180	27798	53990	73016	0	1	5	4
4	1	4	10	70	591	3372	12493	30874	52441	62432	4	-38	3	42
4	1	2	21	120	584	2696	10400	29064	54530	67308	2	-3	3	10
4	1	0	23	24	670	1456	11154	24680	53688	78752	0	23	6	-114
4	1	3	9	40	516	3156	11700	29976	53310	64722	3	-27	3	10
4	1	0	21	92	456	2136	8736	27492	56322	71632	0	21	3	-34
4	1	0	21	16	584	1824	10400	25328	54530	76736	0	21	5	-110
4	1	0	18	34	423	2388	8853	27006	56241	72216	0	18	3	-74
4	1	0	10	38	399	1724	9997	27578	55129	72392	0	10	4	-22
4	1	2	7	20	430	2848	10946	29356	54152	66620	2	-17	3	-6
4	1	0	13	0	432	2048	9880	26624	55210	73728	0	13	4	-78
4	1	2	17	88	540	2760	10556	29096	54422	67180	2	-7	3	2
4	1	0	25	16	500	2720	8580	25840	56430	73920	0	25	3	-134
4	1	0	20	38	445	2428	8775	26810	56295	72520	0	20	3	-82
4	1	0	18	36	487	1992	9685	26524	55345	73968	0	18	4	-72
4	1	0	27	52	586	2184	9334	25612	55588	75376	0	27	4	-110
4	1	0	20	46	509	1996	9607	26418	55399	74152	0	20	4	-74
4	1	1	10	18	399	2592	9997	28366	55129	69118	1	-2	3	-34

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
4	1	0	19	46	434	2348	8814	27058	56268	72168	0	19	3	-68
4	1	3	19	116	626	3020	11310	29836	53580	65122	3	-17	3	26
4	1	0	23	96	478	2176	8658	27296	56376	71936	0	23	3	-42
4	1	1	21	88	520	2524	9568	28008	55426	69830	1	9	3	-30
4	1	2	19	68	562	2944	10478	28540	54476	67964	2	-5	3	-30
4	1	0	10	12	527	1112	11661	26164	53337	76496	0	10	6	-48
4	1	0	17	12	540	1720	10556	25780	54422	76048	0	17	5	-90
4	1	2	21	80	584	2936	10400	28464	54530	68108	2	-3	3	-30
4	1	3	8	42	505	3112	11739	30134	53283	64490	3	-28	3	18
4	1	0	16	24	529	1616	10595	26088	54395	75616	0	16	5	-72
4	1	1	22	74	531	2640	9529	27670	55453	70302	1	10	3	-50
4	1	0	24	52	553	2088	9451	25996	55507	74800	0	24	4	-92
4	1	0	19	8	626	1424	11310	24952	53580	78304	0	19	6	-106
4	1	3	45	176	912	3492	10296	27408	54282	68914	3	9	3	-70
4	1	0	27	36	650	1896	10166	24860	54692	77488	0	27	5	-126
4	1	0	18	52	423	2280	8853	27276	56241	71856	0	18	3	-56
4	1	0	17	34	412	2356	8892	27134	56214	72024	0	17	3	-68
4	1	2	11	20	730	1440	14118	26796	50676	74556	2	-13	7	-30
4	1	0	29	80	544	2464	8424	26288	56538	73408	0	29	3	-94

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
4	1	3	21	128	648	3012	11232	29760	53634	65266	3	-15	3	26
4	1	0	23	16	606	1888	10322	25072	54584	77120	0	23	5	-122
4	1	0	16	4	593	1352	11427	25276	53499	77808	0	16	6	-92
4	1	2	21	40	840	1640	13728	25816	50946	76076	2	-3	7	-70
4	1	0	2	12	375	1240	11141	27700	54017	73168	0	2	5	0
4	1	0	5	64	280	1792	9360	29120	55890	69120	0	5	3	34
4	1	1	10	86	399	2184	9997	29386	55129	67758	1	-2	3	34
4	1	3	23	108	670	3196	11154	29204	53688	66050	3	-13	3	-6
4	1	0	27	76	522	2424	8502	26484	56484	73104	0	27	3	-86
4	1	0	17	20	540	1672	10556	25900	54422	75888	0	17	5	-82
4	1	0	4	4	461	968	11895	26812	53175	75504	0	4	6	-20
4	1	2	27	52	906	1760	13494	25228	51108	76988	2	3	7	-94
4	1	0	20	58	445	2308	8775	27110	56295	72120	0	20	3	-62
4	1	0	16	68	401	2120	8931	27772	56187	71152	0	16	3	-28
4	1	2	2	14	375	2724	11141	29906	54017	65780	2	-22	3	18
4	1	2	16	74	529	2812	10595	29014	54395	67268	2	-8	3	-6
4	1	0	19	92	434	2072	8814	27748	56268	71248	0	19	3	-22
4	1	0	11	32	474	1408	10790	26848	54260	74496	0	11	5	-34
4	1	1	6	70	355	2152	10153	29658	55021	67310	1	-6	3	42

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
4	1	0	15	54	390	2172	8970	27690	56160	71240	0	15	3	-36
4	1	0	0	36	225	1800	9555	29340	55755	68720	0	0	3	36
4	1	0	21	76	456	2232	8736	27252	56322	71952	0	21	3	-50
4	1	0	20	46	445	2380	8775	26930	56295	72360	0	20	3	-74
4	1	1	13	112	432	2124	9880	29392	55210	67814	1	1	3	42
4	1	0	11	22	474	1468	10790	26698	54260	74696	0	11	5	-44
4	1	0	29	88	544	2416	8424	26408	56538	73248	0	29	3	-86
4	1	0	7	24	430	1328	10946	27240	54152	73888	0	7	5	-18
4	1	3	21	144	648	2916	11232	30000	53634	64946	3	-15	3	42
4	1	0	35	52	738	2056	9854	24076	54908	78704	0	35	5	-158
4	1	2	11	28	474	2928	10790	28964	54260	67228	2	-13	3	-22
4	1	0	20	44	445	2392	8775	26900	56295	72400	0	20	3	-76
4	1	0	22	62	467	2348	8697	26914	56349	72424	0	22	3	-70
4	1	0	41	96	676	2752	7956	24992	56862	75392	0	41	3	-150
4	1	0	21	60	456	2328	8736	27012	56322	72272	0	21	3	-66
4	1	0	29	48	544	2656	8424	25808	56538	74048	0	29	3	-126
4	1	0	16	86	401	2012	8931	28042	56187	70792	0	16	3	-10
4	1	0	16	80	401	2048	8931	27952	56187	70912	0	16	3	-16
4	1	1	24	74	553	2704	9451	27414	55507	70686	1	12	3	-62

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
4	1	0	10	4	399	1928	9997	27068	55129	73072	0	10	4	-56
4	1	0	20	42	509	2020	9607	26358	55399	74232	0	20	4	-78
4	1	0	10	4	335	2312	9165	27580	56025	71280	0	10	3	-56
4	1	1	20	62	509	2648	9607	27746	55399	70158	1	8	3	-50
4	1	0	21	36	520	2088	9568	26140	55426	74544	0	21	4	-90
4	1	0	1	48	236	1760	9516	29392	55782	68672	0	1	3	42
4	1	3	15	76	582	3132	11466	29748	53472	65154	3	-21	3	10
4	1	0	21	44	520	2040	9568	26260	55426	74384	0	21	4	-82
4	1	0	14	12	571	1240	11505	25652	53445	77264	0	14	6	-72
4	1	0	1	18	300	1556	10348	28430	54886	71064	0	1	4	12
4	1	0	33	64	588	2688	8268	25536	56646	74496	0	33	3	-134
4	1	2	13	24	752	1480	14040	26600	50730	74860	2	-11	7	-38
4	1	0	12	12	549	1176	11583	25908	53391	76880	0	12	6	-60
4	1	0	3	60	258	1752	9438	29316	55836	68816	0	3	3	42
4	1	0	9	66	324	1908	9204	28638	55998	69848	0	9	3	12
4	1	1	24	98	553	2560	9451	27774	55507	70206	1	12	3	-38
4	1	0	27	60	650	1752	10166	25220	54692	77008	0	27	5	-102
4	1	0	21	8	648	1488	11232	24696	53634	78688	0	21	6	-118
4	1	1	26	114	575	2528	9373	27758	55561	70270	1	14	3	-34

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
4	1	0	6	0	355	1824	10153	27520	55021	72384	0	6	4	-36
4	1	0	14	4	507	1672	10673	26044	54341	75632	0	14	5	-80
4	1	0	8	12	505	1048	11739	26420	53283	76112	0	8	6	-36
4	1	0	31	48	630	2336	9178	25040	55696	76224	0	31	4	-138
4	1	1	20	70	509	2600	9607	27866	55399	69998	1	8	3	-42
4	1	0	21	0	648	1536	11232	24576	53634	78848	0	21	6	-126
4	1	0	8	70	313	1852	9243	28826	55971	69576	0	8	3	22
4	1	1	26	90	575	2672	9373	27398	55561	70750	1	14	3	-58
4	1	0	19	40	562	1616	10478	25944	54476	75872	0	19	5	-74
4	1	0	11	0	346	2368	9126	27392	56052	71552	0	11	3	-66
4	1	1	9	16	388	2572	10036	28464	55102	68966	1	-3	3	-30
4	1	0	19	36	562	1640	10478	25884	54476	75952	0	19	5	-78
4	1	2	35	132	738	3072	9854	27452	54908	69756	2	11	3	-62
4	1	2	27	116	650	2912	10166	28236	54692	68540	2	3	3	-30
4	1	0	23	36	606	1768	10322	25372	54584	76720	0	23	5	-102
4	1	1	31	124	630	2628	9178	27268	55696	71030	1	19	3	-54
4	1	0	10	8	527	1136	11661	26104	53337	76576	0	10	6	-52
4	1	0	9	16	516	1056	11700	26352	53310	76224	0	9	6	-38
4	1	1	27	92	586	2692	9334	27300	55588	70902	1	15	3	-62

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
4	1	0	18	26	423	2436	8853	26886	56241	72376	0	18	3	-82
4	1	2	17	104	540	2664	10556	29336	54422	66860	2	-7	3	18
4	1	3	12	66	549	3096	11583	29982	53391	64778	3	-24	3	18
4	1	0	16	26	465	1988	9763	26630	55291	73784	0	16	4	-70
4	1	3	10	54	527	3104	11661	30058	53337	64634	3	-26	3	18
4	1	0	25	112	500	2144	8580	27280	56430	72000	0	25	3	-38
4	1	2	1	12	364	2704	11180	30004	53990	65628	2	-23	3	22
4	1	0	4	0	269	2144	9399	28288	55863	70208	0	4	3	-24
4	1	0	16	26	529	1604	10595	26118	54395	75576	0	16	5	-70
4	1	2	27	68	650	3200	10166	27516	54692	69500	2	3	3	-78
4	1	2	12	46	485	2852	10751	29106	54287	67060	2	-12	3	-10
4	1	3	10	62	527	3056	11661	30178	53337	64474	3	-26	3	26
4	1	0	26	78	511	2380	8541	26642	56457	72872	0	26	3	-78
4	1	2	14	102	507	2580	10673	29690	54341	66324	2	-10	3	34
4	1	0	21	36	584	1704	10400	25628	54530	76336	0	21	5	-90
4	1	0	22	46	531	2060	9529	26162	55453	74536	0	22	4	-86
4	1	2	23	92	606	2928	10322	28388	54584	68252	2	-1	3	-30
4	1	0	10	10	399	1892	9997	27158	55129	72952	0	10	4	-50
4	1	0	19	16	626	1376	11310	25072	53580	78144	0	19	6	-98

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
4	1	0	24	40	553	2160	9451	25816	55507	75040	0	24	4	-104
4	1	0	20	86	445	2140	8775	27530	56295	71560	0	20	3	-34
4	1	0	21	0	456	2688	8736	26112	56322	73472	0	21	3	-126
4	1	0	12	68	357	1992	9087	28284	56079	70384	0	12	3	-4
4	1	3	16	106	593	2984	11427	30070	53499	64746	3	-20	3	34
4	1	0	12	72	357	1968	9087	28344	56079	70304	0	12	3	0
4	1	0	10	0	591	800	12493	25472	52441	78528	0	10	7	-60
4	1	0	17	88	412	2032	8892	27944	56214	70944	0	17	3	-14
4	1	1	1	4	300	2388	10348	29308	54886	67670	1	-11	3	6
4	1	3	11	52	538	3148	11622	29900	53364	64866	3	-25	3	10
4	1	0	33	96	588	2496	8268	26016	56646	73856	0	33	3	-102
4	1	0	20	72	445	2224	8775	27320	56295	71840	0	20	3	-48
4	1	1	10	74	399	2256	9997	29206	55129	67998	1	-2	3	22
4	1	0	29	56	544	2608	8424	25928	56538	73888	0	29	3	-118
4	1	2	23	132	606	2688	10322	28988	54584	67452	2	-1	3	10
4	1	0	20	84	445	2152	8775	27500	56295	71600	0	20	3	-36
4	1	2	19	60	562	2992	10478	28420	54476	68124	2	-5	3	-38
4	1	0	9	36	388	1704	10036	27676	55102	72240	0	9	4	-18
4	1	3	8	50	505	3064	11739	30254	53283	64330	3	-28	3	26

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
4	1	0	45	56	912	1968	10296	22344	54282	82336	0	45	6	-214
3	1	0	8	2	313	2260	9243	27806	55971	70936	0	8	3	-46
3	1	1	18	98	487	2368	9685	28542	55345	69054	1	6	3	-2
3	1	0	3	8	450	912	11934	27000	53148	75232	0	3	6	-10
3	1	0	20	34	445	2452	8775	26750	56295	72600	0	20	3	-86
3	1	0	17	0	412	2560	8892	26624	56214	72704	0	17	3	-102
3	1	1	18	38	487	2728	9685	27642	55345	70254	1	6	3	-62
3	1	2	4	18	397	2764	11063	29710	54071	66084	2	-20	3	10
3	1	1	31	68	758	2196	10842	25404	53904	75734	1	19	5	-110
3	1	0	7	18	430	1364	10946	27150	54152	74008	0	7	5	-24
3	1	1	13	24	432	2652	9880	28072	55210	69574	1	1	3	-46
3	1	2	18	74	551	2876	10517	28758	54449	67652	2	-6	3	-18
3	1	0	16	20	593	1256	11427	25516	53499	77488	0	16	6	-76
3	1	0	26	24	511	2704	8541	25832	56457	73952	0	26	3	-132
3	1	2	1	8	364	2728	11180	29944	53990	65708	2	-23	3	18
3	1	0	10	74	335	1892	9165	28630	56025	69880	0	10	3	14
3	1	0	20	102	445	2044	8775	27770	56295	71240	0	20	3	-18
3	1	0	8	6	377	1852	10075	27354	55075	72648	0	8	4	-42
3	1	5	25	152	820	3724	12740	30760	51950	61790	5	-35	3	42

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
3	1	1	33	72	780	2236	10764	25208	53958	76038	1	21	5	-118
3	1	0	12	14	421	1932	9919	26962	55183	73256	0	12	4	-58
3	1	0	7	28	430	1304	10946	27300	54152	73808	0	7	5	-14
3	1	0	33	56	652	2352	9100	24904	55750	76448	0	33	4	-142
3	1	0	33	0	908	1152	12428	22016	52166	84736	0	33	8	-198
3	1	0	11	18	474	1492	10790	26638	54260	74776	0	11	5	-48
3	1	0	13	42	432	1796	9880	27254	55210	72888	0	13	4	-36
3	1	2	21	96	584	2840	10400	28704	54530	67788	2	-3	3	-14
3	1	0	22	36	531	2120	9529	26012	55453	74736	0	22	4	-96
3	1	2	23	100	606	2880	10322	28508	54584	68092	2	-1	3	-22
3	1	0	21	56	520	1968	9568	26440	55426	74144	0	21	4	-70
3	1	0	14	10	507	1636	10673	26134	54341	75512	0	14	5	-74
3	1	0	26	66	511	2452	8541	26462	56457	73112	0	26	3	-90
3	1	2	57	112	1236	2360	12324	22288	51918	81548	2	33	7	-214
3	1	0	22	28	659	1400	11193	24868	53661	78480	0	22	6	-104
3	1	0	22	52	467	2408	8697	26764	56349	72624	0	22	3	-80
3	1	0	15	4	518	1704	10634	25916	54368	75824	0	15	5	-86
3	1	2	12	90	485	2588	10751	29766	54287	66180	2	-12	3	34
3	1	0	33	32	780	1728	10764	23520	53958	80512	0	33	6	-166

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
3	1	0	28	54	597	2204	9295	25514	55615	75528	0	28	4	-114
3	1	2	14	90	507	2652	10673	29510	54341	66564	2	-10	3	22
3	1	0	12	4	485	1608	10751	26300	54287	75248	0	12	5	-68
3	1	0	18	22	487	2076	9685	26314	55345	74248	0	18	4	-86
3	1	0	23	64	478	2368	8658	26816	56376	72576	0	23	3	-74
3	1	2	1	0	364	2776	11180	29824	53990	65868	2	-23	3	10
3	1	0	16	18	401	2420	8931	27022	56187	72152	0	16	3	-78
3	1	0	29	8	800	1360	11752	23160	52954	82016	0	29	7	-166
3	1	1	36	78	813	2296	10647	24914	54039	76494	1	24	5	-130
3	1	3	16	74	593	3176	11427	29590	53499	65386	3	-20	3	2
3	1	0	25	44	500	2552	8580	26260	56430	73360	0	25	3	-106
3	1	2	25	48	884	1720	13572	25424	51054	76684	2	1	7	-86
3	1	0	27	56	586	2160	9334	25672	55588	75296	0	27	4	-106
3	1	2	11	56	474	2760	10790	29384	54260	66668	2	-13	3	6
3	1	0	20	30	509	2092	9607	26178	55399	74472	0	20	4	-90
3	1	1	9	80	388	2188	10036	29424	55102	67686	1	-3	3	34
3	1	0	13	4	560	1256	11544	25660	53418	77232	0	13	6	-74
3	1	2	6	10	675	1340	14313	27286	50541	73796	2	-18	7	-10
3	1	0	11	92	346	1816	9126	28772	56052	69712	0	11	3	26

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
3	1	0	6	2	355	1812	10153	27550	55021	72344	0	6	4	-34
3	1	0	10	0	463	1568	10829	26496	54233	74944	0	10	5	-60
3	1	1	6	66	355	2176	10153	29598	55021	67390	1	-6	3	38
3	1	3	14	94	571	2992	11505	30146	53445	64602	3	-22	3	34
3	1	1	21	48	520	2764	9568	27408	55426	70630	1	9	3	-70
3	1	2	7	12	430	2896	10946	29236	54152	66780	2	-17	3	-14
3	1	0	25	92	500	2264	8580	26980	56430	72400	0	25	3	-58
3	1	2	18	110	551	2660	10517	29298	54449	66932	2	-6	3	18
3	1	0	18	16	423	2496	8853	26736	56241	72576	0	18	3	-92
3	1	4	21	120	712	3424	12064	30216	52738	63544	4	-27	3	26
3	1	2	33	128	716	3032	9932	27648	54854	69452	2	9	3	-54
3	1	0	19	88	434	2096	8814	27688	56268	71328	0	19	3	-26
3	1	0	27	44	586	2232	9334	25492	55588	75536	0	27	4	-118
3	1	4	33	208	844	3280	11596	30000	53062	64088	4	-15	3	42
3	1	2	17	56	540	2952	10556	28616	54422	67820	2	-7	3	-30
3	1	0	23	32	606	1792	10322	25312	54584	76800	0	23	5	-106
3	1	1	20	94	509	2456	9607	28226	55399	69518	1	8	3	-18
3	1	0	17	24	604	1264	11388	25448	53526	77600	0	17	6	-78
3	1	0	7	32	366	1664	10114	27872	55048	71936	0	7	4	-10

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
3	1	0	5	72	280	1744	9360	29240	55890	68960	0	5	3	42
3	1	1	27	76	586	2788	9334	27060	55588	71222	1	15	3	-78
3	1	3	21	96	648	3204	11232	29280	53634	65906	3	-15	3	-6
3	1	0	21	28	584	1752	10400	25508	54530	76496	0	21	5	-98
3	1	1	29	64	736	2156	10920	25600	53850	75430	1	17	5	-102
3	1	0	21	0	776	768	12896	23552	51842	82432	0	21	8	-126
3	1	0	15	92	390	1944	8970	28260	56160	70480	0	15	3	2
3	1	0	14	76	379	2008	9009	28148	56133	70608	0	14	3	-8
3	1	1	25	72	564	2748	9412	27256	55534	70918	1	13	3	-70
3	1	0	18	48	487	1920	9685	26704	55345	73728	0	18	4	-60
3	1	1	13	28	432	2628	9880	28132	55210	69494	1	1	3	-42
3	1	0	1	38	236	1820	9516	29242	55782	68872	0	1	3	32
3	1	3	3	20	450	3084	11934	30444	53148	63970	3	-33	3	26
3	1	0	18	82	423	2100	8853	27726	56241	71256	0	18	3	-26
3	1	1	22	90	531	2544	9529	27910	55453	69982	1	10	3	-34
3	1	0	29	24	544	2800	8424	25448	56538	74528	0	29	3	-150
3	1	0	1	12	364	1208	11180	27828	53990	72976	0	1	5	6
3	1	1	27	84	586	2740	9334	27180	55588	71062	1	15	3	-70
3	1	1	26	78	575	2744	9373	27218	55561	70990	1	14	3	-70

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
3	1	0	15	8	646	912	12298	24952	52576	79328	0	15	7	-82
3	1	0	21	8	712	1104	12064	24184	52738	80480	0	21	7	-118
3	1	2	14	58	507	2844	10673	29030	54341	67204	2	-10	3	-10
3	1	0	15	18	390	2388	8970	27150	56160	71960	0	15	3	-72
3	1	4	7	52	558	3384	12610	30988	52360	62216	4	-41	3	42
3	1	1	12	22	421	2632	9919	28170	55183	69422	1	0	3	-42
3	1	5	33	200	908	3692	12428	30456	52166	62366	5	-27	3	42
3	1	0	20	40	509	2032	9607	26328	55399	74272	0	20	4	-80
3	1	0	11	10	474	1540	10790	26518	54260	74936	0	11	5	-56
3	1	0	27	92	522	2328	8502	26724	56484	72784	0	27	3	-70
3	1	2	20	90	573	2844	10439	28742	54503	67716	2	-4	3	-14
3	1	0	12	20	549	1128	11583	26028	53391	76720	0	12	6	-52
3	1	0	27	52	522	2568	8502	26124	56484	73584	0	27	3	-110
3	1	0	17	36	540	1576	10556	26140	54422	75568	0	17	5	-66
3	1	1	20	74	509	2576	9607	27926	55399	69918	1	8	3	-38
3	1	0	19	100	434	2024	8814	27868	56268	71088	0	19	3	-14
3	1	2	12	50	485	2828	10751	29166	54287	66980	2	-12	3	-6
3	1	0	19	70	434	2204	8814	27418	56268	71688	0	19	3	-44
3	1	1	13	96	432	2220	9880	29152	55210	68134	1	1	3	26

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
3	1	1	26	66	575	2816	9373	27038	55561	71230	1	14	3	-82
3	1	0	14	26	507	1540	10673	26374	54341	75192	0	14	5	-58
3	1	0	19	8	562	1808	10478	25464	54476	76512	0	19	5	-106
3	1	0	12	6	485	1596	10751	26330	54287	75208	0	12	5	-66
3	1	0	21	28	456	2520	8736	26532	56322	72912	0	21	3	-98
3	1	1	13	84	432	2292	9880	28972	55210	68374	1	1	3	14
3	1	1	33	120	652	2716	9100	26952	55750	71494	1	21	3	-70
3	1	0	20	96	445	2080	8775	27680	56295	71360	0	20	3	-24
3	1	0	20	56	509	1936	9607	26568	55399	73952	0	20	4	-64
3	1	0	26	62	575	2092	9373	25890	55561	74984	0	26	4	-94
3	1	3	14	86	571	3040	11505	30026	53445	64762	3	-22	3	26
3	1	1	23	52	542	2804	9490	27212	55480	70934	1	11	3	-78
3	1	0	18	12	551	1752	10517	25652	54449	76240	0	18	5	-96
3	1	3	13	88	560	2996	11544	30184	53418	64530	3	-23	3	34
3	1	0	24	86	489	2268	8619	27018	56403	72328	0	24	3	-58
3	1	0	13	4	496	1640	10712	26172	54314	75440	0	13	5	-74
3	1	0	7	84	302	1736	9282	29164	55944	69104	0	7	3	42
3	1	0	25	76	500	2360	8580	26740	56430	72720	0	25	3	-74
3	1	0	2	44	247	1816	9477	29204	55809	68944	0	2	3	32

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
3	1	0	6	30	355	1644	10153	27970	55021	71784	0	6	4	-6
3	1	2	7	32	430	2776	10946	29536	54152	66380	2	-17	3	6
3	1	0	18	14	423	2508	8853	26706	56241	72616	0	18	3	-94
3	1	0	20	28	573	1720	10439	25636	54503	76304	0	20	5	-92
3	1	0	22	86	467	2204	8697	27274	56349	71944	0	22	3	-46
3	1	2	15	108	518	2576	10634	29652	54368	66396	2	-9	3	34
3	1	0	1	16	364	1184	11180	27888	53990	72896	0	1	5	10
3	1	0	37	120	632	2480	8112	25864	56754	74144	0	37	3	-102
3	1	0	26	96	511	2272	8541	26912	56457	72512	0	26	3	-60
3	1	0	29	32	544	2752	8424	25568	56538	74368	0	29	3	-142
3	1	0	12	24	485	1488	10751	26600	54287	74848	0	12	5	-48
3	1	1	7	12	366	2532	10114	28660	55048	68662	1	-5	3	-22
3	1	1	26	58	703	2096	11037	25894	53769	74974	1	14	5	-90
3	1	0	24	56	489	2448	8619	26568	56403	72928	0	24	3	-88
3	1	0	16	12	465	2072	9763	26420	55291	74064	0	16	4	-84
3	1	0	27	100	522	2280	8502	26844	56484	72624	0	27	3	-62
3	1	0	23	48	542	2080	9490	26064	55480	74688	0	23	4	-90
3	1	0	18	30	551	1644	10517	25922	54449	75880	0	18	5	-78
3	1	0	7	16	494	992	11778	26608	53256	75840	0	7	6	-26

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
3	1	1	23	76	542	2660	9490	27572	55480	70454	1	11	3	-54
3	1	1	18	46	487	2680	9685	27762	55345	70094	1	6	3	-54
3	1	0	17	8	668	976	12220	24696	52630	79712	0	17	7	-94
3	1	1	6	10	355	2512	10153	28758	55021	68510	1	-6	3	-18
3	1	0	13	8	432	2000	9880	26744	55210	73568	0	13	4	-70
3	1	3	12	50	549	3192	11583	29742	53391	65098	3	-24	3	2
3	1	3	11	76	538	3004	11622	30260	53364	64386	3	-25	3	34
3	1	0	25	64	628	1664	10244	25536	54638	76544	0	25	5	-86
3	1	0	9	4	388	1896	10036	27196	55102	72880	0	9	4	-50
3	1	2	15	44	518	2960	10634	28692	54368	67676	2	-9	3	-30
3	1	0	20	70	445	2236	8775	27290	56295	71880	0	20	3	-50
3	1	3	17	72	604	3220	11388	29432	53526	65618	3	-19	3	-6
3	1	0	16	12	593	1304	11427	25396	53499	77648	0	16	6	-84
3	1	1	12	78	421	2296	9919	29010	55183	68302	1	0	3	14
3	1	0	21	32	648	1344	11232	25056	53634	78208	0	21	6	-94
3	1	0	12	42	421	1764	9919	27382	55183	72696	0	12	4	-30
3	1	2	3	4	642	1280	14430	27580	50460	73340	2	-21	7	2
3	1	0	25	72	564	2000	9412	26168	55534	74592	0	25	4	-78
3	1	0	26	56	575	2128	9373	25800	55561	75104	0	26	4	-100

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
3	1	0	5	4	472	1000	11856	26684	53202	75696	0	5	6	-26
3	1	2	11	72	474	2664	10790	29624	54260	66348	2	-13	3	22
3	1	0	15	18	454	2004	9802	26638	55264	73752	0	15	4	-72
3	1	3	33	152	780	3252	10764	28584	53958	67090	3	-3	3	-22
3	1	3	21	80	648	3300	11232	29040	53634	66226	3	-15	3	-22
3	1	0	12	30	485	1452	10751	26690	54287	74728	0	12	5	-42
3	1	3	16	90	593	3080	11427	29830	53499	65066	3	-20	3	18
3	1	1	28	62	725	2136	10959	25698	53823	75278	1	16	5	-98
3	1	1	20	114	509	2336	9607	28526	55399	69118	1	8	3	2
3	1	0	25	40	628	1808	10244	25176	54638	77024	0	25	5	-110
3	1	3	5	40	472	3028	11856	30488	53202	63954	3	-31	3	34
3	1	1	15	88	454	2332	9802	28776	55264	68678	1	3	3	6
3	1	0	15	36	518	1512	10634	26396	54368	75184	0	15	5	-54
3	1	0	27	24	650	1968	10166	24680	54692	77728	0	27	5	-138
3	1	0	13	10	368	2372	9048	27286	56106	71736	0	13	3	-68
3	1	0	18	12	615	1368	11349	25140	53553	78032	0	18	6	-96
3	1	3	18	102	615	3072	11349	29754	53553	65210	3	-18	3	18
3	1	0	33	128	588	2304	8268	26496	56646	73216	0	33	3	-70
3	1	0	13	44	432	1784	9880	27284	55210	72848	0	13	4	-34

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
3	1	0	11	4	538	1192	11622	25916	53364	76848	0	11	6	-62
3	1	0	33	48	716	2016	9932	24272	54854	78400	0	33	5	-150
3	1	0	21	24	648	1392	11232	24936	53634	78368	0	21	6	-102
3	1	1	16	106	465	2256	9763	28918	55291	68510	1	4	3	18
3	1	0	17	12	412	2488	8892	26804	56214	72464	0	17	3	-90
3	1	2	25	96	628	2968	10244	28192	54638	68556	2	1	3	-38
3	1	0	23	60	542	2008	9490	26244	55480	74448	0	23	4	-78
3	1	5	19	116	754	3748	12974	30988	51788	61358	5	-41	3	42
3	1	0	7	76	302	1784	9282	29044	55944	69264	0	7	3	34
3	1	1	20	42	509	2768	9607	27446	55399	70558	1	8	3	-70
3	1	2	19	124	562	2608	10478	29380	54476	66844	2	-5	3	26
3	1	1	28	94	597	2712	9295	27202	55615	71054	1	16	3	-66
3	1	0	18	72	423	2160	8853	27576	56241	71456	0	18	3	-36
3	1	2	27	140	650	2768	10166	28596	54692	68060	2	3	3	-6
3	1	0	25	56	564	2096	9412	25928	55534	74912	0	25	4	-94
3	1	0	20	20	509	2152	9607	26028	55399	74672	0	20	4	-100
3	1	2	10	86	463	2548	10829	29962	54233	65876	2	-14	3	42
3	1	2	8	34	441	2796	10907	29438	54179	66532	2	-16	3	2
3	1	5	21	128	776	3740	12896	30912	51842	61502	5	-39	3	42

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
3	1	0	17	78	412	2092	8892	27794	56214	71144	0	17	3	-24
3	1	0	23	50	542	2068	9490	26094	55480	74648	0	23	4	-88
3	1	2	13	96	496	2584	10712	29728	54314	66252	2	-11	3	34
3	1	0	25	0	820	896	12740	23040	51950	83200	0	25	8	-150
3	1	1	8	70	377	2216	10075	29402	55075	67694	1	-4	3	30
3	1	3	22	94	659	3248	11193	29122	53661	66138	3	-14	3	-14
3	1	0	31	68	630	2216	9178	25340	55696	75824	0	31	4	-118
3	1	0	15	4	390	2472	8970	26940	56160	72240	0	15	3	-86
3	1	0	15	0	390	2496	8970	26880	56160	72320	0	15	3	-90
3	1	0	22	28	467	2552	8697	26404	56349	73104	0	22	3	-104
3	1	0	27	60	586	2136	9334	25732	55588	75216	0	27	4	-102
3	1	2	5	8	664	1320	14352	27384	50514	73644	2	-19	7	-6
3	1	1	31	84	630	2868	9178	26668	55696	71830	1	19	3	-94
3	1	3	7	28	494	3164	11778	30052	53256	64578	3	-29	3	10
3	1	0	8	20	441	1384	10907	27052	54179	74160	0	8	5	-28
3	1	0	22	38	531	2108	9529	26042	55453	74696	0	22	4	-94
3	1	0	14	4	571	1288	11505	25532	53445	77424	0	14	6	-80
3	1	0	7	0	558	704	12610	25856	52360	77952	0	7	7	-42
3	1	4	15	84	646	3448	12298	30444	52576	63112	4	-33	3	26

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
3	1	1	23	72	542	2684	9490	27512	55480	70534	1	11	3	-58
3	1	0	8	64	313	1888	9243	28736	55971	69696	0	8	3	16
3	1	2	25	48	628	3256	10244	27472	54638	69516	2	1	3	-86
3	1	0	19	0	754	704	12974	23808	51788	82048	0	19	8	-114
3	1	2	12	86	485	2612	10751	29706	54287	66260	2	-12	3	30
3	1	0	15	22	390	2364	8970	27210	56160	71880	0	15	3	-68
3	1	0	33	0	844	1536	11596	22528	53062	82944	0	33	7	-198
3	1	0	23	116	478	2056	8658	27596	56376	71536	0	23	3	-22
3	1	1	22	94	531	2520	9529	27970	55453	69902	1	10	3	-30
3	1	1	25	40	564	2940	9412	26776	55534	71558	1	13	3	-102
3	1	4	29	168	800	3392	11752	29912	52954	64120	4	-19	3	26
3	1	4	17	96	668	3440	12220	30368	52630	63256	4	-31	3	26
3	1	0	16	12	401	2456	8931	26932	56187	72272	0	16	3	-84
3	1	0	4	16	397	1280	11063	27504	54071	73472	0	4	5	-8
3	1	0	13	14	432	1964	9880	26834	55210	73448	0	13	4	-64
3	1	2	19	36	818	1600	13806	26012	50892	75772	2	-5	7	-62
3	1	0	18	52	487	1896	9685	26764	55345	73648	0	18	4	-56
3	1	0	10	72	335	1904	9165	28600	56025	69920	0	10	3	12
3	1	2	12	38	485	2900	10751	28986	54287	67220	2	-12	3	-18

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
3	1	1	27	108	586	2596	9334	27540	55588	70582	1	15	3	-46
3	1	0	14	8	571	1264	11505	25592	53445	77344	0	14	6	-76
3	1	0	21	120	456	1968	8736	27912	56322	71072	0	21	3	-6
2	1	0	16	14	401	2444	8931	26962	56187	72232	0	16	3	-82
2	1	0	41	144	676	2464	7956	25712	56862	74432	0	41	3	-102
2	1	0	24	50	553	2100	9451	25966	55507	74840	0	24	4	-94
2	1	2	20	102	573	2772	10439	28922	54503	67476	2	-4	3	-2
2	1	0	49	72	828	2768	8476	23096	56182	79200	0	49	4	-222
2	1	1	21	104	520	2428	9568	28248	55426	69510	1	9	3	-14
2	1	0	12	6	357	2364	9087	27354	56079	71624	0	12	3	-66
2	1	2	11	64	474	2712	10790	29504	54260	66508	2	-13	3	14
2	1	1	33	104	652	2812	9100	26712	55750	71814	1	21	3	-86
2	1	0	27	48	650	1824	10166	25040	54692	77248	0	27	5	-114
2	1	1	14	90	443	2288	9841	28934	55237	68446	1	2	3	14
2	1	0	31	40	758	1616	10842	23896	53904	79968	0	31	6	-146
2	1	0	17	46	412	2284	8892	27314	56214	71784	0	17	3	-56
2	1	0	12	98	357	1812	9087	28734	56079	69784	0	12	3	26
2	1	1	21	128	520	2284	9568	28608	55426	69030	1	9	3	10
2	1	0	11	4	410	1960	9958	26940	55156	73264	0	11	4	-62

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	0	16	0	657	992	12259	24704	52603	79680	0	16	7	-96
2	1	0	18	20	615	1320	11349	25260	53553	77872	0	18	6	-88
2	1	4	18	118	679	3340	12181	30570	52657	63008	4	-30	3	42
2	1	4	23	148	734	3320	11986	30380	52792	63368	4	-25	3	42
2	1	0	14	6	379	2428	9009	27098	56133	72008	0	14	3	-78
2	1	0	17	0	540	1792	10556	25600	54422	76288	0	17	5	-102
2	1	6	27	156	906	4128	13494	31140	51108	60212	6	-45	3	42
2	1	0	22	24	531	2192	9529	25832	55453	74976	0	22	4	-108
2	1	1	24	78	553	2680	9451	27474	55507	70606	1	12	3	-58
2	1	0	6	12	483	984	11817	26676	53229	75728	0	6	6	-24
2	1	4	37	184	888	3552	11440	29128	53170	65336	4	-11	3	-6
2	1	0	14	16	571	1216	11505	25712	53445	77184	0	14	6	-68
2	1	1	28	58	597	2928	9295	26662	55615	71774	1	16	3	-102
2	1	0	21	16	520	2208	9568	25840	55426	74944	0	21	4	-110
2	1	0	24	44	489	2520	8619	26388	56403	73168	0	24	3	-100
2	1	0	23	108	478	2104	8658	27476	56376	71696	0	23	3	-30
2	1	5	17	104	732	3756	13052	31064	51734	61214	5	-43	3	42
2	1	0	21	20	456	2568	8736	26412	56322	73072	0	21	3	-106
2	1	4	49	208	1020	3792	10972	27952	53494	67160	4	1	3	-54

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	0	18	0	679	1056	12181	24448	52657	80064	0	18	7	-108
2	1	2	23	148	606	2592	10322	29228	54584	67132	2	-1	3	26
2	1	0	24	70	489	2364	8619	26778	56403	72648	0	24	3	-74
2	1	1	23	92	542	2564	9490	27812	55480	70134	1	11	3	-38
2	1	2	33	64	972	1880	13260	24640	51270	77900	2	9	7	-118
2	1	0	13	78	368	1964	9048	28306	56106	70376	0	13	3	0
2	1	3	16	114	593	2936	11427	30190	53499	64586	3	-20	3	42
2	1	2	22	82	595	2956	10361	28366	54557	68260	2	-2	3	-34
2	1	2	19	116	562	2656	10478	29260	54476	67004	2	-5	3	18
2	1	1	20	82	509	2528	9607	28046	55399	69758	1	8	3	-30
2	1	3	12	58	549	3144	11583	29862	53391	64938	3	-24	3	10
2	1	0	20	12	637	1432	11271	24884	53607	78416	0	20	6	-108
2	1	0	17	38	412	2332	8892	27194	56214	71944	0	17	3	-64
2	1	0	33	56	588	2736	8268	25416	56646	74656	0	33	3	-142
2	1	1	41	88	868	2396	10452	24424	54174	77254	1	29	5	-150
2	1	1	19	104	498	2364	9646	28504	55372	69126	1	7	3	-2
2	1	0	18	26	487	2052	9685	26374	55345	74168	0	18	4	-82
2	1	0	5	18	408	1300	11024	27406	54098	73624	0	5	5	-12
2	1	3	25	104	692	3284	11076	28888	53742	66514	3	-11	3	-22

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	3	4	26	461	3080	11895	30406	53175	64042	3	-32	3	26
2	1	0	29	0	928	640	13416	22016	51162	85760	0	29	9	-174
2	1	1	22	22	531	2952	9529	26890	55453	71342	1	10	3	-102
2	1	0	17	44	540	1528	10556	26260	54422	75408	0	17	5	-58
2	1	0	8	78	313	1804	9243	28946	55971	69416	0	8	3	30
2	1	0	29	16	864	928	12584	22768	52058	83648	0	29	8	-158
2	1	0	49	48	1020	1760	10972	21200	53494	85056	0	49	7	-246
2	1	0	14	18	507	1588	10673	26254	54341	75352	0	14	5	-66
2	1	0	17	104	412	1936	8892	28184	56214	70624	0	17	3	2
2	1	0	27	72	586	2064	9334	25912	55588	74976	0	27	4	-90
2	1	0	29	152	544	2032	8424	27368	56538	71968	0	29	3	-22
2	1	0	16	8	529	1712	10595	25848	54395	75936	0	16	5	-88
2	1	0	35	0	994	832	13182	21248	51324	86912	0	35	9	-210
2	1	3	26	150	703	3040	11037	29450	53769	65786	3	-10	3	18
2	1	0	22	66	467	2324	8697	26974	56349	72344	0	22	3	-66
2	1	2	21	56	584	3080	10400	28104	54530	68588	2	-3	3	-54
2	1	0	6	70	291	1788	9321	29082	55917	69192	0	6	3	34
2	1	0	25	52	500	2504	8580	26380	56430	73200	0	25	3	-98
2	1	2	16	90	529	2716	10595	29254	54395	66948	2	-8	3	10

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	1	25	56	564	2844	9412	27016	55534	71238	1	13	3	-86
2	1	4	16	106	657	3348	12259	30646	52603	62864	4	-32	3	42
2	1	0	15	12	454	2040	9802	26548	55264	73872	0	15	4	-78
2	1	0	15	88	390	1968	8970	28200	56160	70560	0	15	3	-2
2	1	0	10	2	463	1556	10829	26526	54233	74904	0	10	5	-58
2	1	0	3	14	386	1260	11102	27602	54044	73320	0	3	5	-4
2	1	2	41	144	804	3192	9620	26864	55070	70668	2	17	3	-86
2	1	2	39	76	1038	2000	13026	24052	51432	78812	2	15	7	-142
2	1	2	29	168	672	2664	10088	28760	54746	67884	2	5	3	10
2	1	2	41	208	804	2808	9620	27824	55070	69388	2	17	3	-22
2	1	0	31	42	630	2372	9178	24950	55696	76344	0	31	4	-144
2	1	0	25	16	564	2336	9412	25328	55534	75712	0	25	4	-134
2	1	4	13	72	624	3456	12376	30520	52522	62968	4	-35	3	26
2	1	0	15	0	710	576	13130	24320	51680	81280	0	15	8	-90
2	1	1	22	118	531	2376	9529	28330	55453	69422	1	10	3	-6
2	1	0	25	128	500	2048	8580	27520	56430	71680	0	25	3	-22
2	1	0	20	76	445	2200	8775	27380	56295	71760	0	20	3	-44
2	1	1	14	18	443	2720	9841	27854	55237	69886	1	2	3	-58
2	1	0	19	30	498	2060	9646	26306	55372	74280	0	19	4	-84

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	4	8	58	569	3380	12571	30950	52387	62288	4	-40	3	42
2	1	1	10	14	399	2616	9997	28306	55129	69198	1	-2	3	-38
2	1	6	25	144	884	4136	13572	31216	51054	60068	6	-47	3	42
2	1	0	12	0	613	864	12415	25216	52495	78912	0	12	7	-72
2	1	4	25	112	756	3600	11908	29584	52846	64472	4	-23	3	-6
2	1	0	16	14	529	1676	10595	25938	54395	75816	0	16	5	-82
2	1	0	7	62	302	1868	9282	28834	55944	69544	0	7	3	20
2	1	2	16	98	529	2668	10595	29374	54395	66788	2	-8	3	18
2	1	0	27	88	522	2352	8502	26664	56484	72864	0	27	3	-74
2	1	0	26	58	511	2500	8541	26342	56457	73272	0	26	3	-98
2	1	0	23	40	478	2512	8658	26456	56376	73056	0	23	3	-98
2	1	0	24	46	553	2124	9451	25906	55507	74920	0	24	4	-98
2	1	0	12	2	485	1620	10751	26270	54287	75288	0	12	5	-70
2	1	0	43	84	762	2504	8710	24044	56020	77808	0	43	4	-174
2	1	0	21	16	712	1056	12064	24304	52738	80320	0	21	7	-110
2	1	2	12	94	485	2564	10751	29826	54287	66100	2	-12	3	38
2	1	0	33	0	588	3072	8268	24576	56646	75776	0	33	3	-198
2	1	0	19	22	498	2108	9646	26186	55372	74440	0	19	4	-92
2	1	0	57	32	1236	1344	12324	18912	51918	90496	0	57	9	-310

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	2	17	48	540	3000	10556	28496	54422	67980	2	-7	3	-38
2	1	0	27	116	522	2184	8502	27084	56484	72304	0	27	3	-46
2	1	0	41	64	804	2176	9620	23488	55070	79616	0	41	5	-182
2	1	0	25	44	628	1784	10244	25236	54638	76944	0	25	5	-106
2	1	0	31	72	630	2192	9178	25400	55696	75744	0	31	4	-114
2	1	0	13	14	496	1580	10712	26322	54314	75240	0	13	5	-64
2	1	0	8	0	569	736	12571	25728	52387	78144	0	8	7	-48
2	1	0	18	102	423	1980	8853	28026	56241	70856	0	18	3	-6
2	1	0	21	48	584	1632	10400	25808	54530	76096	0	21	5	-78
2	1	0	12	4	357	2376	9087	27324	56079	71664	0	12	3	-68
2	1	2	12	22	741	1460	14079	26698	50703	74708	2	-12	7	-34
2	1	0	20	12	445	2584	8775	26420	56295	73040	0	20	3	-108
2	1	0	15	48	454	1824	9802	27088	55264	73152	0	15	4	-42
2	1	1	22	66	531	2688	9529	27550	55453	70462	1	10	3	-58
2	1	0	14	50	443	1780	9841	27246	55237	72920	0	14	4	-34
2	1	2	19	52	562	3040	10478	28300	54476	68284	2	-5	3	-46
2	1	4	25	128	756	3504	11908	29824	52846	64152	4	-23	3	10
2	1	1	4	6	333	2472	10231	28954	54967	68206	1	-8	3	-10
2	1	4	14	94	635	3356	12337	30722	52549	62720	4	-34	3	42

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	0	19	12	562	1784	10478	25524	54476	76432	0	19	5	-102
2	1	1	11	92	410	2180	9958	29348	55156	67830	1	-1	3	34
2	1	2	5	20	408	2784	11024	29612	54098	66236	2	-19	3	6
2	1	0	25	24	692	1520	11076	24424	53742	79136	0	25	6	-126
2	1	4	11	60	602	3464	12454	30596	52468	62824	4	-37	3	26
2	1	1	34	106	663	2832	9061	26614	55777	71966	1	22	3	-90
2	1	0	37	48	632	2912	8112	24784	56754	75584	0	37	3	-174
2	1	2	17	40	540	3048	10556	28376	54422	68140	2	-7	3	-46
2	1	0	30	70	619	2172	9217	25498	55669	75592	0	30	4	-110
2	1	0	29	64	544	2560	8424	26048	56538	73728	0	29	3	-110
2	1	0	21	8	456	2640	8736	26232	56322	73312	0	21	3	-118
2	1	2	18	98	551	2732	10517	29118	54449	67172	2	-6	3	6
2	1	0	18	76	423	2136	8853	27636	56241	71376	0	18	3	-32
2	1	2	25	88	628	3016	10244	28072	54638	68716	2	1	3	-46
2	1	0	37	0	1080	512	13936	20480	50482	89088	0	37	10	-222
2	1	0	16	50	465	1844	9763	26990	55291	73304	0	16	4	-46
2	1	1	24	62	553	2776	9451	27234	55507	70926	1	12	3	-74
2	1	0	17	40	540	1552	10556	26200	54422	75488	0	17	5	-62
2	1	2	4	6	653	1300	14391	27482	50487	73492	2	-20	7	-2

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	2	16	54	529	2932	10595	28714	54395	67668	2	-8	3	-26
2	1	2	37	136	760	3112	9776	27256	54962	70060	2	13	3	-70
2	1	0	31	60	694	1880	10010	24708	54800	77776	0	31	5	-126
2	1	6	57	272	1236	4392	12324	29040	51918	63652	6	-15	3	-22
2	1	0	41	16	996	1312	12116	21232	52382	85952	0	41	8	-230
2	1	0	10	42	399	1700	9997	27638	55129	72312	0	10	4	-18
2	1	1	25	96	564	2604	9412	27616	55534	70438	1	13	3	-46
2	1	0	9	8	580	720	12532	25720	52414	78176	0	9	7	-46
2	1	2	16	66	529	2860	10595	28894	54395	67428	2	-8	3	-14
2	1	3	18	110	615	3024	11349	29874	53553	65050	3	-18	3	26
2	1	3	6	30	483	3120	11817	30210	53229	64346	3	-30	3	18
2	1	1	25	120	564	2460	9412	27976	55534	69958	1	13	3	-22
2	1	0	22	50	467	2420	8697	26734	56349	72664	0	22	3	-82
2	1	1	27	52	586	2932	9334	26700	55588	71702	1	15	3	-102
2	1	3	25	120	692	3188	11076	29128	53742	66194	3	-11	3	-6
2	1	0	25	16	756	1184	11908	23792	52846	81088	0	25	7	-134
2	1	5	15	92	710	3764	13130	31140	51680	61070	5	-45	3	42
2	1	0	11	8	602	784	12454	25464	52468	78560	0	11	7	-58
2	1	0	16	16	593	1280	11427	25456	53499	77568	0	16	6	-80

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	0	24	50	489	2484	8619	26478	56403	73048	0	24	3	-94
2	1	0	20	22	573	1756	10439	25546	54503	76424	0	20	5	-98
2	1	0	37	16	824	1952	10608	22768	54066	81600	0	37	6	-206
2	1	0	5	58	280	1828	9360	29030	55890	69240	0	5	3	28
2	1	0	5	28	344	1624	10192	28068	54994	71632	0	5	4	-2
2	1	0	33	144	588	2208	8268	26736	56646	72896	0	33	3	-54
2	1	0	27	44	522	2616	8502	26004	56484	73744	0	27	3	-118
2	1	5	23	140	798	3732	12818	30836	51896	61646	5	-37	3	42
2	1	0	14	14	507	1612	10673	26194	54341	75432	0	14	5	-70
2	1	0	2	54	247	1756	9477	29354	55809	68744	0	2	3	42
2	1	0	19	104	434	2000	8814	27928	56268	71008	0	19	3	-10
2	1	0	23	40	542	2128	9490	25944	55480	74848	0	23	4	-98
2	1	0	13	36	496	1448	10712	26652	54314	74800	0	13	5	-42
2	1	2	13	76	496	2704	10712	29428	54314	66652	2	-11	3	14
2	1	0	29	24	672	2032	10088	24424	54746	78112	0	29	5	-150
2	1	0	57	160	852	2880	7332	23904	57294	77184	0	57	3	-182
2	1	2	31	92	694	3184	10010	27364	54800	69788	2	7	3	-78
2	1	3	29	160	736	3076	10920	29216	53850	66162	3	-7	3	10
2	1	0	14	0	635	928	12337	24960	52549	79296	0	14	7	-84

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	1	31	76	630	2916	9178	26548	55696	71990	1	19	3	-102
2	1	2	12	98	485	2540	10751	29886	54287	66020	2	-12	3	42
2	1	3	10	46	527	3152	11661	29938	53337	64794	3	-26	3	10
2	1	4	17	80	668	3536	12220	30128	52630	63576	4	-31	3	10
2	1	2	29	104	672	3048	10088	27800	54746	69164	2	5	3	-54
2	1	0	29	56	672	1840	10088	24904	54746	77472	0	29	5	-118
2	1	0	26	102	511	2236	8541	27002	56457	72392	0	26	3	-54
2	1	0	31	100	566	2408	8346	26332	56592	73392	0	31	3	-86
2	1	0	17	0	732	640	13052	24064	51734	81664	0	17	8	-102
2	1	0	27	36	586	2280	9334	25372	55588	75696	0	27	4	-126
2	1	0	9	96	324	1728	9204	29088	55998	69248	0	9	3	42
2	1	0	4	8	461	944	11895	26872	53175	75424	0	4	6	-16
2	1	7	49	280	1212	4452	13468	30760	50806	60074	7	-35	3	42
2	1	0	27	16	778	1248	11830	23536	52900	81472	0	27	7	-146
2	1	0	19	56	498	1904	9646	26696	55372	73760	0	19	4	-58
2	1	2	31	100	694	3136	10010	27484	54800	69628	2	7	3	-70
2	1	0	12	90	357	1860	9087	28614	56079	69944	0	12	3	18
2	1	0	18	44	487	1944	9685	26644	55345	73808	0	18	4	-64
2	1	0	8	68	313	1864	9243	28796	55971	69616	0	8	3	20

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	0	23	8	478	2704	8658	25976	56376	73696	0	23	3	-130
2	1	3	16	82	593	3128	11427	29710	53499	65226	3	-20	3	10
2	1	0	28	94	533	2348	8463	26626	56511	72936	0	28	3	-74
2	1	0	23	104	478	2128	8658	27416	56376	71776	0	23	3	-34
2	1	0	4	18	397	1268	11063	27534	54071	73432	0	4	5	-6
2	1	0	34	66	663	2324	9061	24926	55777	76440	0	34	4	-138
2	1	1	16	94	465	2328	9763	28738	55291	68750	1	4	3	6
2	1	0	25	0	884	512	13572	22528	51054	84992	0	25	9	-150
2	1	1	10	10	399	2640	9997	28246	55129	69278	1	-2	3	-42
2	1	1	11	20	410	2612	9958	28268	55156	69270	1	-1	3	-38
2	1	0	35	24	610	2992	8190	24680	56700	75680	0	35	3	-186
2	1	0	16	12	529	1688	10595	25908	54395	75856	0	16	5	-84
2	1	2	10	82	463	2572	10829	29902	54233	65956	2	-14	3	38
2	1	0	22	24	467	2576	8697	26344	56349	73184	0	22	3	-108
2	1	0	20	16	573	1792	10439	25456	54503	76544	0	20	5	-104
2	1	0	42	98	687	2772	7917	24894	56889	75544	0	42	3	-154
2	1	2	14	54	507	2868	10673	28970	54341	67284	2	-10	3	-14
2	1	0	21	34	520	2100	9568	26110	55426	74584	0	21	4	-92
2	1	1	20	102	509	2408	9607	28346	55399	69358	1	8	3	-10

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	0	10	76	335	1880	9165	28660	56025	69840	0	10	3	16
2	1	0	9	32	452	1344	10868	27104	54206	74112	0	9	5	-22
2	1	0	13	6	432	2012	9880	26714	55210	73608	0	13	4	-72
2	1	0	22	30	531	2156	9529	25922	55453	74856	0	22	4	-102
2	1	3	18	86	615	3168	11349	29514	53553	65530	3	-18	3	2
2	1	0	35	132	610	2344	8190	26300	56700	73520	0	35	3	-78
2	1	2	3	16	386	2744	11102	29808	54044	65932	2	-21	3	14
2	1	0	24	38	553	2172	9451	25786	55507	75080	0	24	4	-106
2	1	1	15	100	454	2260	9802	28956	55264	68438	1	3	3	18
2	1	2	21	152	584	2504	10400	29544	54530	66668	2	-3	3	42
2	1	0	10	16	527	1088	11661	26224	53337	76416	0	10	6	-44
2	1	3	15	60	582	3228	11466	29508	53472	65474	3	-21	3	-6
2	1	0	25	32	692	1472	11076	24544	53742	78976	0	25	6	-118
2	1	0	15	0	518	1728	10634	25856	54368	75904	0	15	5	-90
2	1	0	14	14	443	1996	9841	26706	55237	73640	0	14	4	-70
2	1	0	23	0	734	1216	11986	23808	52792	81024	0	23	7	-138
2	1	0	27	96	522	2304	8502	26784	56484	72704	0	27	3	-66
2	1	0	25	84	500	2312	8580	26860	56430	72560	0	25	3	-66
2	1	1	18	54	487	2632	9685	27882	55345	69934	1	6	3	-46

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	0	12	16	549	1152	11583	25968	53391	76800	0	12	6	-56
2	1	0	37	56	760	2096	9776	23880	54962	79008	0	37	5	-166
2	1	0	20	90	445	2116	8775	27590	56295	71480	0	20	3	-30
2	1	1	10	94	399	2136	9997	29506	55129	67598	1	-2	3	42
2	1	0	10	0	399	1952	9997	27008	55129	73152	0	10	4	-60
2	1	2	16	106	529	2620	10595	29494	54395	66628	2	-8	3	26
2	1	0	18	16	487	2112	9685	26224	55345	74368	0	18	4	-92
2	1	0	41	32	804	2368	9620	23008	55070	80256	0	41	5	-214
2	1	1	25	152	564	2268	9412	28456	55534	69318	1	13	3	10
2	1	0	16	16	529	1664	10595	25968	54395	75776	0	16	5	-80
2	1	2	31	60	950	1840	13338	24836	51216	77596	2	7	7	-110
2	1	0	31	60	630	2264	9178	25220	55696	75984	0	31	4	-126
2	1	0	18	96	423	2016	8853	27936	56241	70976	0	18	3	-12
2	1	0	19	12	498	2168	9646	26036	55372	74640	0	19	4	-102
2	1	0	16	18	465	2036	9763	26510	55291	73944	0	16	4	-78
2	1	0	22	34	531	2132	9529	25982	55453	74776	0	22	4	-98
2	1	0	24	68	489	2376	8619	26748	56403	72688	0	24	3	-76
2	1	0	19	8	690	1040	12142	24440	52684	80096	0	19	7	-106
2	1	0	25	32	564	2240	9412	25568	55534	75392	0	25	4	-118

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	2	13	32	496	2968	10712	28768	54314	67532	2	-11	3	-30
2	1	0	21	16	648	1440	11232	24816	53634	78528	0	21	6	-110
2	1	0	31	64	566	2624	8346	25792	56592	74112	0	31	3	-122
2	1	0	20	52	445	2344	8775	27020	56295	72240	0	20	3	-68
2	1	1	25	112	564	2508	9412	27856	55534	70118	1	13	3	-30
2	1	0	27	40	522	2640	8502	25944	56484	73824	0	27	3	-122
2	1	1	23	60	542	2756	9490	27332	55480	70774	1	11	3	-70
2	1	0	11	6	346	2332	9126	27482	56052	71432	0	11	3	-60
2	1	0	18	88	423	2064	8853	27816	56241	71136	0	18	3	-20
2	1	0	27	0	906	576	13494	22272	51108	85376	0	27	9	-162
2	1	0	20	36	509	2056	9607	26268	55399	74352	0	20	4	-84
2	1	2	33	152	716	2888	9932	28008	54854	68972	2	9	3	-30
2	1	0	23	56	542	2032	9490	26184	55480	74528	0	23	4	-82
2	1	1	39	84	846	2356	10530	24620	54120	76950	1	27	5	-142
2	1	2	9	76	452	2576	10868	29940	54206	65884	2	-15	3	38
2	1	0	29	48	672	1888	10088	24784	54746	77632	0	29	5	-126
2	1	0	10	40	399	1712	9997	27608	55129	72352	0	10	4	-20
2	1	0	6	0	547	672	12649	25984	52333	77760	0	6	7	-36
2	1	6	35	204	994	4096	13182	30836	51324	60788	6	-37	3	42

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	0	17	16	668	928	12220	24816	52630	79552	0	17	7	-86
2	1	5	13	80	688	3772	13208	31216	51626	60926	5	-47	3	42
2	1	2	27	92	650	3056	10166	27876	54692	69020	2	3	3	-54
2	1	1	27	124	586	2500	9334	27780	55588	70262	1	15	3	-30
2	1	1	49	184	828	2844	8476	25864	56182	73286	1	37	3	-102
2	1	1	19	124	498	2244	9646	28804	55372	68726	1	7	3	18
2	1	0	4	26	333	1604	10231	28166	54967	71480	0	4	4	2
2	1	0	17	30	476	1996	9724	26562	55318	73896	0	17	4	-72
2	1	0	18	8	615	1392	11349	25080	53553	78112	0	18	6	-100
2	1	0	14	0	379	2464	9009	27008	56133	72128	0	14	3	-84
2	1	0	25	72	500	2384	8580	26680	56430	72800	0	25	3	-78
2	1	3	23	140	670	3004	11154	29684	53688	65410	3	-13	3	26
2	1	0	22	50	531	2036	9529	26222	55453	74456	0	22	4	-82
2	1	2	14	82	507	2700	10673	29390	54341	66724	2	-10	3	14
2	1	0	15	24	582	1200	11466	25704	53472	77216	0	15	6	-66
2	1	0	16	88	401	2000	8931	28072	56187	70752	0	16	3	-8
2	1	1	57	120	1044	2716	9828	22856	54606	79686	1	45	5	-214
2	1	1	15	28	454	2692	9802	27876	55264	69878	1	3	3	-54
2	1	1	35	76	802	2276	10686	25012	54012	76342	1	23	5	-126

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	2	4	14	397	2788	11063	29650	54071	66164	2	-20	3	6
2	1	2	15	116	518	2528	10634	29772	54368	66236	2	-9	3	42
2	1	0	9	76	324	1848	9204	28788	55998	69648	0	9	3	22
2	1	0	23	54	478	2428	8658	26666	56376	72776	0	23	3	-84
2	1	0	19	44	562	1592	10478	26004	54476	75792	0	19	5	-70
2	1	0	15	14	390	2412	8970	27090	56160	72040	0	15	3	-76
2	1	1	23	124	542	2372	9490	28292	55480	69494	1	11	3	-6
2	1	0	27	104	522	2256	8502	26904	56484	72544	0	27	3	-58
2	1	0	31	84	566	2504	8346	26092	56592	73712	0	31	3	-102
2	1	0	21	28	520	2136	9568	26020	55426	74704	0	21	4	-98
2	1	3	20	114	637	3064	11271	29678	53607	65354	3	-16	3	18
2	1	0	22	76	467	2264	8697	27124	56349	72144	0	22	3	-56
2	1	2	25	128	628	2776	10244	28672	54638	67916	2	1	3	-6
2	1	2	20	114	573	2700	10439	29102	54503	67236	2	-4	3	10
2	1	0	29	24	736	1648	10920	23912	53850	79904	0	29	6	-150
2	1	0	28	46	533	2636	8463	25906	56511	73896	0	28	3	-122
2	1	0	13	0	688	512	13208	24576	51626	80896	0	13	8	-78
2	1	1	31	100	630	2772	9178	26908	55696	71510	1	19	3	-78
2	1	3	37	208	824	3044	10608	28912	54066	66738	3	1	3	10

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	2	29	88	672	3144	10088	27560	54746	69484	2	5	3	-70
2	1	2	29	152	672	2760	10088	28520	54746	68204	2	5	3	-6
2	1	1	16	30	465	2712	9763	27778	55291	70030	1	4	3	-58
2	1	0	11	40	410	1744	9958	27480	55156	72544	0	11	4	-26
2	1	0	30	110	555	2316	8385	26610	56565	73000	0	30	3	-70
2	1	1	37	80	824	2316	10608	24816	54066	76646	1	25	5	-134
2	1	1	30	74	619	2896	9217	26646	55669	71838	1	18	3	-98
2	1	0	24	32	489	2592	8619	26208	56403	73408	0	24	3	-112
2	1	0	37	24	888	1520	11440	22376	53170	83232	0	37	7	-198
2	1	0	14	20	571	1192	11505	25772	53445	77104	0	14	6	-64
2	1	0	73	0	1668	512	15028	14336	48766	101376	0	73	13	-438
2	1	0	11	70	346	1948	9126	28442	56052	70152	0	11	3	4
2	1	1	18	110	487	2296	9685	28722	55345	68814	1	6	3	10
2	1	0	11	74	346	1924	9126	28502	56052	70072	0	11	3	8
2	1	1	24	102	553	2536	9451	27834	55507	70126	1	12	3	-34
2	1	0	15	78	390	2028	8970	28050	56160	70760	0	15	3	-12
2	1	0	30	74	555	2532	8385	26070	56565	73720	0	30	3	-106
2	1	3	14	62	571	3184	11505	29666	53445	65242	3	-22	3	2
2	1	0	19	96	434	2048	8814	27808	56268	71168	0	19	3	-18

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	0	21	0	584	1920	10400	25088	54530	77056	0	21	5	-126
2	1	5	29	144	864	3900	12584	30128	52058	62718	5	-31	3	10
2	1	3	30	110	747	3408	10881	28338	53877	67354	3	-6	3	-46
2	1	6	33	192	972	4104	13260	30912	51270	60644	6	-39	3	42
2	1	2	14	50	507	2892	10673	28910	54341	67364	2	-10	3	-18
2	1	10	73	400	1668	5592	15028	31216	48766	56636	10	-47	3	42
2	1	1	18	90	487	2416	9685	28422	55345	69214	1	6	3	-10
2	1	0	16	34	529	1556	10595	26238	54395	75416	0	16	5	-62
2	1	0	33	64	652	2304	9100	25024	55750	76288	0	33	4	-134
2	1	0	11	14	474	1516	10790	26578	54260	74856	0	11	5	-52
2	1	0	25	44	564	2168	9412	25748	55534	75152	0	25	4	-106
2	1	0	18	0	423	2592	8853	26496	56241	72896	0	18	3	-108
2	1	2	17	128	540	2520	10556	29696	54422	66380	2	-7	3	42
2	1	0	20	4	637	1480	11271	24764	53607	78576	0	20	6	-116
2	1	2	14	94	507	2628	10673	29570	54341	66484	2	-10	3	26
2	1	0	31	56	566	2672	8346	25672	56592	74272	0	31	3	-130
2	1	0	29	16	672	2080	10088	24304	54746	78272	0	29	5	-158
2	1	1	22	98	531	2496	9529	28030	55453	69822	1	10	3	-26
2	1	0	26	12	703	1624	11037	24116	53769	79568	0	26	6	-144

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	0	21	0	840	384	13728	23040	50946	84224	0	21	9	-126
2	1	3	21	112	648	3108	11232	29520	53634	65586	3	-15	3	10
2	1	3	14	70	571	3136	11505	29786	53445	65082	3	-22	3	10
2	1	0	23	0	798	832	12818	23296	51896	82816	0	23	8	-138
2	1	0	23	8	606	1936	10322	24952	54584	77280	0	23	5	-130
2	1	0	23	24	542	2224	9490	25704	55480	75168	0	23	4	-114
2	1	0	24	36	617	1800	10283	25244	54611	76912	0	24	5	-108
2	1	1	31	136	630	2556	9178	27448	55696	70790	1	19	3	-42
2	1	0	19	34	434	2420	8814	26878	56268	72408	0	19	3	-80
2	1	0	19	22	434	2492	8814	26698	56268	72648	0	19	3	-92
2	1	0	49	0	1212	896	13468	18944	50806	91392	0	49	10	-294
2	1	1	19	36	498	2772	9646	27484	55372	70486	1	7	3	-70
2	1	4	13	56	624	3552	12376	30280	52522	63288	4	-35	3	10
2	1	0	25	36	564	2216	9412	25628	55534	75312	0	25	4	-114
2	1	0	9	2	452	1524	10868	26654	54206	74712	0	9	5	-52
2	1	0	23	8	670	1552	11154	24440	53688	79072	0	23	6	-130
2	1	0	16	28	529	1592	10595	26148	54395	75536	0	16	5	-68
2	1	0	22	38	595	1724	10361	25530	54557	76488	0	22	5	-94
2	1	0	16	0	593	1376	11427	25216	53499	77888	0	16	6	-96

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	0	14	30	507	1516	10673	26434	54341	75112	0	14	5	-54
2	1	1	5	8	344	2492	10192	28856	54994	68358	1	-7	3	-14
2	1	3	20	130	637	2968	11271	29918	53607	65034	3	-16	3	34
2	1	4	27	140	778	3496	11830	29748	52900	64296	4	-21	3	10
2	1	4	9	48	580	3472	12532	30672	52414	62680	4	-39	3	26
2	1	4	12	82	613	3364	12415	30798	52495	62576	4	-36	3	42
2	1	0	28	72	597	2096	9295	25784	55615	75168	0	28	4	-96
2	1	0	37	96	632	2624	8112	25504	56754	74624	0	37	3	-126
2	1	2	17	32	796	1560	13884	26208	50838	75468	2	-7	7	-54
2	1	0	13	16	624	800	12376	25328	52522	78784	0	13	7	-62
2	1	1	13	100	432	2196	9880	29212	55210	68054	1	1	3	30
2	1	2	14	74	507	2748	10673	29270	54341	66884	2	-10	3	6
2	1	2	16	94	529	2692	10595	29314	54395	66868	2	-8	3	14
2	1	0	33	40	588	2832	8268	25176	56646	74976	0	33	3	-158
2	1	0	6	78	291	1740	9321	29202	55917	69032	0	6	3	42
2	1	4	19	108	690	3432	12142	30292	52684	63400	4	-29	3	26
2	1	0	24	58	553	2052	9451	26086	55507	74680	0	24	4	-86
2	1	0	37	112	632	2528	8112	25744	56754	74304	0	37	3	-110
2	1	0	24	42	553	2148	9451	25846	55507	75000	0	24	4	-102

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	0	13	4	368	2408	9048	27196	56106	71856	0	13	3	-74
2	1	2	24	98	617	2924	10283	28350	54611	68324	2	0	3	-30
2	1	1	23	68	542	2708	9490	27452	55480	70614	1	11	3	-62
2	1	0	15	70	390	2076	8970	27930	56160	70920	0	15	3	-20
2	1	0	33	36	716	2088	9932	24092	54854	78640	0	33	5	-162
2	1	0	25	64	564	2048	9412	26048	55534	74752	0	25	4	-86
2	1	4	19	92	690	3528	12142	30052	52684	63720	4	-29	3	10
2	1	5	41	216	996	3852	12116	29672	52382	63582	5	-19	3	10
2	1	0	23	44	606	1720	10322	25492	54584	76560	0	23	5	-94
2	1	0	33	136	588	2256	8268	26616	56646	73056	0	33	3	-62
2	1	0	2	50	247	1780	9477	29294	55809	68824	0	2	3	38
2	1	0	7	2	302	2228	9282	27934	55944	70744	0	7	3	-40
2	1	0	14	8	507	1648	10673	26104	54341	75552	0	14	5	-76
2	1	0	24	80	489	2304	8619	26928	56403	72448	0	24	3	-64
2	1	0	17	50	412	2260	8892	27374	56214	71704	0	17	3	-52
2	1	0	35	96	610	2560	8190	25760	56700	74240	0	35	3	-114
2	1	1	22	106	531	2448	9529	28150	55453	69662	1	10	3	-18
2	1	0	33	0	972	768	13260	21504	51270	86528	0	33	9	-198
2	1	2	9	16	452	2936	10868	29040	54206	67084	2	-15	3	-22

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	0	21	38	456	2460	8736	26682	56322	72712	0	21	3	-88
2	1	6	29	168	928	4120	13416	31064	51162	60356	6	-43	3	42
2	1	6	21	120	840	4152	13728	31368	50946	59780	6	-51	3	42
2	1	0	25	24	756	1136	11908	23912	52846	80928	0	25	7	-126
2	1	3	31	124	758	3356	10842	28420	53904	67266	3	-5	3	-38
2	1	0	20	26	509	2116	9607	26118	55399	74552	0	20	4	-94
2	1	0	27	24	586	2352	9334	25192	55588	75936	0	27	4	-138
2	1	0	13	8	624	848	12376	25208	52522	78944	0	13	7	-70
2	1	0	18	18	551	1716	10517	25742	54449	76120	0	18	5	-90
2	1	0	30	56	555	2640	8385	25800	56565	74080	0	30	3	-124
2	1	1	24	86	553	2632	9451	27594	55507	70446	1	12	3	-50
2	1	4	6	46	547	3388	12649	31026	52333	62144	4	-42	3	42
2	1	1	43	124	762	3012	8710	25732	56020	73334	1	31	3	-126
2	1	7	37	208	1080	4500	13936	31216	50482	59210	7	-47	3	42
2	1	0	22	72	531	1904	9529	26552	55453	74016	0	22	4	-60
2	1	0	14	84	379	1960	9009	28268	56133	70448	0	14	3	0
2	1	0	29	16	736	1696	10920	23792	53850	80064	0	29	6	-158
2	1	0	25	24	628	1904	10244	24936	54638	77344	0	25	5	-126
2	1	0	10	90	335	1796	9165	28870	56025	69560	0	10	3	30

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
2	1	0	12	0	485	1632	10751	26240	54287	75328	0	12	5	-72
2	1	0	19	16	690	992	12142	24560	52684	79936	0	19	7	-98
2	1	0	14	28	507	1528	10673	26404	54341	75152	0	14	5	-56
2	1	0	21	74	456	2244	8736	27222	56322	71992	0	21	3	-52
2	1	0	29	40	544	2704	8424	25688	56538	74208	0	29	3	-134
2	1	1	21	92	520	2500	9568	28068	55426	69750	1	9	3	-26
2	1	0	19	12	434	2552	8814	26548	56268	72848	0	19	3	-102
2	1	1	17	76	476	2468	9724	28340	55318	69302	1	5	3	-18
2	1	1	27	148	586	2356	9334	28140	55588	69782	1	15	3	-6
2	1	0	23	52	542	2056	9490	26124	55480	74608	0	23	4	-86
2	1	0	31	56	694	1904	10010	24648	54800	77856	0	31	5	-130
2	1	2	23	76	606	3024	10322	28148	54584	68572	2	-1	3	-46
2	1	3	29	144	736	3172	10920	28976	53850	66482	3	-7	3	-6
2	1	0	14	90	379	1924	9009	28358	56133	70328	0	14	3	6
2	1	0	23	66	478	2356	8658	26846	56376	72536	0	23	3	-72
2	1	1	19	88	498	2460	9646	28264	55372	69446	1	7	3	-18
2	1	4	21	104	712	3520	12064	29976	52738	63864	4	-27	3	10
2	1	0	30	44	747	1560	10881	24084	53877	79696	0	30	6	-136
2	1	1	24	94	553	2584	9451	27714	55507	70286	1	12	3	-42

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	3	16	58	593	3272	11427	29350	53499	65706	3	-20	3	-14
1	1	0	16	8	401	2480	8931	26872	56187	72352	0	16	3	-88
1	1	2	29	136	672	2856	10088	28280	54746	68524	2	5	3	-22
1	1	2	2	10	375	2748	11141	29846	54017	65860	2	-22	3	14
1	1	6	37	216	1016	4088	13104	30760	51378	60932	6	-35	3	42
1	1	4	9	16	580	3664	12532	30192	52414	63320	4	-39	3	-6
1	1	0	18	32	615	1248	11349	25440	53553	77632	0	18	6	-76
1	1	2	10	38	463	2836	10829	29242	54233	66836	2	-14	3	-6
1	1	0	18	0	615	1440	11349	24960	53553	78272	0	18	6	-108
1	1	8	33	176	1100	4928	14924	31824	49478	57200	8	-63	3	42
1	1	2	9	24	452	2888	10868	29160	54206	66924	2	-15	3	-14
1	1	0	14	52	443	1768	9841	27276	55237	72880	0	14	4	-32
1	1	0	13	90	368	1892	9048	28486	56106	70136	0	13	3	12
1	1	0	22	78	467	2252	8697	27154	56349	72104	0	22	3	-54
1	1	0	29	104	544	2320	8424	26648	56538	72928	0	29	3	-70
1	1	1	17	68	476	2516	9724	28220	55318	69462	1	5	3	-26
1	1	0	53	0	1384	256	14976	17408	49122	95744	0	53	12	-318
1	1	0	37	64	696	2432	8944	24512	55858	77056	0	37	4	-158
1	1	0	14	10	443	2020	9841	26646	55237	73720	0	14	4	-74

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	1	45	192	784	2668	8632	26496	56074	72358	1	33	3	-70
1	1	1	20	86	509	2504	9607	28106	55399	69678	1	8	3	-26
1	1	0	49	192	764	2432	7644	25408	57078	75008	0	49	3	-102
1	1	0	35	44	738	2104	9854	23956	54908	78864	0	35	5	-166
1	1	0	41	72	676	2896	7956	24632	56862	75872	0	41	3	-174
1	1	0	57	0	1364	768	13988	17408	50126	94720	0	57	11	-342
1	1	0	26	86	511	2332	8541	26762	56457	72712	0	26	3	-70
1	1	3	25	168	692	2900	11076	29848	53742	65234	3	-11	3	42
1	1	4	27	156	778	3400	11830	29988	52900	63976	4	-21	3	26
1	1	0	19	86	434	2108	8814	27658	56268	71368	0	19	3	-28
1	1	0	22	16	467	2624	8697	26224	56349	73344	0	22	3	-116
1	1	3	22	110	659	3152	11193	29362	53661	65818	3	-14	3	2
1	1	3	19	132	626	2924	11310	30076	53580	64802	3	-17	3	42
1	1	0	29	128	544	2176	8424	27008	56538	72448	0	29	3	-46
1	1	1	33	72	652	3004	9100	26232	55750	72454	1	21	3	-118
1	1	0	18	150	423	1692	8853	28746	56241	69896	0	18	3	42
1	1	0	18	122	423	1860	8853	28326	56241	70456	0	18	3	14
1	1	2	37	216	760	2632	9776	28456	54962	68460	2	13	3	10
1	1	1	31	92	630	2820	9178	26788	55696	71670	1	19	3	-86

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	26	38	511	2620	8541	26042	56457	73672	0	26	3	-118
1	1	5	22	134	787	3736	12857	30874	51869	61574	5	-38	3	42
1	1	4	15	68	646	3544	12298	30204	52576	63432	4	-33	3	10
1	1	0	18	90	423	2052	8853	27846	56241	71096	0	18	3	-18
1	1	0	26	8	767	1264	11869	23544	52873	81440	0	26	7	-148
1	1	1	59	108	938	3620	8086	23444	56452	76726	1	47	3	-238
1	1	0	16	18	529	1652	10595	25998	54395	75736	0	16	5	-78
1	1	0	22	34	467	2516	8697	26494	56349	72984	0	22	3	-98
1	1	0	41	0	1188	256	14612	19456	49694	91648	0	41	11	-246
1	1	3	19	84	626	3212	11310	29356	53580	65762	3	-17	3	-6
1	1	0	18	114	423	1908	8853	28206	56241	70616	0	18	3	6
1	1	0	33	40	780	1680	10764	23640	53958	80352	0	33	6	-158
1	1	1	21	160	520	2092	9568	29088	55426	68390	1	9	3	42
1	1	0	13	12	560	1208	11544	25780	53418	77072	0	13	6	-66
1	1	0	16	28	593	1208	11427	25636	53499	77328	0	16	6	-68
1	1	0	27	86	522	2364	8502	26634	56484	72904	0	27	3	-76
1	1	2	13	84	496	2656	10712	29548	54314	66492	2	-11	3	22
1	1	0	10	80	335	1856	9165	28720	56025	69760	0	10	3	20
1	1	0	6	74	291	1764	9321	29142	55917	69112	0	6	3	38

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	3	27	140	714	3132	10998	29172	53796	66178	3	-9	3	2
1	1	0	24	20	681	1512	11115	24492	53715	79024	0	24	6	-124
1	1	6	45	264	1104	4056	12792	30456	51594	61508	6	-27	3	42
1	1	0	29	52	544	2632	8424	25868	56538	73968	0	29	3	-122
1	1	0	23	16	478	2656	8658	26096	56376	73536	0	23	3	-122
1	1	3	10	38	527	3200	11661	29818	53337	64954	3	-26	3	2
1	1	0	14	126	379	1708	9009	28898	56133	69608	0	14	3	42
1	1	0	26	126	511	2092	8541	27362	56457	71912	0	26	3	-30
1	1	0	23	26	542	2212	9490	25734	55480	75128	0	23	4	-112
1	1	0	11	82	346	1876	9126	28622	56052	69912	0	11	3	16
1	1	0	18	110	423	1932	8853	28146	56241	70696	0	18	3	2
1	1	2	33	160	716	2840	9932	28128	54854	68812	2	9	3	-22
1	1	2	10	18	719	1420	14157	26894	50649	74404	2	-14	7	-26
1	1	0	17	50	476	1876	9724	26862	55318	73496	0	17	4	-52
1	1	9	45	240	1296	5292	15288	31824	48906	56342	9	-63	3	42
1	1	3	22	118	659	3104	11193	29482	53661	65658	3	-14	3	10
1	1	0	27	0	842	960	12662	22784	52004	83584	0	27	8	-162
1	1	1	35	140	674	2660	9022	26996	55804	71478	1	23	3	-62
1	1	3	37	160	824	3332	10608	28192	54066	67698	3	1	3	-38

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	27	140	522	2040	8502	27444	56484	71824	0	27	3	-22
1	1	0	9	38	388	1692	10036	27706	55102	72200	0	9	4	-16
1	1	4	6	30	547	3484	12649	30786	52333	62464	4	-42	3	26
1	1	14	105	560	2276	7112	17108	31824	46046	52052	14	-63	3	42
1	1	0	27	28	522	2712	8502	25764	56484	74064	0	27	3	-134
1	1	1	8	14	377	2552	10075	28562	55075	68814	1	-4	3	-26
1	1	0	153	0	3060	0	18564	0	43758	131072	0	153	21	-918
1	1	0	26	114	511	2164	8541	27182	56457	72152	0	26	3	-42
1	1	0	17	92	412	2008	8892	28004	56214	70864	0	17	3	-10
1	1	0	20	28	445	2488	8775	26660	56295	72720	0	20	3	-92
1	1	0	25	36	628	1832	10244	25116	54638	77104	0	25	5	-114
1	1	0	26	106	511	2212	8541	27062	56457	72312	0	26	3	-50
1	1	0	27	32	906	384	13494	22752	51108	84736	0	27	9	-130
1	1	0	21	0	520	2304	9568	25600	55426	75264	0	21	4	-126
1	1	0	17	12	604	1336	11388	25268	53526	77840	0	17	6	-90
1	1	0	18	54	487	1884	9685	26794	55345	73608	0	18	4	-54
1	1	0	22	118	467	2012	8697	27754	56349	71304	0	22	3	-14
1	1	1	15	20	454	2740	9802	27756	55264	70038	1	3	3	-62
1	1	1	24	54	553	2824	9451	27114	55507	71086	1	12	3	-82

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	22	20	595	1832	10361	25260	54557	76848	0	22	5	-112
1	1	9	53	288	1384	5260	14976	31520	49122	56918	9	-55	3	42
1	1	1	65	136	1132	2876	9516	22072	54822	80902	1	53	5	-246
1	1	0	8	26	441	1348	10907	27142	54179	74040	0	8	5	-22
1	1	0	22	62	531	1964	9529	26402	55453	74216	0	22	4	-70
1	1	0	31	44	630	2360	9178	24980	55696	76304	0	31	4	-142
1	1	0	43	68	698	2984	7878	24316	56916	76336	0	43	3	-190
1	1	1	10	82	399	2208	9997	29326	55129	67838	1	-2	3	30
1	1	1	18	126	487	2200	9685	28962	55345	68494	1	6	3	26
1	1	1	9	12	388	2596	10036	28404	55102	69046	1	-3	3	-34
1	1	2	14	110	507	2532	10673	29810	54341	66164	2	-10	3	42
1	1	1	20	30	509	2840	9607	27266	55399	70798	1	8	3	-82
1	1	0	6	22	419	1308	10985	27338	54125	73736	0	6	5	-14
1	1	2	16	30	785	1540	13923	26306	50811	75316	2	-8	7	-50
1	1	0	14	24	571	1168	11505	25832	53445	77024	0	14	6	-60
1	1	0	23	16	670	1504	11154	24560	53688	78912	0	23	6	-122
1	1	0	3	56	258	1776	9438	29256	55836	68896	0	3	3	38
1	1	0	9	2	388	1908	10036	27166	55102	72920	0	9	4	-52
1	1	4	33	144	844	3664	11596	29040	53062	65368	4	-15	3	-22

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	7	29	160	992	4532	14248	31520	50266	58634	7	-55	3	42
1	1	0	33	32	972	576	13260	21984	51270	85888	0	33	9	-166
1	1	0	65	80	1196	2080	10348	19632	53926	87488	0	65	7	-310
1	1	6	45	200	1104	4440	12792	29496	51594	62788	6	-27	3	-22
1	1	7	25	136	948	4548	14404	31672	50158	58346	7	-59	3	42
1	1	0	10	30	463	1388	10829	26946	54233	74344	0	10	5	-30
1	1	0	20	40	445	2416	8775	26840	56295	72480	0	20	3	-80
1	1	0	29	40	736	1552	10920	24152	53850	79584	0	29	6	-134
1	1	3	45	224	912	3204	10296	28128	54282	67954	3	9	3	-22
1	1	0	24	24	617	1872	10283	25064	54611	77152	0	24	5	-120
1	1	0	19	8	434	2576	8814	26488	56268	72928	0	19	3	-106
1	1	8	49	272	1276	4864	14300	31216	49910	58352	8	-47	3	42
1	1	0	33	56	716	1968	9932	24392	54854	78240	0	33	5	-142
1	1	1	35	132	674	2708	9022	26876	55804	71638	1	23	3	-70
1	1	3	10	22	527	3296	11661	29578	53337	65274	3	-26	3	-14
1	1	0	18	32	551	1632	10517	25952	54449	75840	0	18	5	-76
1	1	0	20	88	445	2128	8775	27560	56295	71520	0	20	3	-32
1	1	0	19	0	498	2240	9646	25856	55372	74880	0	19	4	-114
1	1	11	69	368	1688	6020	16016	31824	47762	54626	11	-63	3	42

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	13	24	560	1136	11544	25960	53418	76832	0	13	6	-54
1	1	0	13	24	624	752	12376	25448	52522	78624	0	13	7	-54
1	1	0	21	12	584	1848	10400	25268	54530	76816	0	21	5	-114
1	1	4	9	32	580	3568	12532	30432	52414	63000	4	-39	3	10
1	1	3	35	180	802	3148	10686	28748	54012	66914	3	-1	3	-6
1	1	0	27	8	778	1296	11830	23416	52900	81632	0	27	7	-154
1	1	2	16	110	529	2596	10595	29554	54395	66548	2	-8	3	30
1	1	0	22	16	659	1472	11193	24688	53661	78720	0	22	6	-116
1	1	1	32	126	641	2648	9139	27170	55723	71182	1	20	3	-58
1	1	3	24	122	681	3144	11115	29286	53715	65962	3	-12	3	2
1	1	1	22	114	531	2400	9529	28270	55453	69502	1	10	3	-10
1	1	0	35	124	610	2392	8190	26180	56700	73680	0	35	3	-86
1	1	0	14	46	443	1804	9841	27186	55237	73000	0	14	4	-38
1	1	4	49	176	1020	3984	10972	27472	53494	67800	4	1	3	-86
1	1	0	49	48	764	3296	7644	23248	57078	77888	0	49	3	-246
1	1	0	24	18	617	1908	10283	24974	54611	77272	0	24	5	-126
1	1	1	22	42	531	2832	9529	27190	55453	70942	1	10	3	-82
1	1	3	18	126	615	2928	11349	30114	53553	64730	3	-18	3	42
1	1	0	18	18	423	2484	8853	26766	56241	72536	0	18	3	-90

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	1	17	52	476	2612	9724	27980	55318	69782	1	5	3	-42
1	1	0	45	56	848	2352	9464	22856	55178	80544	0	45	5	-214
1	1	0	20	48	509	1984	9607	26448	55399	74112	0	20	4	-72
1	1	0	11	24	538	1072	11622	26216	53364	76448	0	11	6	-42
1	1	1	34	34	663	3264	9061	25534	55777	73406	1	22	3	-162
1	1	0	8	36	377	1672	10075	27804	55075	72048	0	8	4	-12
1	1	0	19	20	498	2120	9646	26156	55372	74480	0	19	4	-94
1	1	3	17	96	604	3076	11388	29792	53526	65138	3	-19	3	18
1	1	0	13	82	368	1940	9048	28366	56106	70296	0	13	3	4
1	1	0	18	28	615	1272	11349	25380	53553	77712	0	18	6	-80
1	1	4	29	136	800	3584	11752	29432	52954	64760	4	-19	3	-6
1	1	0	17	144	412	1696	8892	28784	56214	69824	0	17	3	42
1	1	0	8	8	569	688	12571	25848	52387	77984	0	8	7	-40
1	1	0	20	20	573	1768	10439	25516	54503	76464	0	20	5	-100
1	1	0	16	22	529	1628	10595	26058	54395	75656	0	16	5	-74
1	1	0	26	70	511	2428	8541	26522	56457	73032	0	26	3	-86
1	1	0	22	0	787	800	12857	23424	51869	82624	0	22	8	-132
1	1	4	25	80	756	3792	11908	29104	52846	65112	4	-23	3	-38
1	1	0	30	0	875	1056	12545	22400	52085	84160	0	30	8	-180

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	1	28	78	597	2808	9295	26962	55615	71374	1	16	3	-82
1	1	0	33	40	844	1296	11596	23128	53062	82144	0	33	7	-158
1	1	0	53	72	936	2512	9152	22072	55394	81760	0	53	5	-246
1	1	0	15	4	582	1320	11466	25404	53472	77616	0	15	6	-86
1	1	0	29	52	672	1864	10088	24844	54746	77552	0	29	5	-122
1	1	0	41	16	932	1696	11284	21744	53278	84160	0	41	7	-230
1	1	3	33	136	780	3348	10764	28344	53958	67410	3	-3	3	-38
1	1	0	4	62	269	1772	9399	29218	55863	68968	0	4	3	38
1	1	0	30	50	619	2292	9217	25198	55669	75992	0	30	4	-130
1	1	0	30	86	555	2460	8385	26250	56565	73480	0	30	3	-94
1	1	4	7	20	558	3576	12610	30508	52360	62856	4	-41	3	10
1	1	7	21	112	904	4564	14560	31824	50050	58058	7	-63	3	42
1	1	0	18	80	423	2112	8853	27696	56241	71296	0	18	3	-28
1	1	0	32	16	897	1024	12467	22384	52139	84224	0	32	8	-176
1	1	0	7	12	494	1016	11778	26548	53256	75920	0	7	6	-30
1	1	1	19	96	498	2412	9646	28384	55372	69286	1	7	3	-10
1	1	0	14	6	507	1660	10673	26074	54341	75592	0	14	5	-78
1	1	2	35	148	738	2976	9854	27692	54908	69436	2	11	3	-46
1	1	0	31	96	566	2432	8346	26272	56592	73472	0	31	3	-90

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	5	11	36	666	3972	13286	30812	51572	61422	5	-49	3	10
1	1	0	29	0	992	256	14248	21504	50266	87552	0	29	10	-174
1	1	2	61	120	1280	2440	12168	21896	52026	82156	2	37	7	-230
1	1	5	17	72	732	3948	13052	30584	51734	61854	5	-43	3	10
1	1	2	29	128	672	2904	10088	28160	54746	68684	2	5	3	-30
1	1	2	25	104	628	2920	10244	28312	54638	68396	2	1	3	-30
1	1	0	14	8	635	880	12337	25080	52549	79136	0	14	7	-76
1	1	1	28	70	597	2856	9295	26842	55615	71534	1	16	3	-90
1	1	0	21	84	456	2184	8736	27372	56322	71792	0	21	3	-42
1	1	5	30	182	875	3704	12545	30570	52085	62150	5	-30	3	42
1	1	0	15	44	518	1464	10634	26516	54368	75024	0	15	5	-46
1	1	0	19	60	498	1880	9646	26756	55372	73680	0	19	4	-54
1	1	4	20	114	701	3428	12103	30254	52711	63472	4	-28	3	26
1	1	0	25	32	756	1088	11908	24032	52846	80768	0	25	7	-118
1	1	0	24	32	681	1440	11115	24672	53715	78784	0	24	6	-112
1	1	1	37	128	696	2796	8944	26560	55858	72102	1	25	3	-86
1	1	2	20	66	573	2988	10439	28382	54503	68196	2	-4	3	-38
1	1	4	21	88	712	3616	12064	29736	52738	64184	4	-27	3	-6
1	1	0	7	2	366	1844	10114	27422	55048	72536	0	7	4	-40

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	16	6	529	1724	10595	25818	54395	75976	0	16	5	-90
1	1	0	45	32	912	2112	10296	21984	54282	82816	0	45	6	-238
1	1	2	17	120	540	2568	10556	29576	54422	66540	2	-7	3	34
1	1	1	29	136	608	2492	9256	27704	55642	70406	1	17	3	-30
1	1	2	29	56	928	1800	13416	25032	51162	77292	2	5	7	-102
1	1	0	15	6	454	2076	9802	26458	55264	73992	0	15	4	-84
1	1	0	29	60	608	2200	9256	25476	55642	75600	0	29	4	-114
1	1	2	19	140	562	2512	10478	29620	54476	66524	2	-5	3	42
1	1	0	37	0	1144	128	14768	19968	49586	90880	0	37	11	-222
1	1	0	34	102	663	2108	9061	25466	55777	75720	0	34	4	-102
1	1	0	19	52	562	1544	10478	26124	54476	75632	0	19	5	-62
1	1	2	28	130	661	2860	10127	28318	54719	68452	2	4	3	-22
1	1	0	10	0	335	2336	9165	27520	56025	71360	0	10	3	-60
1	1	0	17	56	476	1840	9724	26952	55318	73376	0	17	4	-46
1	1	0	15	18	518	1620	10634	26126	54368	75544	0	15	5	-72
1	1	0	27	108	522	2232	8502	26964	56484	72464	0	27	3	-54
1	1	4	41	144	932	3920	11284	28016	53278	66904	4	-7	3	-70
1	1	2	43	196	826	2944	9542	27388	55124	70012	2	19	3	-46
1	1	0	45	96	720	2880	7800	24480	56970	76160	0	45	3	-174

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	32	50	641	2356	9139	24942	55723	76376	0	32	4	-142
1	1	0	19	24	626	1328	11310	25192	53580	77984	0	19	6	-90
1	1	5	31	188	886	3700	12506	30532	52112	62222	5	-29	3	42
1	1	0	27	28	586	2328	9334	25252	55588	75856	0	27	4	-134
1	1	0	23	90	478	2212	8658	27206	56376	72056	0	23	3	-48
1	1	2	18	78	551	2852	10517	28818	54449	67572	2	-6	3	-14
1	1	0	23	38	542	2140	9490	25914	55480	74888	0	23	4	-100
1	1	0	24	42	489	2532	8619	26358	56403	73208	0	24	3	-102
1	1	0	15	16	646	864	12298	25072	52576	79168	0	15	7	-74
1	1	5	11	68	666	3780	13286	31292	51572	60782	5	-49	3	42
1	1	0	20	40	573	1648	10439	25816	54503	76064	0	20	5	-80
1	1	2	14	106	507	2556	10673	29750	54341	66244	2	-10	3	38
1	1	1	24	50	553	2848	9451	27054	55507	71166	1	12	3	-86
1	1	1	35	60	674	3140	9022	25796	55804	73078	1	23	3	-142
1	1	2	16	86	529	2740	10595	29194	54395	67028	2	-8	3	6
1	1	3	27	164	714	2988	10998	29532	53796	65698	3	-9	3	26
1	1	0	25	60	564	2072	9412	25988	55534	74832	0	25	4	-90
1	1	0	29	32	800	1216	11752	23520	52954	81536	0	29	7	-142
1	1	2	23	52	606	3168	10322	27788	54584	69052	2	-1	3	-70

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	26	70	575	2044	9373	26010	55561	74824	0	26	4	-86
1	1	0	17	48	540	1504	10556	26320	54422	75328	0	17	5	-54
1	1	0	8	74	313	1828	9243	28886	55971	69496	0	8	3	26
1	1	0	25	60	500	2456	8580	26500	56430	73040	0	25	3	-90
1	1	18	153	816	3060	8568	18564	31824	43758	48620	18	-63	3	42
1	1	0	13	2	496	1652	10712	26142	54314	75480	0	13	5	-76
1	1	3	8	34	505	3160	11739	30014	53283	64650	3	-28	3	10
1	1	2	14	46	507	2916	10673	28850	54341	67444	2	-10	3	-22
1	1	3	35	132	802	3436	10686	28028	54012	67874	3	-1	3	-54
1	1	2	13	36	496	2944	10712	28828	54314	67452	2	-11	3	-26
1	1	0	17	22	540	1660	10556	25930	54422	75848	0	17	5	-80
1	1	0	43	116	698	2696	7878	25036	56916	75376	0	43	3	-142
1	1	1	17	120	476	2204	9724	29000	55318	68422	1	5	3	26
1	1	1	15	24	454	2716	9802	27816	55264	69958	1	3	3	-58
1	1	0	15	32	774	0	13962	24288	50784	82432	0	15	9	-58
1	1	0	8	16	505	1024	11739	26480	53283	76032	0	8	6	-32
1	1	1	24	70	553	2728	9451	27354	55507	70766	1	12	3	-66
1	1	0	29	60	544	2584	8424	25988	56538	73808	0	29	3	-114
1	1	1	27	60	586	2884	9334	26820	55588	71542	1	15	3	-94

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	10	82	335	1844	9165	28750	56025	69720	0	10	3	22
1	1	0	21	24	712	1008	12064	24424	52738	80160	0	21	7	-102
1	1	0	19	0	626	1472	11310	24832	53580	78464	0	19	6	-114
1	1	1	20	58	509	2672	9607	27686	55399	70238	1	8	3	-54
1	1	0	59	140	938	2680	8086	22836	56452	79760	0	59	4	-214
1	1	2	13	60	496	2800	10712	29188	54314	66972	2	-11	3	-2
1	1	2	6	18	419	2828	10985	29454	54125	66468	2	-18	3	-2
1	1	0	8	82	313	1780	9243	29006	55971	69336	0	8	3	34
1	1	0	33	0	780	1920	10764	23040	53958	81152	0	33	6	-198
1	1	0	20	20	445	2536	8775	26540	56295	72880	0	20	3	-100
1	1	0	37	16	760	2336	9776	23280	54962	79808	0	37	5	-206
1	1	0	9	22	452	1404	10868	26954	54206	74312	0	9	5	-32
1	1	2	25	120	628	2824	10244	28552	54638	68076	2	1	3	-14
1	1	0	9	12	516	1080	11700	26292	53310	76304	0	9	6	-42
1	1	0	22	66	531	1940	9529	26462	55453	74136	0	22	4	-66
1	1	2	37	152	760	3016	9776	27496	54962	69740	2	13	3	-54
1	1	0	25	40	756	1040	11908	24152	52846	80608	0	25	7	-110
1	1	1	19	112	498	2316	9646	28624	55372	68966	1	7	3	6
1	1	3	19	124	626	2972	11310	29956	53580	64962	3	-17	3	34

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	8	37	200	1144	4912	14768	31672	49586	57488	8	-59	3	42
1	1	1	23	120	542	2396	9490	28232	55480	69574	1	11	3	-10
1	1	0	35	52	674	2440	9022	24588	55804	76912	0	35	4	-158
1	1	0	19	0	434	2624	8814	26368	56268	73088	0	19	3	-114
1	1	4	33	176	844	3472	11596	29520	53062	64728	4	-15	3	10
1	1	0	18	4	615	1416	11349	25020	53553	78192	0	18	6	-104
1	1	0	22	74	467	2276	8697	27094	56349	72184	0	22	3	-58
1	1	0	29	32	672	1984	10088	24544	54746	77952	0	29	5	-142
1	1	0	0	16	289	1536	10387	28528	54859	70912	0	0	4	16
1	1	0	6	32	355	1632	10153	28000	55021	71744	0	6	4	-4
1	1	5	12	74	677	3776	13247	31254	51599	60854	5	-48	3	42
1	1	0	30	74	619	2148	9217	25558	55669	75512	0	30	4	-106
1	1	0	24	98	489	2196	8619	27198	56403	72088	0	24	3	-46
1	1	0	26	60	511	2488	8541	26372	56457	73232	0	26	3	-96
1	1	0	17	34	540	1588	10556	26110	54422	75608	0	17	5	-68
1	1	0	33	32	588	2880	8268	25056	56646	75136	0	33	3	-166
1	1	0	8	34	377	1684	10075	27774	55075	72088	0	8	4	-14
1	1	5	20	90	765	3936	12935	30470	51815	62070	5	-40	3	10
1	1	0	22	12	659	1496	11193	24628	53661	78800	0	22	6	-120

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	32	28	705	2104	9971	24100	54827	78608	0	32	5	-164
1	1	2	26	114	639	2892	10205	28334	54665	68388	2	2	3	-26
1	1	0	10	8	591	752	12493	25592	52441	78368	0	10	7	-52
1	1	1	22	34	531	2880	9529	27070	55453	71102	1	10	3	-90
1	1	0	45	0	1232	384	14456	18944	49802	92416	0	45	11	-270
1	1	0	30	50	555	2676	8385	25710	56565	74200	0	30	3	-130
1	1	0	31	32	566	2816	8346	25312	56592	74752	0	31	3	-154
1	1	2	49	160	892	3352	9308	26080	55286	71884	2	25	3	-118
1	1	0	45	0	720	3456	7800	23040	56970	78080	0	45	3	-270
1	1	0	22	32	467	2528	8697	26464	56349	73024	0	22	3	-100
1	1	1	11	100	410	2132	9958	29468	55156	67670	1	-1	3	42
1	1	0	19	0	562	1856	10478	25344	54476	76672	0	19	5	-114
1	1	1	19	108	498	2340	9646	28564	55372	69046	1	7	3	2
1	1	0	16	0	721	608	13091	24192	51707	81472	0	16	8	-96
1	1	0	14	2	379	2452	9009	27038	56133	72088	0	14	3	-82
1	1	1	28	142	597	2424	9295	27922	55615	70094	1	16	3	-18
1	1	0	25	40	692	1424	11076	24664	53742	78816	0	25	6	-110
1	1	0	29	72	608	2128	9256	25656	55642	75360	0	29	4	-102
1	1	2	25	80	628	3064	10244	27952	54638	68876	2	1	3	-54

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	2	45	88	1104	2120	12792	23464	51594	79724	2	21	7	-166
1	1	0	20	0	637	1504	11271	24704	53607	78656	0	20	6	-120
1	1	0	12	2	357	2388	9087	27294	56079	71704	0	12	3	-70
1	1	2	16	122	529	2524	10595	29734	54395	66308	2	-8	3	42
1	1	2	21	136	584	2600	10400	29304	54530	66988	2	-3	3	26
1	1	0	45	96	784	2496	8632	23968	56074	77952	0	45	4	-174
1	1	2	33	112	716	3128	9932	27408	54854	69772	2	9	3	-70
1	1	0	12	76	357	1944	9087	28404	56079	70224	0	12	3	4
1	1	0	12	0	677	480	13247	24704	51599	80704	0	12	8	-72
1	1	0	34	58	599	2756	8229	25318	56673	74808	0	34	3	-146
1	1	0	7	8	558	656	12610	25976	52360	77792	0	7	7	-34
1	1	0	35	44	674	2488	9022	24468	55804	77072	0	35	4	-166
1	1	3	25	152	692	2996	11076	29608	53742	65554	3	-11	3	26
1	1	0	35	56	674	2416	9022	24648	55804	76832	0	35	4	-154
1	1	0	31	116	566	2312	8346	26572	56592	73072	0	31	3	-70
1	1	0	19	94	434	2060	8814	27778	56268	71208	0	19	3	-20
1	1	1	18	26	487	2800	9685	27462	55345	70494	1	6	3	-74
1	1	2	17	32	540	3096	10556	28256	54422	68300	2	-7	3	-54
1	1	0	43	44	826	2360	9542	22932	55124	80400	0	43	5	-214

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	20	80	445	2176	8775	27440	56295	71680	0	20	3	-40
1	1	0	73	112	1156	2912	8372	20112	55934	84800	0	73	5	-326
1	1	0	25	48	628	1760	10244	25296	54638	76864	0	25	5	-102
1	1	4	8	42	569	3476	12571	30710	52387	62608	4	-40	3	26
1	1	1	33	168	652	2428	9100	27672	55750	70534	1	21	3	-22
1	1	0	23	8	734	1168	11986	23928	52792	80864	0	23	7	-130
1	1	2	18	70	551	2900	10517	28698	54449	67732	2	-6	3	-22
1	1	1	12	18	421	2656	9919	28110	55183	69502	1	0	3	-46
1	1	0	26	46	511	2572	8541	26162	56457	73512	0	26	3	-110
1	1	1	31	116	630	2676	9178	27148	55696	71190	1	19	3	-62
1	1	0	41	32	932	1600	11284	21984	53278	83840	0	41	7	-214
1	1	0	28	30	597	2348	9295	25154	55615	76008	0	28	4	-138
1	1	1	17	36	476	2708	9724	27740	55318	70102	1	5	3	-58
1	1	0	49	0	1276	512	14300	18432	49910	93184	0	49	11	-294
1	1	4	16	90	657	3444	12259	30406	52603	63184	4	-32	3	26
1	1	6	81	416	1500	4296	11388	28128	52566	65380	6	9	3	-22
1	1	0	49	0	1148	1280	12636	19456	51702	89600	0	49	9	-294
1	1	0	20	74	445	2212	8775	27350	56295	71800	0	20	3	-46
1	1	0	37	56	696	2480	8944	24392	55858	77216	0	37	4	-166

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	1	16	114	465	2208	9763	29038	55291	68350	1	4	3	26
1	1	0	25	0	948	128	14404	22016	50158	86784	0	25	10	-150
1	1	0	37	48	760	2144	9776	23760	54962	79168	0	37	5	-174
1	1	0	27	28	650	1944	10166	24740	54692	77648	0	27	5	-134
1	1	0	11	16	666	352	13286	25072	51572	80192	0	11	8	-50
1	1	0	21	32	712	960	12064	24544	52738	80000	0	21	7	-94
1	1	1	29	88	608	2780	9256	26984	55642	71366	1	17	3	-78
1	1	0	14	106	379	1828	9009	28598	56133	70008	0	14	3	22
1	1	5	23	108	798	3924	12818	30356	51896	62286	5	-37	3	10
1	1	0	9	74	324	1860	9204	28758	55998	69688	0	9	3	20
1	1	0	33	72	588	2640	8268	25656	56646	74336	0	33	3	-126
1	1	0	22	26	531	2180	9529	25862	55453	74936	0	22	4	-106
1	1	4	37	200	888	3456	11440	29368	53170	65016	4	-11	3	10
1	1	1	38	66	707	3200	8905	25502	55885	73534	1	26	3	-154
1	1	2	22	118	595	2740	10361	28906	54557	67540	2	-2	3	2
1	1	0	31	36	694	2024	10010	24348	54800	78256	0	31	5	-150
1	1	4	57	288	1108	3568	10660	28128	53710	67096	4	9	3	-22
1	1	0	21	20	584	1800	10400	25388	54530	76656	0	21	5	-106
1	1	3	9	32	516	3204	11700	29856	53310	64882	3	-27	3	2

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	20	28	509	2104	9607	26148	55399	74512	0	20	4	-92
1	1	3	6	14	483	3216	11817	29970	53229	64666	3	-30	3	2
1	1	0	57	128	980	2304	8996	22400	55502	81408	0	57	5	-214
1	1	0	14	8	443	2032	9841	26616	55237	73760	0	14	4	-76
1	1	4	17	64	668	3632	12220	29888	52630	63896	4	-31	3	-6
1	1	0	41	88	740	2416	8788	24360	55966	77344	0	41	4	-158
1	1	0	37	24	824	1904	10608	22888	54066	81440	0	37	6	-198
1	1	2	45	152	848	3272	9464	26472	55178	71276	2	21	3	-102
1	1	0	22	64	531	1952	9529	26432	55453	74176	0	22	4	-68
1	1	2	11	20	474	2976	10790	28844	54260	67388	2	-13	3	-30
1	1	1	28	126	597	2520	9295	27682	55615	70414	1	16	3	-34
1	1	0	49	56	956	2096	10140	21832	54390	83104	0	49	6	-238
1	1	0	15	96	390	1920	8970	28320	56160	70400	0	15	3	6
1	1	0	11	12	538	1144	11622	26036	53364	76688	0	11	6	-54
1	1	0	31	32	758	1664	10842	23776	53904	80128	0	31	6	-154
1	1	0	20	34	509	2068	9607	26238	55399	74392	0	20	4	-86
1	1	0	22	26	467	2564	8697	26374	56349	73144	0	22	3	-106
1	1	5	20	122	765	3744	12935	30950	51815	61430	5	-40	3	42
1	1	3	23	92	670	3292	11154	28964	53688	66370	3	-13	3	-22

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	35	68	674	2344	9022	24828	55804	76592	0	35	4	-142
1	1	4	33	128	844	3760	11596	28800	53062	65688	4	-15	3	-38
1	1	0	14	80	379	1984	9009	28208	56133	70528	0	14	3	-4
1	1	0	14	2	507	1684	10673	26014	54341	75672	0	14	5	-82
1	1	0	28	62	597	2156	9295	25634	55615	75368	0	28	4	-106
1	1	2	57	112	980	3896	8996	24336	55502	74380	2	33	3	-214
1	1	2	29	72	672	3240	10088	27320	54746	69804	2	5	3	-86
1	1	1	15	112	454	2188	9802	29136	55264	68198	1	3	3	30
1	1	0	29	84	544	2440	8424	26348	56538	73328	0	29	3	-90
1	1	1	39	84	718	3124	8866	25644	55912	73366	1	27	3	-142
1	1	2	11	80	474	2616	10790	29744	54260	66188	2	-13	3	30
1	1	0	33	112	588	2400	8268	26256	56646	73536	0	33	3	-86
1	1	2	121	240	1940	3640	9828	16016	53646	91276	2	97	7	-470
1	1	0	35	108	610	2488	8190	25940	56700	74000	0	35	3	-102
1	1	1	35	92	674	2948	9022	26276	55804	72438	1	23	3	-110
1	1	0	27	0	522	2880	8502	25344	56484	74624	0	27	3	-162
1	1	2	81	160	1500	2840	11388	19936	52566	85196	2	57	7	-310
1	1	3	28	130	725	3224	10959	28894	53823	66570	3	-8	3	-14
1	1	5	18	110	743	3752	13013	31026	51761	61286	5	-42	3	42

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	1	85	176	1352	3276	8736	20112	55362	83942	1	73	5	-326
1	1	0	20	20	637	1384	11271	25004	53607	78256	0	20	6	-100
1	1	0	27	16	714	1632	10998	24048	53796	79680	0	27	6	-146
1	1	0	31	140	566	2168	8346	26932	56592	72592	0	31	3	-46
1	1	2	5	8	408	2856	11024	29432	54098	66476	2	-19	3	-6
1	1	2	18	94	551	2756	10517	29058	54449	67252	2	-6	3	2
1	1	0	29	0	864	1024	12584	22528	52058	83968	0	29	8	-174
1	1	0	9	84	324	1800	9204	28908	55998	69488	0	9	3	30
1	1	1	37	144	696	2700	8944	26800	55858	71782	1	25	3	-70
1	1	1	18	34	487	2752	9685	27582	55345	70334	1	6	3	-66
1	1	1	15	96	454	2284	9802	28896	55264	68518	1	3	3	14
1	1	6	23	132	862	4144	13650	31292	51000	59924	6	-49	3	42
1	1	10	57	304	1492	5656	15652	31824	48334	55484	10	-63	3	42
1	1	0	22	32	595	1760	10361	25440	54557	76608	0	22	5	-100
1	1	0	27	46	586	2220	9334	25522	55588	75496	0	27	4	-116
1	1	0	21	136	456	1872	8736	28152	56322	70752	0	21	3	10
1	1	0	57	0	1492	0	15652	16384	48334	98304	0	57	13	-342
1	1	0	31	64	630	2240	9178	25280	55696	75904	0	31	4	-122
1	1	4	13	40	624	3648	12376	30040	52522	63608	4	-35	3	-6

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	2	19	36	562	3136	10478	28060	54476	68604	2	-5	3	-62
1	1	0	41	80	740	2464	8788	24240	55966	77504	0	41	4	-166
1	1	1	20	98	509	2432	9607	28286	55399	69438	1	8	3	-14
1	1	0	33	0	1036	384	14092	20992	50374	88320	0	33	10	-198
1	1	0	24	66	489	2388	8619	26718	56403	72728	0	24	3	-78
1	1	4	35	204	866	3368	11518	29684	53116	64552	4	-13	3	26
1	1	5	16	98	721	3760	13091	31102	51707	61142	5	-44	3	42
1	1	0	53	16	1128	1696	11648	19696	52706	88256	0	53	8	-302
1	1	1	41	104	740	3068	8788	25688	55966	73350	1	29	3	-134
1	1	0	20	52	509	1960	9607	26508	55399	74032	0	20	4	-68
1	1	5	29	176	864	3708	12584	30608	52058	62078	5	-31	3	42
1	1	0	73	0	1540	1280	13364	15360	50558	97792	0	73	11	-438
1	1	0	9	16	580	672	12532	25840	52414	78016	0	9	7	-38
1	1	0	8	0	313	2272	9243	27776	55971	70976	0	8	3	-48
1	1	0	24	0	809	864	12779	23168	51923	83008	0	24	8	-144
1	1	5	27	164	842	3716	12662	30684	52004	61934	5	-33	3	42
1	1	1	7	72	366	2172	10114	29560	55048	67462	1	-5	3	38
1	1	0	23	88	478	2224	8658	27176	56376	72096	0	23	3	-50
1	1	0	15	6	390	2460	8970	26970	56160	72200	0	15	3	-84

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	11	16	602	736	12454	25584	52468	78400	0	11	7	-50
1	1	0	28	32	661	1952	10127	24672	54719	77760	0	28	5	-136
1	1	1	14	102	443	2216	9841	29114	55237	68206	1	2	3	26
1	1	6	33	128	972	4488	13260	29952	51270	61924	6	-39	3	-22
1	1	3	22	142	659	2960	11193	29842	53661	65178	3	-14	3	34
1	1	0	37	0	952	1280	12272	21504	52274	85504	0	37	8	-222
1	1	0	51	92	850	2712	8398	23140	56236	79184	0	51	4	-214
1	1	0	11	6	410	1948	9958	26970	55156	73224	0	11	4	-60
1	1	0	13	84	368	1928	9048	28396	56106	70256	0	13	3	6
1	1	0	35	76	674	2296	9022	24948	55804	76432	0	35	4	-134
1	1	0	14	32	507	1504	10673	26464	54341	75072	0	14	5	-52
1	1	5	26	126	831	3912	12701	30242	51977	62502	5	-34	3	10
1	1	2	27	132	650	2816	10166	28476	54692	68220	2	3	3	-14
1	1	0	31	60	566	2648	8346	25732	56592	74192	0	31	3	-126
1	1	0	13	34	496	1460	10712	26622	54314	74840	0	13	5	-44
1	1	1	32	102	641	2792	9139	26810	55723	71662	1	20	3	-82
1	1	7	33	184	1036	4516	14092	31368	50374	58922	7	-51	3	42
1	1	0	16	0	529	1760	10595	25728	54395	76096	0	16	5	-96
1	1	1	8	10	377	2576	10075	28502	55075	68894	1	-4	3	-30

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	1	26	74	575	2768	9373	27158	55561	71070	1	14	3	-74
1	1	3	20	90	637	3208	11271	29318	53607	65834	3	-16	3	-6
1	1	0	22	4	659	1544	11193	24508	53661	78960	0	22	6	-128
1	1	0	26	82	511	2356	8541	26702	56457	72792	0	26	3	-74
1	1	0	26	16	831	832	12701	23152	51977	83072	0	26	8	-140
1	1	0	17	4	540	1768	10556	25660	54422	76208	0	17	5	-98
1	1	0	49	64	1020	1664	10972	21440	53494	84736	0	49	7	-230
1	1	2	14	26	763	1500	14001	26502	50757	75012	2	-10	7	-42
1	1	1	18	30	487	2776	9685	27522	55345	70414	1	6	3	-70
1	1	2	13	44	496	2896	10712	28948	54314	67292	2	-11	3	-18
1	1	2	32	162	705	2796	9971	28286	54827	68580	2	8	3	-14
1	1	0	14	48	443	1792	9841	27216	55237	72960	0	14	4	-36
1	1	0	28	76	533	2456	8463	26356	56511	73296	0	28	3	-92
1	1	2	35	116	738	3168	9854	27212	54908	70076	2	11	3	-78
1	1	0	13	48	432	1760	9880	27344	55210	72768	0	13	4	-30
1	1	0	22	88	467	2192	8697	27304	56349	71904	0	22	3	-44
1	1	2	8	22	441	2868	10907	29258	54179	66772	2	-16	3	-10
1	1	0	35	60	610	2776	8190	25220	56700	74960	0	35	3	-150
1	1	5	32	162	897	3888	12467	30014	52139	62934	5	-28	3	10

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	81	32	1500	2112	11388	15840	52566	95104	0	81	9	-454
1	1	3	11	60	538	3100	11622	30020	53364	64706	3	-25	3	18
1	1	0	15	50	454	1812	9802	27118	55264	73112	0	15	4	-40
1	1	0	12	0	357	2400	9087	27264	56079	71744	0	12	3	-72
1	1	0	15	98	390	1908	8970	28350	56160	70360	0	15	3	8
1	1	1	31	132	630	2580	9178	27388	55696	70870	1	19	3	-46
1	1	0	28	40	533	2672	8463	25816	56511	74016	0	28	3	-128
1	1	1	19	28	498	2820	9646	27364	55372	70646	1	7	3	-78
1	1	4	33	192	844	3376	11596	29760	53062	64408	4	-15	3	26
1	1	0	26	58	575	2116	9373	25830	55561	75064	0	26	4	-98
1	1	0	26	30	511	2668	8541	25922	56457	73832	0	26	3	-126
1	1	2	37	120	760	3208	9776	27016	54962	70380	2	13	3	-86
1	1	1	29	128	608	2540	9256	27584	55642	70566	1	17	3	-38
1	1	3	29	192	736	2884	10920	29696	53850	65522	3	-7	3	42
1	1	4	41	192	932	3632	11284	28736	53278	65944	4	-7	3	-22
1	1	1	30	114	619	2656	9217	27246	55669	71038	1	18	3	-58
1	1	0	49	112	764	2912	7644	24208	57078	76608	0	49	3	-182
1	1	0	18	20	551	1704	10517	25772	54449	76080	0	18	5	-88
1	1	0	9	24	580	624	12532	25960	52414	77856	0	9	7	-30

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	22	0	723	1184	12025	23936	52765	80832	0	22	7	-132
1	1	2	24	122	617	2780	10283	28710	54611	67844	2	0	3	-6
1	1	1	3	4	322	2452	10270	29052	54940	68054	1	-9	3	-6
1	1	0	20	28	637	1336	11271	25124	53607	78096	0	20	6	-92
1	1	0	16	98	401	1940	8931	28222	56187	70552	0	16	3	2
1	1	0	27	8	714	1680	10998	23928	53796	79840	0	27	6	-154
1	1	0	37	72	632	2768	8112	25144	56754	75104	0	37	3	-150
1	1	0	41	32	740	2752	8788	23520	55966	78464	0	41	4	-214
1	1	4	17	48	668	3728	12220	29648	52630	64216	4	-31	3	-22
1	1	0	45	216	720	2160	7800	26280	56970	73760	0	45	3	-54
1	1	8	73	416	1540	4768	13364	30304	50558	60080	8	-23	3	42
1	1	0	33	52	652	2376	9100	24844	55750	76528	0	33	4	-146
1	1	0	27	20	714	1608	10998	24108	53796	79600	0	27	6	-142
1	1	0	24	78	489	2316	8619	26898	56403	72488	0	24	3	-66
1	1	0	29	40	608	2320	9256	25176	55642	76000	0	29	4	-134
1	1	3	18	62	615	3312	11349	29154	53553	66010	3	-18	3	-22
1	1	2	23	116	606	2784	10322	28748	54584	67772	2	-1	3	-6
1	1	0	39	92	654	2712	8034	25188	56808	75088	0	39	3	-142
1	1	0	43	52	826	2312	9542	23052	55124	80240	0	43	5	-206

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	4	12	66	613	3460	12415	30558	52495	62896	4	-36	3	26
1	1	0	22	56	467	2384	8697	26824	56349	72544	0	22	3	-76
1	1	0	29	24	800	1264	11752	23400	52954	81696	0	29	7	-150
1	1	0	12	44	421	1752	9919	27412	55183	72656	0	12	4	-28
1	1	3	26	102	703	3328	11037	28730	53769	66746	3	-10	3	-30
1	1	0	33	80	652	2208	9100	25264	55750	75968	0	33	4	-118
1	1	0	24	58	489	2436	8619	26598	56403	72888	0	24	3	-86
1	1	1	51	156	850	3076	8398	25188	56236	74230	1	39	3	-142
1	1	0	8	2	377	1876	10075	27294	55075	72728	0	8	4	-46
1	1	0	23	16	734	1120	11986	24048	52792	80704	0	23	7	-122
1	1	0	26	42	511	2596	8541	26102	56457	73592	0	26	3	-114
1	1	2	20	122	573	2652	10439	29222	54503	67076	2	-4	3	18
1	1	0	33	48	844	1248	11596	23248	53062	81984	0	33	7	-150
1	1	1	27	104	586	2620	9334	27480	55588	70662	1	15	3	-50
1	1	8	57	320	1364	4832	13988	30912	50126	58928	8	-39	3	42
1	1	1	31	52	630	3060	9178	26188	55696	72470	1	19	3	-126
1	1	2	13	52	496	2848	10712	29068	54314	67132	2	-11	3	-10
1	1	0	20	36	637	1288	11271	25244	53607	77936	0	20	6	-84
1	1	0	31	52	566	2696	8346	25612	56592	74352	0	31	3	-134

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	39	0	974	1344	12194	21248	52328	85888	0	39	8	-234
1	1	1	41	120	740	2972	8788	25928	55966	73030	1	29	3	-118
1	1	0	31	0	950	704	13338	21760	51216	86144	0	31	9	-186
1	1	0	29	68	608	2152	9256	25596	55642	75440	0	29	4	-106
1	1	0	13	40	496	1424	10712	26712	54314	74720	0	13	5	-38
1	1	1	25	64	564	2796	9412	27136	55534	71078	1	13	3	-78
1	1	1	39	116	718	2932	8866	26124	55912	72726	1	27	3	-110
1	1	0	28	28	725	1592	10959	24100	53823	79632	0	28	6	-140
1	1	0	29	76	544	2488	8424	26228	56538	73488	0	29	3	-98
1	1	1	16	22	465	2760	9763	27658	55291	70190	1	4	3	-66
1	1	2	30	58	939	1820	13377	24934	51189	77444	2	6	7	-106
1	1	1	9	84	388	2164	10036	29484	55102	67606	1	-3	3	38
1	1	3	27	180	714	2892	10998	29772	53796	65378	3	-9	3	42
1	1	4	34	214	855	3276	11557	29962	53089	64160	4	-14	3	42
1	1	0	16	8	657	944	12259	24824	52603	79520	0	16	7	-88
1	1	1	24	38	553	2920	9451	26874	55507	71406	1	12	3	-98
1	1	0	20	24	637	1360	11271	25064	53607	78176	0	20	6	-96
1	1	0	33	48	588	2784	8268	25296	56646	74816	0	33	3	-150
1	1	0	14	38	507	1468	10673	26554	54341	74952	0	14	5	-46

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	2	61	152	1024	3784	8840	24424	55610	74348	2	37	3	-198
1	1	0	21	8	584	1872	10400	25208	54530	76896	0	21	5	-118
1	1	3	20	138	637	2920	11271	30038	53607	64874	3	-16	3	42
1	1	1	14	14	443	2744	9841	27794	55237	69966	1	2	3	-62
1	1	0	29	58	672	1828	10088	24934	54746	77432	0	29	5	-116
1	1	2	18	50	551	3020	10517	28398	54449	68132	2	-6	3	-42
1	1	3	22	126	659	3056	11193	29602	53661	65498	3	-14	3	18
1	1	0	24	46	489	2508	8619	26418	56403	73128	0	24	3	-98
1	1	2	29	84	672	3168	10088	27500	54746	69564	2	5	3	-74
1	1	0	25	0	692	1664	11076	24064	53742	79616	0	25	6	-150
1	1	5	35	180	930	3876	12350	29900	52220	63150	5	-25	3	10
1	1	0	20	68	445	2248	8775	27260	56295	71920	0	20	3	-52
1	1	2	6	22	419	2804	10985	29514	54125	66388	2	-18	3	2
1	1	0	20	24	509	2128	9607	26088	55399	74592	0	20	4	-96
1	1	3	24	98	681	3288	11115	28926	53715	66442	3	-12	3	-22
1	1	2	53	200	936	3240	9152	26168	55394	71852	2	29	3	-102
1	1	0	20	8	445	2608	8775	26360	56295	73120	0	20	3	-112
1	1	0	45	56	784	2736	8632	23368	56074	78752	0	45	4	-214
1	1	0	23	120	478	2032	8658	27656	56376	71456	0	23	3	-18

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	29	120	544	2224	8424	26888	56538	72608	0	29	3	-54
1	1	2	24	146	617	2636	10283	29070	54611	67364	2	0	3	18
1	1	0	33	32	652	2496	9100	24544	55750	76928	0	33	4	-166
1	1	0	24	70	553	1980	9451	26266	55507	74440	0	24	4	-74
1	1	0	20	58	509	1924	9607	26598	55399	73912	0	20	4	-62
1	1	6	41	240	1060	4072	12948	30608	51486	61220	6	-31	3	42
1	1	0	25	52	628	1736	10244	25356	54638	76784	0	25	5	-98
1	1	2	10	30	463	2884	10829	29122	54233	66996	2	-14	3	-14
1	1	0	45	72	848	2256	9464	23096	55178	80224	0	45	5	-198
1	1	2	10	26	463	2908	10829	29062	54233	67076	2	-14	3	-18
1	1	0	15	0	774	192	13962	23808	50784	83072	0	15	9	-90
1	1	0	19	38	498	2012	9646	26426	55372	74120	0	19	4	-76
1	1	2	13	24	496	3016	10712	28648	54314	67692	2	-11	3	-38
1	1	3	27	148	714	3084	10998	29292	53796	66018	3	-9	3	10
1	1	0	19	82	434	2132	8814	27598	56268	71448	0	19	3	-32
1	1	0	61	120	1024	2480	8840	21768	55610	82336	0	61	5	-246
1	1	0	47	76	870	2296	9386	22900	55232	80528	0	47	5	-206
1	1	3	11	36	538	3244	11622	29660	53364	65186	3	-25	3	-6
1	1	1	23	140	542	2276	9490	28532	55480	69174	1	11	3	10

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	3	20	66	637	3352	11271	28958	53607	66314	3	-16	3	-30
1	1	0	27	68	650	1704	10166	25340	54692	76848	0	27	5	-94
1	1	0	17	52	476	1864	9724	26892	55318	73456	0	17	4	-50
1	1	3	41	168	868	3412	10452	27800	54174	68306	3	5	3	-54
1	1	0	39	32	1038	768	13026	21216	51432	87040	0	39	9	-202
1	1	0	19	14	434	2540	8814	26578	56268	72808	0	19	3	-100
1	1	2	37	72	1016	1960	13104	24248	51378	78508	2	13	7	-134
1	1	0	35	52	610	2824	8190	25100	56700	75120	0	35	3	-158
1	1	0	29	112	544	2272	8424	26768	56538	72768	0	29	3	-62
1	1	0	37	88	696	2288	8944	24872	55858	76576	0	37	4	-134
1	1	2	14	42	507	2940	10673	28790	54341	67524	2	-10	3	-26
1	1	1	19	72	498	2556	9646	28024	55372	69766	1	7	3	-34
1	1	0	20	62	509	1900	9607	26658	55399	73832	0	20	4	-58
1	1	0	12	8	613	816	12415	25336	52495	78752	0	12	7	-64
1	1	0	35	92	674	2200	9022	25188	55804	76112	0	35	4	-118
1	1	1	16	26	465	2736	9763	27718	55291	70110	1	4	3	-62
1	1	2	14	34	507	2988	10673	28670	54341	67684	2	-10	3	-34
1	1	1	29	72	608	2876	9256	26744	55642	71686	1	17	3	-94
1	1	3	3	28	450	3036	11934	30564	53148	63810	3	-33	3	34

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	7	66	302	1844	9282	28894	55944	69464	0	7	3	24
1	1	0	37	40	632	2960	8112	24664	56754	75744	0	37	3	-182
1	1	2	25	72	628	3112	10244	27832	54638	69036	2	1	3	-62
1	1	0	14	34	507	1492	10673	26494	54341	75032	0	14	5	-50
1	1	0	35	76	610	2680	8190	25460	56700	74640	0	35	3	-134
1	1	0	41	80	804	2080	9620	23728	55070	79296	0	41	5	-166
1	1	4	7	36	558	3480	12610	30748	52360	62536	4	-41	3	26
1	1	0	10	28	463	1400	10829	26916	54233	74384	0	10	5	-32
1	1	0	24	62	553	2028	9451	26146	55507	74600	0	24	4	-82
1	1	0	16	6	401	2492	8931	26842	56187	72392	0	16	3	-90
1	1	6	31	180	950	4112	13338	30988	51216	60500	6	-41	3	42
1	1	1	18	106	487	2320	9685	28662	55345	68894	1	6	3	6
1	1	0	45	32	1104	960	12792	20448	51594	88192	0	45	9	-238
1	1	0	24	12	617	1944	10283	24884	54611	77392	0	24	5	-132
1	1	2	21	112	584	2744	10400	28944	54530	67468	2	-3	3	2
1	1	2	20	78	573	2916	10439	28562	54503	67956	2	-4	3	-26
1	1	2	20	82	573	2892	10439	28622	54503	67876	2	-4	3	-22
1	1	0	17	70	412	2140	8892	27674	56214	71304	0	17	3	-32
1	1	2	20	106	573	2748	10439	28982	54503	67396	2	-4	3	2

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	1	29	104	608	2684	9256	27224	55642	71046	1	17	3	-62
1	1	5	53	288	1128	3804	11648	29216	52706	64446	5	-7	3	10
1	1	0	37	40	824	1808	10608	23128	54066	81120	0	37	6	-182
1	1	0	19	66	434	2228	8814	27358	56268	71768	0	19	3	-48
1	1	0	17	32	668	832	12220	25056	52630	79232	0	17	7	-70
1	1	0	24	64	553	2016	9451	26176	55507	74560	0	24	4	-80
1	1	0	13	96	368	1856	9048	28576	56106	70016	0	13	3	18
1	1	0	65	72	1132	2512	9516	20024	54822	85856	0	65	6	-318
1	1	0	20	0	765	736	12935	23680	51815	82240	0	20	8	-120
1	1	1	11	88	410	2204	9958	29288	55156	67910	1	-1	3	30
1	1	0	19	4	626	1448	11310	24892	53580	78384	0	19	6	-110
1	1	1	13	16	432	2700	9880	27952	55210	69734	1	1	3	-54
1	1	0	10	26	463	1412	10829	26886	54233	74424	0	10	5	-34
1	1	0	15	100	390	1896	8970	28380	56160	70320	0	15	3	10
1	1	6	17	96	796	4168	13884	31520	50838	59492	6	-55	3	42
1	1	0	14	0	507	1696	10673	25984	54341	75712	0	14	5	-84
1	1	0	27	60	522	2520	8502	26244	56484	73424	0	27	3	-102
1	1	5	14	86	699	3768	13169	31178	51653	60998	5	-46	3	42
1	1	2	25	176	628	2488	10244	29392	54638	66956	2	1	3	42

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	22	38	467	2492	8697	26554	56349	72904	0	22	3	-94
1	1	0	22	20	659	1448	11193	24748	53661	78640	0	22	6	-112
1	1	0	41	56	932	1456	11284	22344	53278	83360	0	41	7	-190
1	1	1	22	38	531	2856	9529	27130	55453	71022	1	10	3	-86
1	1	2	25	152	628	2632	10244	29032	54638	67436	2	1	3	18
1	1	0	26	54	575	2140	9373	25770	55561	75144	0	26	4	-102
1	1	0	13	22	496	1532	10712	26442	54314	75080	0	13	5	-56
1	1	0	18	8	487	2160	9685	26104	55345	74528	0	18	4	-100
1	1	0	24	74	489	2340	8619	26838	56403	72568	0	24	3	-70
1	1	5	37	224	952	3676	12272	30304	52274	62654	5	-23	3	42
1	1	2	73	240	1156	3640	8372	24208	55934	74892	2	49	3	-182
1	1	0	10	24	463	1424	10829	26856	54233	74464	0	10	5	-36
1	1	0	18	94	423	2028	8853	27906	56241	71016	0	18	3	-14
1	1	2	24	170	617	2492	10283	29430	54611	66884	2	0	3	42
1	1	1	8	82	377	2144	10075	29582	55075	67454	1	-4	3	42
1	1	0	21	46	520	2028	9568	26290	55426	74344	0	21	4	-80
1	1	0	28	38	597	2300	9295	25274	55615	75848	0	28	4	-130
1	1	1	45	112	784	3148	8632	25296	56074	73958	1	33	3	-150
1	1	0	13	104	368	1808	9048	28696	56106	69856	0	13	3	26

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	10	68	335	1928	9165	28540	56025	70000	0	10	3	8
1	1	0	6	20	419	1320	10985	27308	54125	73776	0	6	5	-16
1	1	0	19	18	434	2516	8814	26638	56268	72728	0	19	3	-96
1	1	3	20	98	637	3160	11271	29438	53607	65674	3	-16	3	2
1	1	2	39	92	782	3440	9698	26340	55016	71324	2	15	3	-126
1	1	0	17	34	476	1972	9724	26622	55318	73816	0	17	4	-68
1	1	0	18	18	487	2100	9685	26254	55345	74328	0	18	4	-90
1	1	0	35	48	802	1696	10686	23504	54012	80576	0	35	6	-162
1	1	1	19	56	498	2652	9646	27784	55372	70086	1	7	3	-50
1	1	1	41	136	740	2876	8788	26168	55966	72710	1	29	3	-102
1	1	0	24	38	489	2556	8619	26298	56403	73288	0	24	3	-106
1	1	2	20	98	573	2796	10439	28862	54503	67556	2	-4	3	-6
1	1	0	10	86	335	1820	9165	28810	56025	69640	0	10	3	26
1	1	3	13	48	560	3236	11544	29584	53418	65330	3	-23	3	-6
1	1	0	37	88	760	1904	9776	24360	54962	78368	0	37	5	-134
1	1	1	23	144	542	2252	9490	28592	55480	69094	1	11	3	14
1	1	1	30	66	619	2944	9217	26526	55669	71998	1	18	3	-106
1	1	0	15	32	582	1152	11466	25824	53472	77056	0	15	6	-58
1	1	0	20	12	573	1816	10439	25396	54503	76624	0	20	5	-108

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	5	10	62	655	3784	13325	31330	51545	60710	5	-50	3	42
1	1	2	47	156	870	3312	9386	26276	55232	71580	2	23	3	-110
1	1	3	33	216	780	2868	10764	29544	53958	65810	3	-3	3	42
1	1	0	45	0	1296	0	15288	18432	48906	94208	0	45	12	-270
1	1	0	18	28	551	1656	10517	25892	54449	75920	0	18	5	-80
1	1	0	3	24	322	1584	10270	28264	54940	71328	0	3	4	6
1	1	0	20	16	765	640	12935	23920	51815	81920	0	20	8	-104
1	1	3	23	124	670	3100	11154	29444	53688	65730	3	-13	3	10
1	1	3	14	54	571	3232	11505	29546	53445	65402	3	-22	3	-6
1	1	0	24	0	617	2016	10283	24704	54611	77632	0	24	5	-144
1	1	1	26	50	575	2912	9373	26798	55561	71550	1	14	3	-98
1	1	0	16	52	465	1832	9763	27020	55291	73264	0	16	4	-44
1	1	0	35	60	674	2392	9022	24708	55804	76752	0	35	4	-150
1	1	4	18	102	679	3436	12181	30330	52657	63328	4	-30	3	26
1	1	0	3	20	386	1224	11102	27692	54044	73200	0	3	5	2
1	1	0	25	24	500	2672	8580	25960	56430	73760	0	25	3	-126
1	1	0	33	32	844	1344	11596	23008	53062	82304	0	33	7	-166
1	1	0	8	0	377	1888	10075	27264	55075	72768	0	8	4	-48
1	1	0	25	52	564	2120	9412	25868	55534	74992	0	25	4	-98

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	28	82	533	2420	8463	26446	56511	73176	0	28	3	-86
1	1	4	29	152	800	3488	11752	29672	52954	64440	4	-19	3	10
1	1	0	28	66	597	2132	9295	25694	55615	75288	0	28	4	-102
1	1	3	18	118	615	2976	11349	29994	53553	64890	3	-18	3	34
1	1	8	41	224	1188	4896	14612	31520	49694	57776	8	-55	3	42
1	1	0	18	8	679	1008	12181	24568	52657	79904	0	18	7	-100
1	1	0	41	72	740	2512	8788	24120	55966	77664	0	41	4	-174
1	1	3	15	100	582	2988	11466	30108	53472	64674	3	-21	3	34
1	1	0	25	8	692	1616	11076	24184	53742	79456	0	25	6	-142
1	1	0	35	60	738	2008	9854	24196	54908	78544	0	35	5	-150
1	1	0	5	24	408	1264	11024	27496	54098	73504	0	5	5	-6
1	1	0	31	52	630	2312	9178	25100	55696	76144	0	31	4	-134
1	1	4	11	44	602	3560	12454	30356	52468	63144	4	-37	3	10
1	1	0	20	98	445	2068	8775	27710	56295	71320	0	20	3	-22
1	1	4	26	150	767	3404	11869	30026	52873	63904	4	-22	3	26
1	1	3	5	16	472	3172	11856	30128	53202	64434	3	-31	3	10
1	1	0	14	16	699	448	13169	24688	51653	80768	0	14	8	-68
1	1	2	21	128	584	2648	10400	29184	54530	67148	2	-3	3	18
1	1	0	19	46	498	1964	9646	26546	55372	73960	0	19	4	-68

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	1	15	124	454	2116	9802	29316	55264	67958	1	3	3	42
1	1	0	27	0	714	1728	10998	23808	53796	80000	0	27	6	-162
1	1	4	10	54	591	3468	12493	30634	52441	62752	4	-38	3	26
1	1	0	19	0	818	320	13806	23296	50892	83840	0	19	9	-114
1	1	1	22	50	531	2784	9529	27310	55453	70782	1	10	3	-74
1	1	1	35	124	674	2756	9022	26756	55804	71798	1	23	3	-78
1	1	0	61	112	960	2912	8008	22160	56506	80704	0	61	4	-254
1	1	0	18	56	487	1872	9685	26824	55345	73568	0	18	4	-52
1	1	3	16	98	593	3032	11427	29950	53499	64906	3	-20	3	26
1	1	0	45	112	784	2400	8632	24208	56074	77632	0	45	4	-158
1	1	0	7	16	558	608	12610	26096	52360	77632	0	7	7	-26
1	1	0	23	14	542	2284	9490	25554	55480	75368	0	23	4	-124
1	1	2	24	46	873	1700	13611	25522	51027	76532	2	0	7	-82
1	1	1	26	42	575	2960	9373	26678	55561	71710	1	14	3	-106
1	1	2	15	28	518	3056	10634	28452	54368	67996	2	-9	3	-46
1	1	0	21	50	456	2388	8736	26862	56322	72472	0	21	3	-76
1	1	0	10	0	655	416	13325	24960	51545	80320	0	10	8	-60
1	1	0	20	82	445	2164	8775	27470	56295	71640	0	20	3	-38
1	1	1	20	50	509	2720	9607	27566	55399	70398	1	8	3	-62

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	25	0	500	2816	8580	25600	56430	74240	0	25	3	-150
1	1	0	27	84	522	2376	8502	26604	56484	72944	0	27	3	-78
1	1	0	20	24	573	1744	10439	25576	54503	76384	0	20	5	-96
1	1	0	25	8	756	1232	11908	23672	52846	81248	0	25	7	-142
1	1	0	29	52	608	2248	9256	25356	55642	75760	0	29	4	-122
1	1	1	35	108	674	2852	9022	26516	55804	72118	1	23	3	-94
1	1	0	7	22	430	1340	10946	27210	54152	73928	0	7	5	-20
1	1	0	15	116	390	1800	8970	28620	56160	70000	0	15	3	26
1	1	0	29	36	672	1960	10088	24604	54746	77872	0	29	5	-138
1	1	6	15	84	774	4176	13962	31596	50784	59348	6	-57	3	42
1	1	0	26	74	575	2020	9373	26070	55561	74744	0	26	4	-82
1	1	2	22	94	595	2884	10361	28546	54557	68020	2	-2	3	-22
1	1	0	16	54	465	1820	9763	27050	55291	73224	0	16	4	-42
1	1	0	19	18	498	2132	9646	26126	55372	74520	0	19	4	-96
1	1	1	8	78	377	2168	10075	29522	55075	67534	1	-4	3	38
1	1	0	2	14	375	1228	11141	27730	54017	73128	0	2	5	2
1	1	0	33	8	844	1488	11596	22648	53062	82784	0	33	7	-190
1	1	0	25	0	628	2048	10244	24576	54638	77824	0	25	5	-150
1	1	0	9	20	516	1032	11700	26412	53310	76144	0	9	6	-34

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	3	31	140	758	3260	10842	28660	53904	66946	3	-5	3	-22
1	1	0	18	112	423	1920	8853	28176	56241	70656	0	18	3	4
1	1	5	14	54	699	3960	13169	30698	51653	61638	5	-46	3	10
1	1	3	4	18	461	3128	11895	30286	53175	64202	3	-32	3	18
1	1	4	97	368	1548	4368	9100	24208	54790	73176	4	49	3	-182
1	1	0	6	8	547	624	12649	26104	52333	77600	0	6	7	-28
1	1	3	15	44	582	3324	11466	29268	53472	65794	3	-21	3	-22
1	1	6	21	56	840	4536	13728	30408	50946	61060	6	-51	3	-22
1	1	2	21	92	584	2864	10400	28644	54530	67868	2	-3	3	-18
1	1	0	41	0	1060	1024	12948	20480	51486	88064	0	41	9	-246
1	1	0	18	6	551	1788	10517	25562	54449	76360	0	18	5	-102
1	1	0	49	80	892	2336	9308	22704	55286	80832	0	49	5	-214
1	1	0	69	0	1688	0	16016	14336	47762	102400	0	69	14	-414
1	1	0	3	4	450	936	11934	26940	53148	75312	0	3	6	-14
1	1	2	29	96	672	3096	10088	27680	54746	69324	2	5	3	-62
1	1	0	10	28	527	1016	11661	26404	53337	76176	0	10	6	-32
1	1	2	14	98	507	2604	10673	29630	54341	66404	2	-10	3	30
1	1	0	33	16	844	1440	11596	22768	53062	82624	0	33	7	-182
1	1	0	34	0	855	1568	11557	22400	53089	83136	0	34	7	-204

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	4	41	224	932	3440	11284	29216	53278	65304	4	-7	3	10
1	1	1	27	140	586	2404	9334	28020	55588	69942	1	15	3	-14
1	1	2	27	52	650	3296	10166	27276	54692	69820	2	3	3	-94
1	1	0	28	70	533	2492	8463	26266	56511	73416	0	28	3	-98
1	1	2	43	180	826	3040	9542	27148	55124	70332	2	19	3	-62
1	1	1	19	148	498	2100	9646	29164	55372	68246	1	7	3	42
1	1	0	14	0	699	544	13169	24448	51653	81088	0	14	8	-84
1	1	1	34	74	791	2256	10725	25110	53985	76190	1	22	5	-122
1	1	3	7	36	494	3116	11778	30172	53256	64418	3	-29	3	18
1	1	2	10	34	463	2860	10829	29182	54233	66916	2	-14	3	-10
1	1	0	20	16	445	2560	8775	26480	56295	72960	0	20	3	-104
1	1	3	13	72	560	3092	11544	29944	53418	64850	3	-23	3	18
1	1	0	26	36	703	1480	11037	24476	53769	79088	0	26	6	-120
1	1	0	20	34	573	1684	10439	25726	54503	76184	0	20	5	-86
1	1	6	39	164	1038	4464	13026	29724	51432	62356	6	-33	3	-22
1	1	0	23	56	606	1648	10322	25672	54584	76320	0	23	5	-82
1	1	0	19	26	498	2084	9646	26246	55372	74360	0	19	4	-88
1	1	1	25	80	564	2700	9412	27376	55534	70758	1	13	3	-62
1	1	6	27	92	906	4512	13494	30180	51108	61492	6	-45	3	-22

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	1	17	24	476	2780	9724	27560	55318	70342	1	5	3	-70
1	1	1	35	156	674	2564	9022	27236	55804	71158	1	23	3	-46
1	1	0	31	48	566	2720	8346	25552	56592	74432	0	31	3	-138
1	1	2	41	112	804	3384	9620	26384	55070	71308	2	17	3	-118
1	1	2	41	80	1060	2040	12948	23856	51486	79116	2	17	7	-150
1	1	0	22	36	467	2504	8697	26524	56349	72944	0	22	3	-96
1	1	0	17	16	732	544	13052	24304	51734	81344	0	17	8	-86
1	1	8	45	248	1232	4880	14456	31368	49802	58064	8	-51	3	42
1	1	2	31	140	694	2896	10010	28084	54800	68828	2	7	3	-30
1	1	0	57	32	1108	2112	10660	19936	53710	86912	0	57	7	-310
1	1	2	9	36	452	2816	10868	29340	54206	66684	2	-15	3	-2
1	1	0	12	4	421	1992	9919	26812	55183	73456	0	12	4	-68
1	1	1	14	118	443	2120	9841	29354	55237	67886	1	2	3	42
1	1	3	49	200	956	3476	10140	27256	54390	69202	3	13	3	-70
1	1	1	21	68	520	2644	9568	27708	55426	70230	1	9	3	-50
1	1	0	23	24	606	1840	10322	25192	54584	76960	0	23	5	-114
1	1	0	14	0	443	2080	9841	26496	55237	73920	0	14	4	-84
1	1	1	26	82	575	2720	9373	27278	55561	70910	1	14	3	-66
1	1	0	20	32	445	2464	8775	26720	56295	72640	0	20	3	-88

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	1	6	6	355	2536	10153	28698	55021	68590	1	-6	3	-22
1	1	1	17	32	476	2732	9724	27680	55318	70182	1	5	3	-62
1	1	0	1	44	236	1784	9516	29332	55782	68752	0	1	3	38
1	1	0	25	12	628	1976	10244	24756	54638	77584	0	25	5	-138
1	1	0	13	26	496	1508	10712	26502	54314	75000	0	13	5	-52
1	1	0	22	84	467	2216	8697	27244	56349	71984	0	22	3	-48
1	1	0	24	20	489	2664	8619	26028	56403	73648	0	24	3	-124
1	1	0	5	12	472	952	11856	26804	53202	75536	0	5	6	-18
1	1	0	14	102	379	1852	9009	28538	56133	70088	0	14	3	18
1	1	0	18	58	487	1860	9685	26854	55345	73528	0	18	4	-50
1	1	2	2	2	631	1260	14469	27678	50433	73188	2	-22	7	6
1	1	0	39	76	718	2424	8866	24436	55912	77200	0	39	4	-158
1	1	0	13	74	368	1988	9048	28246	56106	70456	0	13	3	-4
1	1	0	24	110	489	2124	8619	27378	56403	71848	0	24	3	-34
1	1	0	38	98	707	2260	8905	24894	55885	76568	0	38	4	-130
1	1	0	35	24	802	1840	10686	23144	54012	81056	0	35	6	-186
1	1	0	22	100	467	2120	8697	27484	56349	71664	0	22	3	-32
1	1	5	39	236	974	3668	12194	30228	52328	62798	5	-21	3	42
1	1	0	27	44	650	1848	10166	24980	54692	77328	0	27	5	-118

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	17	0	796	256	13884	23552	50838	83456	0	17	9	-102
1	1	0	23	16	798	736	12818	23536	51896	82496	0	23	8	-122
1	1	1	14	98	443	2240	9841	29054	55237	68286	1	2	3	22
1	1	2	18	102	551	2708	10517	29178	54449	67092	2	-6	3	10
1	1	0	11	36	474	1384	10790	26908	54260	74416	0	11	5	-30
1	1	0	15	0	454	2112	9802	26368	55264	74112	0	15	4	-90
1	1	4	22	142	723	3324	12025	30418	52765	63296	4	-26	3	42
1	1	0	6	20	483	936	11817	26796	53229	75568	0	6	6	-16
1	1	0	9	2	324	2292	9204	27678	55998	71128	0	9	3	-52
1	1	1	37	80	696	3084	8944	25840	55858	73062	1	25	3	-134
1	1	0	34	70	599	2684	8229	25498	56673	74568	0	34	3	-134
1	1	0	11	108	346	1720	9126	29012	56052	69392	0	11	3	42
1	1	2	24	134	617	2708	10283	28890	54611	67604	2	0	3	6
1	1	4	65	240	1196	4112	10348	26384	53926	69592	4	17	3	-118
1	1	3	9	48	516	3108	11700	30096	53310	64562	3	-27	3	18
1	1	0	26	34	639	1876	10205	24958	54665	77336	0	26	5	-122
1	1	4	25	96	756	3696	11908	29344	52846	64792	4	-23	3	-22
1	1	0	10	6	399	1916	9997	27098	55129	73032	0	10	4	-54
1	1	1	61	176	960	3276	8008	24208	56506	75750	1	49	3	-182

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	1	20	46	509	2744	9607	27506	55399	70478	1	8	3	-66
1	1	1	0	2	289	2368	10387	29406	54859	67518	1	-12	3	10
1	1	0	32	62	641	2284	9139	25122	55723	76136	0	32	4	-130
1	1	2	3	4	386	2816	11102	29628	54044	66172	2	-21	3	2
1	1	1	43	92	890	2436	10374	24228	54228	77558	1	31	5	-158
1	1	0	20	8	701	1072	12103	24312	52711	80288	0	20	7	-112
1	1	0	49	96	764	3008	7644	23968	57078	76928	0	49	3	-198
1	1	1	45	80	784	3340	8632	24816	56074	74598	1	33	3	-182
1	1	0	10	20	527	1064	11661	26284	53337	76336	0	10	6	-40
1	1	0	13	30	496	1484	10712	26562	54314	74920	0	13	5	-48
1	1	2	18	122	551	2588	10517	29478	54449	66692	2	-6	3	30
1	1	0	23	0	862	448	13650	22784	51000	84608	0	23	9	-138
1	1	0	29	64	672	1792	10088	25024	54746	77312	0	29	5	-110
1	1	0	21	32	840	192	13728	23520	50946	83584	0	21	9	-94
1	1	0	34	130	599	2324	8229	26398	56673	73368	0	34	3	-74
1	1	0	10	2	335	2324	9165	27550	56025	71320	0	10	3	-58
1	1	0	26	74	511	2404	8541	26582	56457	72952	0	26	3	-82
1	1	1	27	100	586	2644	9334	27420	55588	70742	1	15	3	-54
1	1	0	20	32	573	1696	10439	25696	54503	76224	0	20	5	-88

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	22	126	467	1964	8697	27874	56349	71144	0	22	3	-6
1	1	0	23	32	670	1408	11154	24800	53688	78592	0	23	6	-106
1	1	0	35	16	930	1120	12350	22000	52220	84800	0	35	8	-194
1	1	0	25	68	500	2408	8580	26620	56430	72880	0	25	3	-82
1	1	0	31	44	694	1976	10010	24468	54800	78096	0	31	5	-142
1	1	0	13	10	496	1604	10712	26262	54314	75320	0	13	5	-68
1	1	2	27	100	650	3008	10166	27996	54692	68860	2	3	3	-46
1	1	0	37	0	1016	896	13104	20992	51378	87296	0	37	9	-222
1	1	0	39	84	782	1992	9698	24044	55016	78832	0	39	5	-150
1	1	0	15	52	454	1800	9802	27148	55264	73072	0	15	4	-38
1	1	0	41	48	868	1888	10452	22736	54174	81728	0	41	6	-198
1	1	3	18	70	615	3264	11349	29274	53553	65850	3	-18	3	-14
1	1	1	30	50	619	3040	9217	26286	55669	72318	1	18	3	-122
1	1	0	18	16	551	1728	10517	25712	54449	76160	0	18	5	-92
1	1	2	15	80	518	2744	10634	29232	54368	66956	2	-9	3	6
1	1	0	22	58	531	1988	9529	26342	55453	74296	0	22	4	-74
1	1	0	18	0	743	672	13013	23936	51761	81856	0	18	8	-108
1	1	1	55	116	1022	2676	9906	23052	54552	79382	1	43	5	-206
1	1	0	26	36	511	2632	8541	26012	56457	73712	0	26	3	-120

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	4	23	116	734	3512	11986	29900	52792	64008	4	-25	3	10
1	1	3	5	24	472	3124	11856	30248	53202	64274	3	-31	3	18
1	1	4	21	72	712	3712	12064	29496	52738	64504	4	-27	3	-22
1	1	0	34	106	599	2468	8229	26038	56673	73848	0	34	3	-98
1	1	0	31	84	630	2120	9178	25580	55696	75504	0	31	4	-102
1	1	0	9	70	324	1884	9204	28698	55998	69768	0	9	3	16
1	1	0	35	84	610	2632	8190	25580	56700	74480	0	35	3	-126
1	1	1	20	38	509	2792	9607	27386	55399	70638	1	8	3	-74
1	1	0	21	30	584	1740	10400	25538	54530	76456	0	21	5	-96
1	1	4	29	120	800	3680	11752	29192	52954	65080	4	-19	3	-22
1	1	3	37	192	824	3140	10608	28672	54066	67058	3	1	3	-6
1	1	0	11	80	346	1888	9126	28592	56052	69952	0	11	3	14
1	1	0	20	54	509	1948	9607	26538	55399	73992	0	20	4	-66
1	1	2	16	78	529	2788	10595	29074	54395	67188	2	-8	3	-2
1	1	2	18	34	807	1580	13845	26110	50865	75620	2	-6	7	-58
1	1	3	27	116	714	3276	10998	28812	53796	66658	3	-9	3	-22
1	1	0	15	20	582	1224	11466	25644	53472	77296	0	15	6	-70
1	1	0	17	8	476	2128	9724	26232	55318	74336	0	17	4	-94
1	1	0	5	16	472	928	11856	26864	53202	75456	0	5	6	-14

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	4	14	78	635	3452	12337	30482	52549	63040	4	-34	3	26
1	1	0	29	0	736	1792	10920	23552	53850	80384	0	29	6	-174
1	1	4	25	144	756	3408	11908	30064	52846	63832	4	-23	3	26
1	1	0	37	16	888	1568	11440	22256	53170	83392	0	37	7	-206
1	1	1	12	98	421	2176	9919	29310	55183	67902	1	0	3	34
1	1	0	27	48	586	2208	9334	25552	55588	75456	0	27	4	-114
1	1	0	33	32	716	2112	9932	24032	54854	78720	0	33	5	-166
1	1	0	12	84	357	1896	9087	28524	56079	70064	0	12	3	12
1	1	0	35	8	866	1552	11518	22392	53116	83168	0	35	7	-202
1	1	5	24	146	809	3728	12779	30798	51923	61718	5	-36	3	42
1	1	0	17	24	668	880	12220	24936	52630	79392	0	17	7	-78
1	1	0	11	0	666	448	13286	24832	51572	80512	0	11	8	-66
1	1	0	18	42	551	1572	10517	26102	54449	75640	0	18	5	-66
1	1	0	39	92	718	2328	8866	24676	55912	76880	0	39	4	-142
1	1	2	37	72	760	3496	9776	26296	54962	71340	2	13	3	-134
1	1	0	24	54	553	2076	9451	26026	55507	74760	0	24	4	-90
1	1	1	14	22	443	2696	9841	27914	55237	69806	1	2	3	-54
1	1	4	23	132	734	3416	11986	30140	52792	63688	4	-25	3	26
1	1	1	33	128	652	2668	9100	27072	55750	71334	1	21	3	-62

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	1	20	106	509	2384	9607	28406	55399	69278	1	8	3	-6
1	1	0	37	64	760	2048	9776	24000	54962	78848	0	37	5	-158
1	1	0	27	72	522	2448	8502	26424	56484	73184	0	27	3	-90
1	1	0	22	72	467	2288	8697	27064	56349	72224	0	22	3	-60
1	1	0	25	28	628	1880	10244	24996	54638	77264	0	25	5	-122
1	1	3	15	68	582	3180	11466	29628	53472	65314	3	-21	3	2
1	1	2	23	44	862	1680	13650	25620	51000	76380	2	-1	7	-78
1	1	0	11	0	410	1984	9958	26880	55156	73344	0	11	4	-66
1	1	0	41	48	676	3040	7956	24272	56862	76352	0	41	3	-198
1	1	0	29	8	544	2896	8424	25208	56538	74848	0	29	3	-166
1	1	12	81	432	1884	6384	16380	31824	47190	53768	12	-63	3	42
1	1	0	30	58	555	2628	8385	25830	56565	74040	0	30	3	-122
1	1	0	29	16	800	1312	11752	23280	52954	81856	0	29	7	-158
1	1	1	29	64	608	2924	9256	26624	55642	71846	1	17	3	-102
1	1	4	33	112	844	3856	11596	28560	53062	66008	4	-15	3	-54
1	1	2	7	24	430	2824	10946	29416	54152	66540	2	-17	3	-2
1	1	0	105	0	2276	0	17108	8192	46046	114688	0	105	17	-630
1	1	2	17	84	540	2784	10556	29036	54422	67260	2	-7	3	-2
1	1	1	14	26	443	2672	9841	27974	55237	69726	1	2	3	-50

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	26	48	511	2560	8541	26192	56457	73472	0	26	3	-108
1	1	0	30	82	555	2484	8385	26190	56565	73560	0	30	3	-98
1	1	0	45	0	1104	1152	12792	19968	51594	88832	0	45	9	-270
1	1	0	30	82	619	2100	9217	25678	55669	75352	0	30	4	-98
1	1	0	27	68	586	2088	9334	25852	55588	75056	0	27	4	-94
1	1	0	27	32	714	1536	10998	24288	53796	79360	0	27	6	-130
1	1	2	17	60	540	2928	10556	28676	54422	67740	2	-7	3	-26
1	1	0	16	8	593	1328	11427	25336	53499	77728	0	16	6	-88
1	1	0	23	100	478	2152	8658	27356	56376	71856	0	23	3	-38
1	1	0	17	42	476	1924	9724	26742	55318	73656	0	17	4	-60
1	1	0	27	36	522	2664	8502	25884	56484	73904	0	27	3	-126
1	1	0	29	36	608	2344	9256	25116	55642	76080	0	29	4	-138
1	1	0	41	0	1124	640	13780	19968	50590	89856	0	41	10	-246
1	1	2	45	184	848	3080	9464	26952	55178	70636	2	21	3	-70
1	1	0	18	8	423	2544	8853	26616	56241	72736	0	18	3	-100
1	1	6	49	288	1148	4040	12636	30304	51702	61796	6	-23	3	42
1	1	0	57	64	852	3456	7332	22464	57294	79104	0	57	3	-278
1	1	0	23	16	542	2272	9490	25584	55480	75328	0	23	4	-122
1	1	1	22	46	531	2808	9529	27250	55453	70862	1	10	3	-78

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	16	8	465	2096	9763	26360	55291	74144	0	16	4	-88
1	1	0	15	14	454	2028	9802	26578	55264	73832	0	15	4	-76
1	1	2	31	124	694	2992	10010	27844	54800	69148	2	7	3	-46
1	1	0	25	12	500	2744	8580	25780	56430	74000	0	25	3	-138
1	1	3	65	264	1132	3604	9516	26168	54822	70994	3	29	3	-102
1	1	1	23	96	542	2540	9490	27872	55480	70054	1	11	3	-34
1	1	0	21	0	904	0	14560	22528	50050	86016	0	21	10	-126
1	1	0	22	60	531	1976	9529	26372	55453	74256	0	22	4	-72
1	1	3	25	88	692	3380	11076	28648	53742	66834	3	-11	3	-38
1	1	2	51	100	1170	2240	12558	22876	51756	80636	2	27	7	-190
1	1	2	13	100	496	2560	10712	29788	54314	66172	2	-11	3	38
1	1	6	19	108	818	4160	13806	31444	50892	59636	6	-53	3	42
1	1	0	14	94	379	1900	9009	28418	56133	70248	0	14	3	10
1	1	3	20	82	637	3256	11271	29198	53607	65994	3	-16	3	-14
1	1	0	20	26	445	2500	8775	26630	56295	72760	0	20	3	-94
1	1	0	97	112	1548	2912	9100	16016	54790	92992	0	97	7	-470
1	1	1	41	216	740	2396	8788	27368	55966	71110	1	29	3	-22
1	1	0	81	0	1884	0	16380	12288	47190	106496	0	81	15	-486
1	1	3	29	112	736	3364	10920	28496	53850	67122	3	-7	3	-38

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Num	**0:36**	**2:34**	**4:32**	**6:30**	**8:28**	**10:26**	**12:24**	**14:22**	**16:20**	**18**	**a**	**b**	**c**	**d**
1	1	0	9	28	452	1368	10868	27044	54206	74192	0	9	5	-26
1	1	2	8	14	697	1380	14235	27090	50595	74100	2	-16	7	-18
1	1	0	4	12	461	920	11895	26932	53175	75344	0	4	6	-12
1	1	0	22	44	467	2456	8697	26644	56349	72784	0	22	3	-88
1	1	6	15	20	774	4560	13962	30636	50784	60628	6	-57	3	-22
1	1	0	31	0	886	1088	12506	22272	52112	84352	0	31	8	-186
1	1	0	11	6	474	1564	10790	26458	54260	75016	0	11	5	-60
1	1	0	33	0	1100	0	14924	20480	49478	90112	0	33	11	-198
1	1	7	41	232	1124	4484	13780	31064	50590	59498	7	-43	3	42