**Toggle String**

Input Format: The first and only line of input contains the String SS

Output Format: Print the resultant String on a single line.

Constraints: 1≤|S|≤100 where |S| denotes the length of string SS.

SAMPLE INPUT

abcdE

SAMPLE OUTPUT

ABCDe

**Palindromic String**

Input Format: The first and only line of input contains the String SS. The String shall consist of lowercase English alphabets only.

Output Format: Print the required answer on a single line.

Constraints 1≤|S|≤100

Note: String SS consists of lowercase English Alphabets only.

SAMPLE INPUT

aba

SAMPLE OUTPUT

YES

**Find Product**

Input Format: The first line contains a single integer NN denoting the size of the array. The next line contains NN space separated integers denoting the elements of the array

Output Format: Print a single integer denoting the product of all the elements of the array Modulo 109+7109+7.

Constraints: 1≤N≤103 | 1≤N≤103  
SAMPLE INPUT

5

1 2 3 4 5

SAMPLE OUTPUT

120

**Count Divisors**

Input Format:The first and only line of input contains 3 space separated integers l, r and k.

Output Format:Print the required answer on a single line.

Constraints:1≤ l ≤ r ≤1000 | 1≤k≤1000

SAMPLE INPUT

1 10 1

SAMPLE OUTPUT

10

**Roy and Profile Picture**

Input:First line contains **L**. Second line contains **N**, number of photos. Following N lines each contains two space separated integers **W** and **H**.

Output:Print appropriate text for each photo in a new line.

Constraints:1 <= **L,W,H** <= 10000 | 1 <= **N** <= 1000

SAMPLE INPUT

180

3

640 480

120 300

180 180

400 400

SAMPLE OUTPUT

CROP IT

UPLOAD ANOTHER

ACCEPTED

ACCEPTED

Note:

* If any of the width or height is less than L, user is prompted to upload another one. Print "**UPLOAD ANOTHER**" in this case.
* If width and height, both are large enough and
  + if the photo is already square then it is accepted. Print "**ACCEPTED**" in this case.
  + else user is prompted to crop it. Print "**CROP IT**" in this case.

[**Factorial!**](https://www.hackerearth.com/practice/basic-programming/input-output/basics-of-input-output/practice-problems/algorithm/find-factorial/)

Input Format: The first and only line of the input contains a single integer NN denoting the number whose factorial you need to find.

Output Format:Output a single line denoting the factorial of the number NN.

Constraints:1≤N≤10

SAMPLE INPUT

2

SAMPLE OUTPUT

2

**Life, the Universe, and Everything**

Your program is to use the brute-force approach in order to find the Answer to Life, the Universe, and Everything. More precisely... rewrite small numbers from input to output. Stop processing input after reading in the number 42. All numbers at input are integers of one or two digits.

**SAMPLE INPUT**

1

2

88

42

99

**SAMPLE OUTPUT**

1

2

88

**Question**

**12**

Max. Marks 100.00

**House Travelling Problem**

Bob is about to visit NN of his friends' houses. Each house is depicted as a point (xi,yi)(xi,yi) on the X−YX−Y plane. The length of roads between two houses ii and jj is defined as F(i,j)=(xi−xj)2+(yi−yj)2F(i,j)=(xi−xj)2+(yi−yj)2.

There's a N×NN×N matrix MM filled with 1s and 0s. M[i][j]=1M[i][j]=1 denotes that it is possible to travel to ithith House from jthjth House and vice versa. If M[i][j]=0M[i][j]=0, it is not possible to travel to ithith House from jthjth House and vice versa.

Now, Bob wants to visit all the houses, but the sum of length of all roads traveled should be maximum. There's one more restriction, he can use a maximum of (N−1)(N−1) roads. Before starting the trip, he would like to know what is the maximum distance he can travel which satisfies all the given conditions. If it is not possible to visit all the houses, print out -1.

**Input Format:**  
The first line contains NN, the number of houses Bob wants to visit.  
NN lines follow, each contains two space separated integers xixi and yiyi which denotes the of the ithith house on the X−YX−Y plane.   
Again, NN lines follow, each contains NN space separated integers, each being 0 or 1, denoting the matrix MM.

**Output Format:**  
Print the required answer in one line.

**Input Constraints:**   
1≤N≤30001≤N≤3000   
−106≤xi,yi≤106−106≤xi,yi≤106

**Note:**  
One road can be traversed any number of times , but its contribution would be taken only once. Also, there's large input data, please use faster i/o methods.

**Sample Input**

[(Plaintext Link)](https://he-s3.s3.amazonaws.com/media/hackathon/euromonitor-international-hiring-challenge/problems/608daea4-9-sample-input-608daa4.txt?Signature=JAMJ5uYsTW68yHAc2UuSO6IY34o%3D&Expires=1477235909&AWSAccessKeyId=AKIAJLE6MUHDYS3HN6YQ)

3

1 2

4 5

8 8

1 0 1

0 1 1

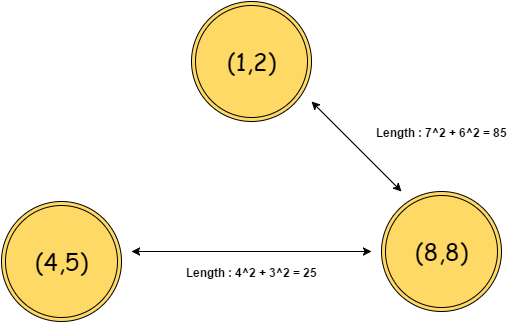
1 1 1

**Sample Output**

[(Plaintext Link)](https://he-s3.s3.amazonaws.com/media/hackathon/euromonitor-international-hiring-challenge/problems/609648c0-9-sample-output-609641c.txt?Signature=8kJKIBOKaGl8mlEW1sqMAS5LAKU%3D&Expires=1477235909&AWSAccessKeyId=AKIAJLE6MUHDYS3HN6YQ)

110

**Explanation**



This is the image for the given sample. Every house also has a road of length 0 to itself. We can use at max 2 roads which would be from (1,2) -> (8,8) -> (4,5). The total cost is 85 + 25 = 110.

**Question**

**11**

Max. Marks 100.00

**XOR of Subarray**

Given an array of NN elements , You need to find subarray of size ZZ , XOR of whose elements is minimum.If multiple such subarrays exist,Choose the subarray whose starting Index is Maximum. Print the start Index of that subarray.

**Input Format:**  
First line of the input will have TT (number of test cases). Then for each test case first line will have two integers NN and ZZ. The second line will have a list of NN space separated integers denoting the Array values (Array is denoted by A).

**Output Format:** For each test case, output a single integer denoting starting Index of Subarray.

**Input Constraints:**

1≤T≤1001≤T≤100  
1≤Z≤N≤1041≤Z≤N≤104   
1≤Ai≤10121≤Ai≤1012

**Sample Input**

[(Plaintext Link)](https://he-s3.s3.amazonaws.com/media/hackathon/euromonitor-international-hiring-challenge/problems/382e6cdc-9-sample-input-382e68f.txt?Signature=R9nG2QFNqoHFxOSbDwc4gguaOEc%3D&Expires=1477235909&AWSAccessKeyId=AKIAJLE6MUHDYS3HN6YQ)

1

3 2

1 2 3

**Sample Output**

[(Plaintext Link)](https://he-s3.s3.amazonaws.com/media/hackathon/euromonitor-international-hiring-challenge/problems/3838c470-9-sample-output-3838c07.txt?Signature=rvdxdoXrYmrDqbtfe6PKVsAUFhM%3D&Expires=1477235909&AWSAccessKeyId=AKIAJLE6MUHDYS3HN6YQ)

2

**Explanation**

Cost in shops 1 and 2 : 1 XOR 2 = 3  
Cost in shops 2 and 3 : 2 XOR 3 = 1  
Since cost from shop 1 to 2 is more than those in shop 2 to 3, Milly should start shopping from shop number 2 itself.