

期末考试应该不会太难吧，毕竟你们没有期中考.....

.....来自久成君

Given the size  $r$  of a square(正方形), calculate its area.  
Note that  $0 < r \leq 3000$ .

[Input]

The first line is an integer  $n$  between 1 and 10;

The following  $n$  lines contains  $n$  integer numbers between 0 and 3000.

[Output]

Output the area of the square in each input line.

[Sample Input]

3  
1  
2  
3

[Sample Output]

1  
4  
9

Given an integer  $n$ , find the maximal integer  $x$  that satisfies  $2^x \leq n$ .

(求不超过正整数 $n$ 的2的最大幂值。)

### Input

The integer  $n$  ( $1 \leq n \leq 100000$ )

For example:

9

### Output

The maximum power  $2^x$ .

For example:

8

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Suppose there are  $X$  fishes in the pearl river currently, and the number of fishes decreases by  $Y$  every year.

Please write a program to compute after how many years do the number of fishes decrease to half of their current number, and how many years do the number decrease to one tenth of the current number.

有关专家十分关注珠江渔业资源的问题。目前珠江中大约有 $X$ 条鱼，平均每年以 $y\%$ 的速度减少。请编写一个程序，计算在多少年之后鱼的数目下降到目前的一半？多少年后下降到目前的十分之一？

### Input

A line that contains  $X$  and  $Y$ .

$X$  is an integer between 1000 to 10000000,  $Y$  is a floating number between 0.01 to 1.0

For example:

800000 0.50

### Output

How many years will the fishes decrease to half, How many years will the fishes decrease to one tenth

For example:

1 4

---

Compare two arrays and count the number of different elements. The rule is to count from the last element to the first one. If the size of the two arrays are different, then the extra elements in the longer array are ignored.

For example:

The number of different element between {1,3,5} and {77,21,1,3,5} is 0.

The number of different element between {21,1,2,5} and {77,21,1,3,5} is 1.

比较两个数组，要求从数组最后一个元素开始逐个元素向前比较，如果2个数组长度不等，则只比较较短长度数组个数元素。请编程实现上述比较，并返回比较中发现的不相等元素的个数。

#### Input

The first line contains the length of the first array len1 ( $0 \leq \text{len1} \leq 20$ )

The next len1 lines contain the len1 elements of the first array, each of which is an integer.

The next line contains the length of the first array len2 ( $0 \leq \text{len2} \leq 20$ )

The next len2 lines contain the len2 elements of the second array, each of which is an integer.

For example:

```
2
13
12
3
12
4
13
```

Remove all redudant chacacters in a string.

For example, the input string is "abacaeeedabdcdd", the output will be "abcd".

#### Input

A string whose length is less than 100.

For example:

```
abacaeeedabdcdd
```

#### Output

The processed string which removes all redundant chacacters.

For example:

```
abcd
```

Suppose there are five kinds of coins: 5 角、1 角、5 分、2 分和 1 分. Now we want to give change to the customer with as few coins as possible. Write a program to compute how many coins do we need.

假定有 5 角、1 角、5 分、2 分和 1 分共 5 种硬币，在给顾客找硬币时，一般都会尽可能地选用硬币个数最小的方法。例如，当要给某顾客找 7 角 2 分钱时，会给他一个 5 角，2 个 1 角 和 1 个 2 分的硬币。试编写一个程序，输入的是要找给顾客的零 钱（以分为单位），输出的是应该找回的各种硬币数目，并保 证找回的硬币数最少。

#### Input

A line contains the total amount (以分为单位)

For example:

101

#### Output

Five lines that contain the number of 5 角、1 角、5 分、2 分和 1 分 coins, respectively.

For example:

2

0

0

0

1

A string is called circle string if it is the same as its reverse. Now write a program to judge whether the string is a circle string.

正读和反读都相同的字符串称为回文。编写程序判断输入的字符串是否回文。

#### Input

A string whose length is less than 100.

For example:

abcba

accba

#### Output

"yes" if the input string is a circle string.

"no X" if the input string is not a circle string, and X is the first character that does not satisfy the circling condition (从左到右，第一个不满足回文条件的字符).

For example:

"yes" (abcbcb is a circling string)

"no c" (accba is not a cicling string, and c is the first character that violates the circling condition).

Write a program to find out how many factor a number contains.

编写一个程序，求一个自然数 $number$ 中含有多少个 $base$ 的因子。

### Input

A line that contains the number ( $10 < number \leq 10000$ ) and the base ( $2 \leq base \leq 10$ ).

For example:

12 2

### Output

The number of factors.

For example:

2

Ziyao has a big drawing board with  $N * M$  squares. At the beginning, all the squares on the board are white, represented by the number 0. We can see the  $4 * 4$  white drawing board is:

0000

0000

0000

0000

One day Ziyao wants to draw on the board. He will draw for  $T$  times. Each time he will draw a rectangle with the color he like. For each rectangle, we use 4 integers ( $x1, y1, x2, y2$ ) to express it. It means that for each  $(x, y)$  exist both  $x1 \leq x \leq x2$  and  $y1 \leq y \leq y2$ . If two rectangles are intersected, the intersected part will be covered by the color later draw.

For example, if he draw a rectangle (1, 2, 3, 3) on the white board with the color '1', the board will be:

0110

0110

0110

0000

And if he go on drawing a rectangle (2, 1, 3, 2) by '2', the board will be:

0110

2210

2210

0000

Now, Ziyao Big God will tell you his drawing process, please tell me how many colors will be there on the board.

## Input

The first line has 3 integers,  $N, M, T$ . ( $0 < N, M \leq 100, 0 \leq T \leq 20$ )

The next  $T$  lines, each line has 5 integers  $x1, y1, x2, y2, c$ ,  $(x1, y1, x2, y2)$  express the rectangle and  $c$  is the color.  
( $1 \leq x1, x2 \leq N, 1 \leq y1, y2 \leq M, 1 \leq c \leq T$ )

## Output

Just one number, how many colors on the board.

PS: '0' is also a kind of color.

### Sample Input 1

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

### Sample Input 2

```
4 4 2
1 1 1 1 2
1 1 4 4 1
```

### Sample Output 1

```
3
```

### Sample Output 2

```
1
```

### Hint:

For the first sample, the board is

0110

2210

2200

0000

There are 3 colors:0,1,2.

For the second sample, the board is

1111

1111

1111

1111

There are only 1 color: 1.

### Constraints

Time Limit: 1 secs, Memory Limit: 32 MB

### Description

Ziyao is a smart boy. He often tell his little friends something what he interested in. Now, he is prepared to tell about stereo diagram(立体图). You should help him to draw the diagram, or fail the class.

Ziyao has a rectangular region, and its area is  $n * m$ . There are  $n * m$  square of side length 1. There are some the same size blocks on each square. Each blocks are all the same and their length and width and height are 1. Ziyao wants you to print out the stereo diagram of these blocks. We define each building block for the following format, and not do any reversal rotation, only strictly to this form of display:

```

+--+
/  /| height
+--+ |
|   | +
|   | / width
+--+
Length

```

Each point express by a '+', length express by three '-'  
 ' width express by a '/', and height express by two '|'.  
 And we use the character '.' as the background .It means the blank p  
 art of stereo pictures need to instead by '.' . Stereo diagram drawing  
 as the following rules:

If two adjacent blocks left and right, it will be:



..+---+---+

/ / /|

+---+---+ |

| | | +

| | |/.

+---+---+..

If two adjacent blocks up and down, it will be:

..+---+

/ / |

+---+ |

| | +

| |/|

+---+ |

| | +

| |/.

+---+..

If two adjacent blocks front and behind, it will be:

....+---+

.../ / |

..+---+ |

/ / | +

+---+ |/.

| | +..

| |/...

+---+....

Input

The first line has two integer  $m$  and  $n$ , which means there are  $m \times n$  squares ( $1 \leq m, n \leq 20$ ) .

The next  $n$  lines,  
each line has  $n$  integers, the integer in the  $i$  line  $j$  column means how many blocks there are on the  $(i,j)$  square. All the integers is less than 100.

### Output

Print the diagraph. It is a  $K$ -line  $L$ -column characters' square, while  $K$  and  $L$  means you need at least  $K$  lines and  $L$  columns to print it.

Sample Input 1

3 4

2 2 1 2

2 2 1 1

3 2 1 2

Sample Input 2

2 2

0 1

2 0

Sample Output 1

.....+---+---+...+---+

..+---+ / /|. / /|

. / /| -+---+ |. +---+ |

+---+ | / /| +-| | +

| | +---+ | / +---+ | /|

| | / /| + / /| -+ |

+---+---+ | / +---+ | /| +

| | | +-| | + | /.

| | | / | | /| +..

+---+---+---+---+ | /...

| | | | | +....

| | | | | /.....

+---+---+---+---+.....

Sample Output 2

..+---+.....

. / /|. +---+

+---+ | / /|

| | +---+ |

| | /| | +

+---+ | | /.

| | +---+..

| | /.....

+---+.....