问题 A: [Easy I] Crazy Plan

时间限制: 2 Sec 内存限制: 2 MB
提交: 966 解决: 228
[提交][状态][讨论版]

题目描述

Neko is crazy at solving the algorithm problems recently. He sets a plan for himself:

The 1^{st} day, he will get on 1 problem solved.

The 2^{nd} day, he will get on 3 problems solved.

The 3^{rd} day, he will get on 6 problems solved.

...

The n^{th} day, he will get on $n(n+1)/2$ problems solved.

Neko wants to know how many problems he will solve after K days.

输入

The first line contains a single integer $T(1 \leq T \leq 1.1 * 10^6)$ —— the number of test case.

The 2^{nd} line to the $(T+1)^{th}$ line, each line contains a single integer $K(1 \leq K \leq 10^6)$ —— the number of days.

输出

Print the number of problems **Neko** solved. Each test case for one line.

样例输入

```
3
1
2
3
```

样例输出

```
1
4
10
```

问题 B: [Easy II] Nearest Price

时间限制: 2 Sec 内存限制: 128 MB
提交: 1224 解决: 214
[提交][状态][讨论版]

题目描述

Neko likes to eat fish recently. There are various kinds of fish in the market and **Neko** has X dollars. If the market happens to have a fish with a price of X, **Neko** will say "**Meow**". Otherwise, **Neko** will buy the most expensive fish which he can afford and say the change. (If **Neko** can't afford any fish, he will come back directly and say the money he has.)

Neko will go to the market with X dollars for T days. X may change everyday but the kinds of fish in the market will never change.

输入

The first line contains a single integer $T(1\leq T\leq 10^6)$ —— the number of the days when **Neko** needs to buy fish.

The second line contains a single integer $N(1\leq N\leq 10^6)$ —— denoting there are/is N kind(s) of fish in the market.

The third line contains T integers $x_1,x_2,x_3,\ldots,x_T(1\leq x_i\leq 10^9,1\leq i\leq T)$ —— the money **Neko** has for each day.

The fourth line contains N integers $p_1,p_2,p_3,\ldots,p_N(1\leq p_i\leq 10^9,1\leq i\leq N)$ which are the prices of the fish in the market.

It is guaranteed that prices are in ascending order.

输出

For each day, print only one line for what **Neko** said.

样例输入

```
2
2
1 3
2 3
```

样例输出

```
1
Meow
```

问题 C: [Median I] Factorial Magic

时间限制: 1 Sec 内存限制: 128 MB
提交: 1020 解决: 209
[提交][状态][讨论版]

题目描述

Neko is a freshman at SUSTech and he is good at fractorial problems. He wants to challenge you to see if you can solve the following problem: Caculate the value of $((n!)!)!(mod\ m)$.

输入

There is only one line contains two integers $n, m, (0 \leq n \leq 10^9, 1 \leq m \leq 10^9)$.

输出

Print the value of $((n!)!)!(mod\ m)$.

样例输入

```
1 2019
```

样例输出

```
1
```

问题 D: [Median II] Two-Product

时间限制: 1 Sec 内存限制: 128 MB
提交: 1596 解决: 187
[提交][状态][讨论版]

题目描述

Neko thinks **the two-sum problem** is easy for you, so he tests you by a new problem —— **the two-product problem**.

Given an array of integers, $a_1, a_2, a_3, \ldots, a_N$, and an integer M. Please output the number of pairs $(a_i, a_j), i < j$, such that $a_i * a_j = M$.

输入

The first line contains a single integer $N(1 \leq N \leq 10^6)$ —— the length of the array.

The second line contains a single integer $M(-10^{18} \leq M \leq 10^{18})$ —— the specific target.

The third line contains N integers $a_1, a_2, a_3, \ldots, a_N(-10^9 \leq a_i \leq 10^9, 1 \leq i \leq N)$ —— an array of integers.

It is guaranteed that the array is sorted in ascending order.

输出

For each specific target, print only one line for the number of a numbers pairs (a_i, a_j) satisfying $a_i * a_j = M$.

样例输入

```
9
4
-4 -4 -2 -1 0 1 2 2 4
```

样例输出

```
3
```

提示

Duplicate pairs (a_i, a_j) count only once!

问题 E: [Hard] Catch Neko

时间限制: 1 Sec 内存限制: 128 MB
提交: 852 解决: 86
[提交][状态][讨论版]

题目描述

Neko is running away! **Eve** wants to catch him. At first, **Eve** is standing at the point with coordinates (x_1, y_1), while **Neko** is standing at the point with coordinates (x_2, y_2). For every minute, **Eve** can choose to go up, down, left, or right with 1 unit distance. For instance, if she is at (x, y) now, she can go to $(x, y+1), (x, y-1), (x-1, y)$ or $(x+1, y)$.

Eve noticed that **Neko** also moves 1 unit distance every minute, but he only moves according to a sequence periodically. The sequence only contains 'U','D','L','R', denoting that Neko moves up, down, left, right respectively.

Eve is now wondering how many minutes she needs at least to catch **Neko**.

输入

The first line contains two integers $x_1, y_1 (0 \leq x_1, y_1 \leq 10^9)$ —— the initial coordinate of **Eve**.

The second line contains two integers $x_2, y_2 (0 \leq x_2, y_2 \leq 10^9)$ —— the initial coordinate of **Neko**.

It is guaranteed that the initial coordinates and destination point coordinates are different.

The third line contains a single integer $N (1 \leq N \leq 10^5)$ —— the length of the sequence S.

The fourth line contains the string S itself, consisting only four letters U, D, L, R.

输出

Please output the minimum minutes Eve needs to catch Neko. If she can not catch Neko forever, please output -1.

样例输入

```
0 0
4 6
3
DDD
```

样例输出

```
5
```

提示

Eve can choose not to move at every minute.

问题 F: [Bonus] Suffix Zero

时间限制: 3 Sec 内存限制: 128 MB
提交: 893 解决: 215
[提交][状态][讨论版]

题目描述

Neko thinks math is interesting but he has got stuck at a math problem, so he asks you for help.

Find the number of consecutive zeros at the end of $n!$ (in decimal representation).

输入

The first line contains a single integer $T(1 \leq T \leq 10^6)$ —— the number of test case.

The 2^{nd} line to the $(n+1)^{th}$ line, each line contains a single integer $n(0 \leq n \leq 10^{18})$.

输出

Print the number of consecutive zeros at the end of $n!$.

样例输入

```
3
5
3
10
```

样例输出

```
1
0
2
```

提示

For the third case, 10! = 3628800, which have 2 consecutive zeros at the end.