欢迎杭

string string string

Time Limit: 2000/1000 MS (Java/Others) Memory Limit: 32768/32768 K (Java/Others)
Total Submission(s): 2064 Accepted Submission(s): 628

Problem Description

Uncle Mao is a wonderful ACMER. One day he met an easy problem, but Uncle Mao was so lazy that he left the problem to you. I hope you can give him a solution.
Given a string s, we define a substring that happens exactly k times as an important string, and you need to find out how many substrings which are important strings.

Input

The first line contains an integer T ($T \leq 100$) implying the number of test cases.
For each test case, there are two lines:
the first line contains an integer k ($k \geq 1$) which is described above;
the second line contain a string s ($length(s) \leq 10^5$).
It's guaranteed that $\sum length(s) \leq 2 * 10^6$.

Output

For each test case, print the number of the important substrings in a line.

Sample Input

```
2
2
abcabc
3
abcabcabcabc
```

Sample Output

```
6
9
```

Source

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cable cable cable

Time Limit: 2000/1000 MS (Java/Others) Memory Limit: 32768/32768 K (Java/Others)
Total Submission(s): 694 Accepted Submission(s): 481

Problem Description

Connecting the display screen and signal sources which produce different color signals by cables, then the display screen can show the color of the signal source.Notice that every signal source can only send signals to one display screen each time.
Now you have M display screens and K different signal sources($K \leq M \leq 2^{32}-1$). Select K display screens from M display screens, how many cables are needed at least so that **any** K display screens you select can show exactly K different colors.

Input

Multiple cases (no more than 100), for each test case:
there is one line contains two integers M and K.

Output

Output the minimum number of cables N.

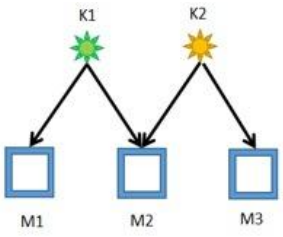
Sample Input

```
3 2
20 15
```

Sample Output

```
4
90
```

Hint



As the picture is shown, when you select M1 and M2, M1 show the color of K1, and M2 show the color of K2.

When you select M3 and M2, M2 show the color of K1 and M3 show the color of K2.

When you select M1 and M3, M1 show the color of K1.

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happy happy happy

Time Limit: 6000/3000 MS (Java/Others) Memory Limit: 32768/32768 K (Java/Others)
Total Submission(s): 843 Accepted Submission(s): 249

Problem Description

Today, Bob plays with a child. There is a row of n numbers. One can takes a number from the left side or the right side in turns and gets the grade which equals to the number. Bob knows that the child always chooses the bigger number of the left side and right side. If the number from two sides is equal, child will always choose the left one.
The child takes first and the person who gets more grade wins. The child will be happy only when he wins the game.
Bob wants to make the child happy, please help him calculate the minimal difference of their grades when he loses the game.

Input

There are T test cases ($T \leq 2$).
For each test case:
the first line only contains a number n ($1 \leq n \leq 90 \&\& n\%2 == 0$)
The second line contains n integers: $a_1, a_2 \ldots a_n (1 \leq a_i \leq 10^5)$.

Output

For each test ease, you should output the minimal difference of their grades when Bob loses the game. If Bob can't lose the game, output "The child will be unhappy...".

Sample Input

```
4
2 1 5 3
2
2 2
```

Sample Output

```
5
The child will be unhappy...
```

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array array array

Time Limit: 2000/1000 MS (Java/Others) Memory Limit: 32768/32768 K (Java/Others)
Total Submission(s): 1001 Accepted Submission(s): 537

Problem Description

One day, Kaitou Kiddo had stolen a priceless diamond ring. But detective Conan blocked Kiddo's path to escape from the museum. But Kiddo didn't want to give it back. So, Kiddo asked Conan a question. If Conan could give a right answer, Kiddo would return the ring to the museum.
Kiddo: "I have an array A and a number k, if you can choose exactly k elements from A and erase them, then the remaining array is in non-increasing order or non-decreasing order, we say A is a magic array. Now I want you to tell me whether A is a magic array. " Conan: "emmmmm..." Now, Conan seems to be in trouble, can you help him?

Input

The first line contains an integer T indicating the total number of test cases. Each test case starts with two integers n and k in one line, then one line with n integers: $A_1, A_2 \dots A_n$.
$1 \le T \le 20$
$1 \le n \le 10^5$
$0 \le k \le n$
$1 \le A_i \le 10^5$

Output

For each test case, please output "A is a magic array." if it is a magic array. Otherwise, output "A is not a magic array." (without quotes).

Sample Input

```
3
4 1
1 4 3 7
5 2
4 1 3 1 2
6 1
1 4 3 5 4 6
```

Sample Output

```
A is a magic array.
A is a magic array.
A is not a magic array.
```

Source

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number number number

Time Limit: 2000/1000 MS (Java/Others) Memory Limit: 32768/32768 K (Java/Others)
Total Submission(s): 771 Accepted Submission(s): 481

Problem Description

We define a sequence F:

· $F_0 = 0, F_1 = 1$;
· $F_n = F_{n-1} + F_{n-2}$ $(n \geq 2)$.

Give you an integer k, if a positive number n can be expressed by
$n = F_{a1} + F_{a2} + \ldots + F_{ak}$ where $0 \leq a_1 \leq a_2 \leq \cdots \leq a_k$, this positive number is $mjf - good$. Otherwise, this positive number is $mjf - bad$.
Now, give you an integer k, you task is to find the minimal positive $mjf - bad$ number.
The answer may be too large. Please print the answer modulo 998244353.

Input

There are about 500 test cases, end up with EOF.
Each test case includes an integer k which is described above. $(1 \leq k \leq 10^9)$

Output

For each case, output the minimal $mjf - bad$ number mod 998244353.

Sample Input

```
1
```

Sample Output

```
4
```

Source

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gems gems gems

Time Limit: 2000/1000 MS (Java/Others) Memory Limit: 32768/32768 K (Java/Others)
Total Submission(s): 1845 Accepted Submission(s): 434

Problem Description

Now there are n gems, each of which has its own value. Alice and Bob play a game with these n gems.
They place the gems in a row and decide to take turns to take gems from left to right.
Alice goes first and takes 1 or 2 gems from the left. After that, on each turn a player can take k or $k+1$ gems if the other player takes k gems in the previous turn. The game ends when there are no gems left or the current player can't take k or $k+1$ gems.
Your task is to determine the difference between the total value of gems Alice took and Bob took. Assume both players play optimally. Alice wants to maximize the difference while Bob wants to minimize it.

Input

The first line contains an integer T ($1 \leq T \leq 10$), the number of the test cases.
For each test case:
the first line contains a numbers n ($1 \leq n \leq 20000$);
the second line contains n numbers: $V_1, V_2 \ldots V_n$. ($-100000 \leq V_i \leq 100000$)

Output

For each test case, print a single number in a line: the difference between the total value of gems Alice took and the total value of gems Bob took.

Sample Input

```
1
3
1 3 2
```

Sample Output

```
4
```

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mustedge mustedge mustedge

Time Limit: 4000/2000 MS (Java/Others) Memory Limit: 32768/32768 K (Java/Others)
Total Submission(s): 872 Accepted Submission(s): 190

Problem Description

Give an connected undirected graph with n nodes and m edges, $(n, m \leq 10^5)$ which has no selfloops or multiple edges *initially*.
Now we have q operations $(q \leq 10^5)$:

·1 u v: add an undirected edge from u to v; $(u \neq v \&\& 1 \leq u, v \leq n)$
·2 u v: count the number of $mustedges$ from u to v; $(1 \leq u, v \leq n)$.

$mustedge$: we define set E_i as a path from u to v which contain edges in this path, and $|\cap_1^k E_i|$ is the number of $mustedges$. $|x|$ means size of set x, and $E_1, E_2 \ldots E_k$ means all the paths.
It's guaranteed that $\sum n, \sum m, \sum q \leq 10^6$
Please note that maybe there are more than one edges between two nodes after we add edges. They are not the same, which means they can be in a set at the same time.
Read the sample data for more information.

Input

Input starts with an integer T, denoting the number of test cases.
For each case:
First line are two number n and m;
Then next m lines, each contains two integers u and v, which indicates an undirected edge from u to v;
Next line contains a number q, the number of operations;
Then next q lines, contains three integers x, u and v where x is the operation type, which describes an operation.

Output

For each test case, output "Case #x:" where x is the test case number starting from 1.
In each test case, print a single number one line when query the number of $mustedges$.

Sample Input

```
2
4 3
1 2
2 3
3 4
5
2 1 4
1 2 3
2 1 4
2 2 3
2 2 4
8 9
1 2
2 3
1 3
3 4
4 5
4 6
5 7
5 8
7 8
5
2 7 8
2 1 6
```

```
2 4 7
1 6 8
2 5 6
```

Sample Output

```
Case #1:
3
2
0
1
Case #2:
0
2
1
0
```

Source

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点击红色的Registerring)

transaction transaction transaction

Time Limit: 4000/2000 MS (Java/Others) Memory Limit: 132768/132768 K (Java/Others)
Total Submission(s): 1838 Accepted Submission(s): 889

Problem Description

Kelukin is a businessman. Every day, he travels around cities to do some business. On August 17th, in memory of a great man, citizens will read a book named "the Man Who Changed China". Of course, Kelukin wouldn't miss this chance to make money, but he doesn't have this book. So he has to choose two city to buy and sell. As we know, the price of this book was different in each city. It is a_i $yuan$ in it city. Kelukin will take taxi, whose price is $1yuan$ per km and this fare cannot be ignored.
There are $n-1$ roads connecting n cities. Kelukin can choose any city to start his travel. He want to know the maximum money he can get.

Input

The first line contains an integer T $(1 \le T \le 10)$, the number of test cases.
For each test case:
first line contains an integer n $(2 \le n \le 100000)$ means the number of cities;
second line contains n numbers, the ith number means the prices in ith city; $(1 \le Price \le 10000)$
then follows $n-1$ lines, each contains three numbers x, y and z which means there exists a road between x and y, the distance is zkm $(1 \le z \le 1000)$.

Output

For each test case, output a single number in a line: the maximum money he can get.

Sample Input

```
1
4
10 40 15 30
1 2 30
1 3 2
3 4 10
```

Sample Output

```
8
```

Source

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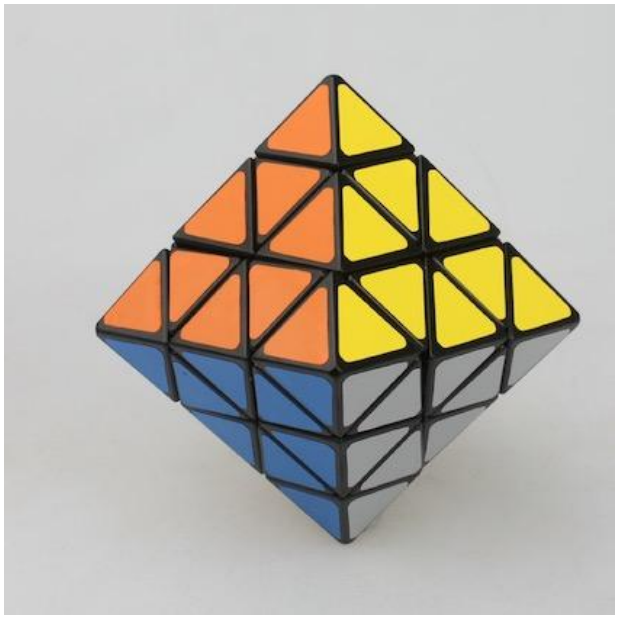
cube cube cube

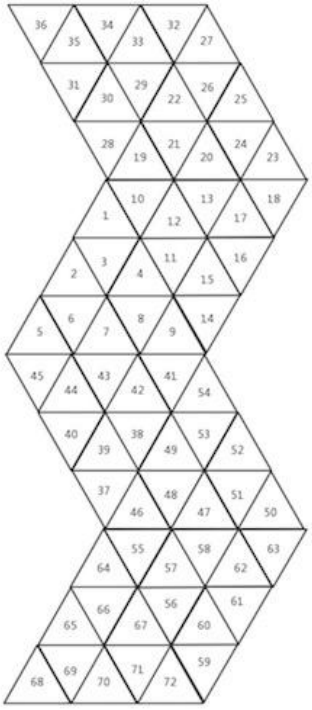
Time Limit: 6000/3000 MS (Java/Others) Memory Limit: 327680/327680 K (Java/Others)
Total Submission(s): 9511 Accepted Submission(s): 183

Problem Description

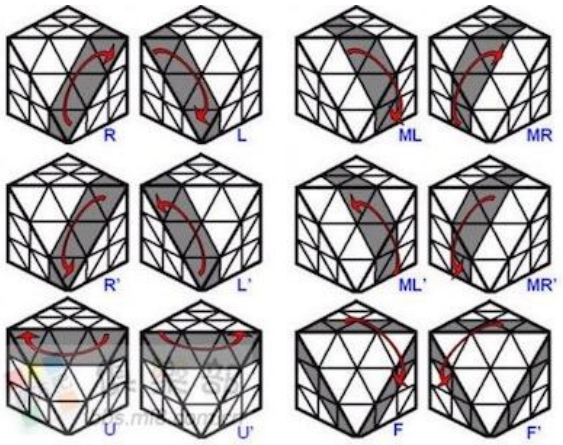
Rubick has a strange cube. Can you restore Rubik's cube in 3 steps (including 3)?
Rubik's cube is shown in the following picture:



The plane expansion of the Rubik's cube is shown in the following figure, each number represents the color corresponding to each cube.



The following picture explains how to rotate this strange cube. If you still feel confused, you can refer to http://www.bilibili.com/video/av8452301/?from=search&seid=11750270100959783079 .



Input

The first line contains an integer T ($T \leq 10$), the number of test cases.
Each test case consists of 72 integers which correspond to the colors of each location of the Rubik's Cube. Each number represents one color, it's guaranteed that there are exactly 8 colors and each color appears 9 times.

Output

For each test case, if you can restore the Rubik's cube in 3 steps, output "YES", else output "NO". (both without quote)

Sample Input

```
1
1 1 1 1 1 1 1 1 1
2 2 2 2 2 2 2 2 2
3 3 3 3 3 3 3 3 3
4 4 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5 5
6 6 6 6 6 6 6 6 6
7 7 7 7 7 7 7 7 7
8 8 8 8 8 8 8 8 8
```

Sample Output

YES

Source

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ping ping ping

Time Limit: 2000/1000 MS (Java/Others) Memory Limit: 32768/32768 K (Java/Others)
Total Submission(s): 870 Accepted Submission(s): 252

Problem Description

The structure of the computer room in Northeastern University is pretty miraculous. There are n servers, some servers connect to the gateway whose IP address is 0 directly. All servers are connected with each other by n netting twines. It is said that this structure is favorable for maintaining physical problem of servers.
But because of an unexpected rainstorm, the computer room was destroyed by a terrible thunderclap!
Our maintainer Bittersweet found that many servers were not able to be visited, so he hurried to the computer room to lookup the reason. After several hours, Bittersweet realized that some net gape of servers were broken by thunderclap. However, there were too many servers to find out all the broken net gapes quickly. So he came up with an idea to assess the damaged condition roughly. Bittersweet decided to turn on some servers and ping other servers randomly, then record the unsuccessful pairs of servers.
Now he need a program to analyze the record to confirm what is the *minimum* number of servers whose net gape was destroyed by thunderclap. Can you help him to complete this work?

Input

There are at most 20 test cases.
In each test case, the first line is an integer n $(3 \leq n \leq 10^4)$, denoting the number of servers. The IP address of these servers is $1 \ldots n$.
Then follows n lines, each line contains two integers u and v $(0 \leq u, v \leq n)$, denoting that the server whose IP address is u is connected with the server whose IP address is v by netting twine initially.
After those, there is one line contains only an integer p $(p \leq 50000)$, denoting the number that Bittersweet uses ping.
Then follows p lines, each line contains two integers U and V , denoting when using server U to ping server V, it returned unsuccessful.

Output

A single integer x in a line, denoting at least x servers whose net gape were broken.

Sample Input

```
4
1 0
4 2
2 0
3 2
2
1 3
2 1
```

Sample Output

```
1
```

Source

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Total 0.000000(s) query 1, Server time : 2017-10-30 09:17:13, Gzip enabled

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triangulation triangulation triangulation

Time Limit: 10000/5000 MS (Java/Others) Memory Limit: 32768/32768 K (Java/Others)
Total Submission(s): 172 Accepted Submission(s): 17

Problem Description

Today, I meet a difficult problem.
You are given three ints n, x, y. We have a regular n-gon: a convex polygon with n sides, in which all sides have the same length and all internal angles are equal. We want to draw $n-3$ non-intersecting diagonals in some way. Once we do that, we will have the polygon divided into exactly $n-2$ triangles. We want to produce a situation in which one of these $n-2$ triangles has a *strictly* larger area than each of the remaining $n-3$ triangles.
The vertices of the polygon are labeled 1 through n in clockwise order. Two sets of diagonals are different if one of them contains a diagonal that is not exist in the other one. Count all sets of $n-3$ non-intersecting diagonals that produce an arrangement with the above property. Output the number modulo x multiple the number modulo y.
I can't solve it. Can you help me?
For example , the number of the first case is $(0\%5)*(0\%6)=0$,the number of the second case is $(5\%6)*(5\%7)=25$.

Input

First line contains an integer T ($T \le 2$), the number of test cases.
For each test case, there are three numbers n, x, y in a line separated by blanks ($3 \le n \le 400, 1 \le x, y \le 10^9$).

Output

For each test case, print a single number in a line which is described above.

Sample Input

```
2
4 5 6
5 6 7
```

Sample Output

```
0
25
```

Source

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card card card

Time Limit: 8000/4000 MS (Java/Others) Memory Limit: 32768/32768 K (Java/Others)
Total Submission(s): 1927 Accepted Submission(s): 853

Problem Description

As a fan of Doudizhu, WYJ likes collecting playing cards very much.
One day, MJF takes a stack of cards and talks to him: let's play a game and if you win, you can get all these cards. MJF randomly assigns these cards into n heaps, arranges in a row, and sets a value on each heap, which is called "penalty value".
Before the game starts, WYJ can move the foremost heap to the end any times.
After that, WYJ takes the heap of cards one by one, each time he needs to move all cards of the current heap to his hands and face them up, then he turns over some cards and the number of cards he turned is equal to the $penaltyvalue$.
If at one moment, the number of cards he holds which are face-up is less than the $penaltyvalue$, then the game ends. And WYJ can get all the cards in his hands (both face-up and face-down).
Your task is to help WYJ maximize the number of cards he can get in the end.So he needs to decide how many heaps that he should move to the end before the game starts. Can you help him find the answer?
MJF also guarantees that the sum of all "penalty value" is exactly equal to the number of all cards.

Input

There are about 10 test cases ending up with EOF.
For each test case:
the first line is an integer n ($1 \leq n \leq 10^6$), denoting n heaps of cards;
next line contains n integers, the ith integer a_i ($0 \leq ai \leq 1000$) denoting there are a_i cards in ith heap;
then the third line also contains n integers, the ith integer b_i ($1 \leq bi \leq 1000$) denoting the "penalty value" of ith heap is b_i.

Output

For each test case, print only an integer, denoting the number of piles WYJ needs to move before the game starts. If there are multiple solutions, print the smallest one.

Sample Input

```
5
4 6 2 8 4
1 5 7 9 2
```

Sample Output

```
4
```

Hint

[pre]
For the sample input:

+ If WYJ doesn't move the cards pile, when the game starts the state of cards is:
4 6 2 8 4
1 5 7 9 2
WYJ can take the first three piles of cards, and during the process, the number of face-up cards is 4-1+6-5+2-7. Then he can't pay the the "penalty value" of the third pile, the game ends. WYJ will get 12 cards.
+ If WYJ move the first four piles of cards to the end, when the game starts the state of cards is:
4 4 6 2 8
2 1 5 7 9
WYJ can take all the five piles of cards, and during the process, the number of face-up cards is 4-2+4-1+6-5+2-7+8-9. Then he takes all cards, the game ends. WYJ will get 24 cards.

It can be improved that the answer is 4.

huge input, please use fastIO.
[/pre]

Source

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