# **Newcomers Training , Do Your Best**

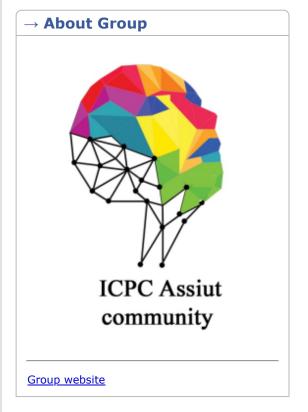


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PROBLEMS SI	UBMIT CODE	MY SUBMISSIONS	STATUS	STANDINGS	CUSTOM INVOCATION
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Problems					
#	Na	me			
<u>A</u>	Summation	standard input/output 2 s <sup>1</sup> , 64 MB			<u> </u>
<u>B</u>	<u>Searching</u>	standard input/output 2 s <sup>1</sup> , 64 MB	W		<u> </u>
<u>C</u>	Replacement	standard input/output 1 s <sup>♠</sup> , 256 MB	W		<u> </u>
<u>D</u>	Positions in array	standard input/output 1 s <sup>©</sup> , 256 MB	W		<u> </u>
<u>E</u>	Lowest Number	standard input/output 1 s <sup>♠</sup> , 256 MB	W		<u> </u>
E	Reversing	standard input/output 1 s <sup>●</sup> , 64 MB	W		<u> </u>
<u>G</u>	Palindrome Array	standard input/output 1 s <sup>©</sup> , 256 MB	A		<u> </u>
<u>H</u>	<u>Sorting</u>	standard input/output 1 s <sup>●</sup> , 64 MB	A		<u> </u>
<u>I</u>	Smallest Pair	standard input/output 1 s <sup>©</sup> , 256 MB	4		<u> </u>
<u>J</u>	Lucky Array	standard input/output 1 s <sup>●</sup> , 256 MB	A		<u> </u>
<u>K</u>	Sum Digits	standard input/output 2 s <sup>♠</sup> , 256 MB	A		<u><b>L</b> x323</u>
L	Max Subarray	standard input/output 1 s <sup>©</sup> , 256 MB	A		<u> </u>
<u>M</u>	Replace MinMax	standard input/output 1 s <sup>©</sup> , 256 MB	4		<u><b>å</b> x310</u>
<u>N</u>	Check Code	standard input/output 1 s <sup>9</sup> , 256 MB	W		<u> </u>

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<u>O</u>	<u>Fibonacci</u>	standard input/output 1 s <sup>♠</sup> , 256 MB	4	<u> </u>
<u>P</u>	Minimize Number	standard input/output 1 s <sup>©</sup> , 256 MB	4	<u> </u>
<u>Q</u>	Count Subarrays	standard input/output 1 s <sup>♠</sup> , 256 MB	4	<u> </u>
<u>R</u>	Permutation with arrays	standard input/output 1 s <sup>9</sup> , 256 MB	4	<u> </u>
<u>S</u>	Search In Matrix	standard input/output 2 s <sup>●</sup> , 64 MB	4	<u> </u>
I	Matrix	standard input/output 1 s <sup>20</sup> , 256 MB	4	<u> </u>
<u>U</u>	Is B a subsequence of A?	standard input/output 1 s <sup>0</sup> , 256 MB	4	<u> </u>
<u>V</u>	Frequency Array	standard input/output 1 s <sup>20</sup> , 256 MB	4	<u> </u>
<u>W</u>	Mirror Array	standard input/output 1 s <sup>9</sup> , 256 MB	4	<u> </u>
<u>X</u>	8 Neighbors	standard input/output 1 s <sup>♠</sup> , 256 MB	4	<u> </u>
<u>Y</u>	Range sum query	standard input/output 1.5 s <sup>20</sup> , 256 MB	4	<u> </u>
<u>Z</u>	Binary Search	standard input/output 1 s <sup>©</sup> , 256 MB	4	<u> </u>

<sup>\*</sup> This contest uses time limits scaling policy (depending on a programming language). The system automatically adjusts time limits by the following multipliers for some languages. Despite scaling (adjustment), the time limit cannot be more than 30 seconds. Read the details by the <u>link</u>.

Complete problemset



Ques	stions about problem	s		•
#	Party	When	Question	Answer
No it	ems			

## → **Group Contests**

- Sheet #10 (General Hard)
- Sheet #9 (General medium)
- Sheet #8 (General easy)
- Sheet #7 (Recursion)
- Sheet #6 (Math Geometry)
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- Sheet #2 (Loops)
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## Sheet #3 (Arrays)

#### **Finished**

## **Practice**



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3/4/25, 5:44 AM Problem - A - Codeforces

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## A. Summation

time limit per test: 2 seconds memory limit per test: 64 megabytes

Given a number N and an array A of N numbers. Print the **absolute summation** of these numbers.

absolute value: means to remove any negative sign in front of a number.

EX: |-5| = 5, |7| = 7

#### Input

First line contains a number N ( $1 \le N \le 10^5$ ) number of elements.

Second line contains N numbers (- $10^9 \le A_i \le 10^9$ ).

#### **Output**

Print the absolute summation of these numbers.









3/4/25, 5:44 AM Problem - A - Codeforces

output

Сору

2

#### **Note**

#### Second Example:

-1 + 2 + -3 = -2 and it absolute is 2 so the answer is 2.

#### → Group Contests

- Sheet #10 (General Hard)
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## B. Searching

time limit per test: 2 seconds memory limit per test: 64 megabytes

Given a number N and an array A of N numbers. Determine if the number X exists in array A or **not** and print its position (0-index).

Note: X may be found once or more than once and may not be found.

### Input

First line contains a number N ( $1 \le N \le 10^5$ ) number of elements.

Second line contains N numbers  $(0 \le A_i \le 10^9)$ .

Third line contains a number  $X(0 \le X \le 10^9)$ .

#### **Output**

Print the **position** of X in the first time you find it. If it doesn't **exist** print **-1**.



input	Сору





3/4/25, 5:45 AM Problem - B - Codeforces

5
1 3 0 4 5
10

output

copy

input

2 3 2 1
2

output

Copy

#### → **Group Contests**

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#### **Finished**

## **Practice**



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## C. Replacement

time limit per test: 1 second memory limit per test: 256 megabytes

Given a number N and an array A of N numbers. Print the array after doing the following operations:

- Replace every **positive** number by 1.
- Replace every **negative** number by 2.

#### Input

First line contains a number N ( $2 \le N \le 1000$ ) number of elements.

Second line contains N numbers (-10<sup>5</sup>  $\leq A_i \leq 10^5$ ).

#### **Output**

Print the array after the **replacement** and it's values separated by space.

input	Сору
5 1 -2 0 3 4	
output	Сору
1 2 0 1 1	



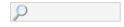




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## D. Positions in array

time limit per test: 1 second memory limit per test: 256 megabytes

Given a number N and an array A of N numbers. Print all array **positions** that store a number less than or equal to **10** and the **number stored** in that position.

#### Input

First line contains a number N ( $2 \le N \le 1000$ ) number of elements.

Second line contains N numbers (-10<sup>5</sup>  $\leq A_i \leq 10^5$ ).

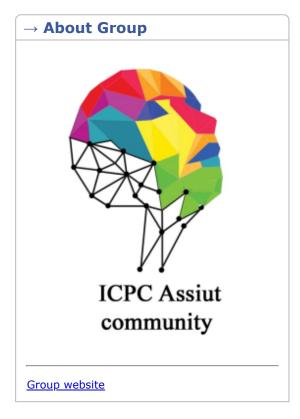
it's guaranteed that there is at least one number in array less than or equal to 10.

#### **Output**

For each number in the array that is equal to or less than **10** print a single line contains "A[i] = X", where **i** is the **position** in the array and X is the number **stored in the position**.

input	Сору
5 1 2 100 0 30	
output	Сору
A[0] = 1 $A[1] = 2$ $A[3] = 0$	







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### E. Lowest Number

time limit per test: 1 second<sup>2</sup> memory limit per test: 256 megabytes

Given a number N and an array A of N numbers. Print the **lowest number** and its **position**.

Note: if there are more than one answer print first one's position.

#### Input

First line contains a number N ( $2 \le N \le 1000$ ) number of elements.

Second line contains N numbers (- $10^5 \le A_i \le 10^5$ ).

#### **Output**

Print the lowest number and its position (1-index).

input	Сору
3 1 2 3	
output	Сору
1 1	

input	Сору
5 5 6 2 3 2	
output	Сору
2 3	







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## F. Reversing

time limit per test: 1 second memory limit per test: 64 megabytes

Given a number N and an array A of N numbers. Print the array in a **reversed order**.

#### Note:

\*Don't use built-in-functions.

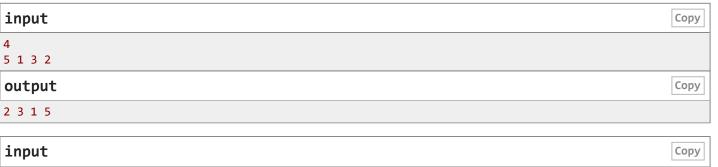
#### Input

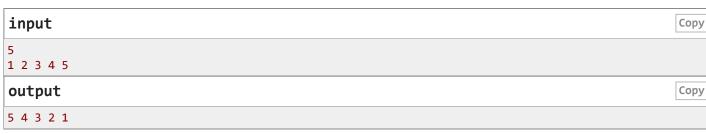
First line contains a number  $N(1 \le N \le 10^3)$  number of elements.

Second line contains N numbers  $(0 \le A_i \le 10^9)$ .

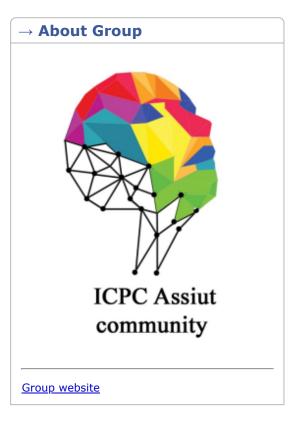
### **Output**

Print the array in a **reversed order**.











3/4/25, 5:45 AM Problem - G - Codeforces

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## G. Palindrome Array

time limit per test: 1 second 
memory limit per test: 256 megabytes

Given a number N and an array A of N numbers. Determine if it's **palindrome** or **not**.

#### Note:

An array is called **palindrome** if it reads the same backward and forward, for example, arrays { 1 } and { 1,2,3,2,1 } are **palindromes**, while arrays { 1,12 } and { 4,7,5,4 } are **not**.

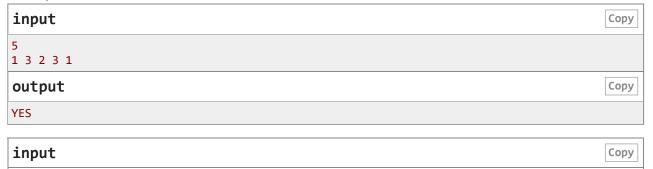
#### Input

First line contains a number  $N~(1 \leq N \leq 10^5)$  number of elements.

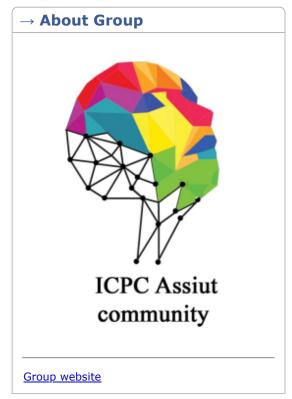
Second line contains N numbers  $(1 \le A_i \le 10^9)$ .

## **Output**

Print "YES" (without quotes) if A is a palindrome array, otherwise, print "NO" (without quotes).







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### Sheet #3 (Arrays)

#### **Finished**

## **Practice**



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3/4/25, 5:45 AM Problem - H - Codeforces

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# H. Sorting

time limit per test: 1 second?
memory limit per test: 64 megabytes

Given a number N and an array A of N numbers. Print the numbers after **sorting** them.

#### Note:

- Don't use built-in-functions.
- try to solve it with bubble sort algorithm or Selection Sort.
- for more information watch: https://www.youtube.com/watch?v=EnodMqJuQEo.

### Input

First line contains a number N (0 < N <  $10^3$ ) number of elements.

Second line contains N numbers ( -  $100 \le A_i \le 100$ ).

#### **Output**

Print the numbers after **sorting** them.







3/4/25, 5:45 AM Problem - H - Codeforces



#### **→ Group Contests**

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## Sheet #3 (Arrays)

#### **Finished**

### **Practice**



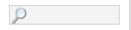
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### I. Smallest Pair

time limit per test: 1 second

memory limit per test: 256 megabytes

Given a number N and an array A of N numbers. Print **the smallest** possible result of  $A_i$  +  $A_j$  +  $\boldsymbol{j}$  -  $\boldsymbol{i}$ , where  $\boldsymbol{1} \leq \boldsymbol{i} < \boldsymbol{j} \leq N$ .

#### Input

The first line contains a number T ( $1 \le T \le 100$ ) number of test cases.

Each test case contains two lines:

- The first line consists a number N ( $2 \le N \le 100$ ) number of elements.
- The second line contains N numbers (  $10^6 \le A_i \le 10^6$ ).

### **Output**

For each test case print a single line contains the smallest possible sum for the corresponding test case.

## Example

input	Сору
1	
4	
20 1 9 4	
output	Сору
7	

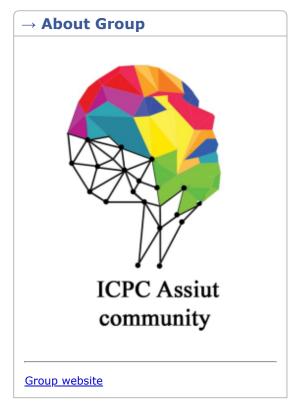
#### Note

First Case:

All possibles (i,j) where (1  $\leq$  i  $\leq$  j  $\leq$  N) are :

i = 1, j = 2 then result =  $a_1 + a_2 + j - i = 20 + 1 + 2 - 1 = 22$ .







i = 1, j = 3 then result =  $a_1 + a_3 + j - i = 20 + 9 + 3 - 1 = 31$ .

i = 1, j = 4 then result =  $a_1 + a_4 + j - i = 20 + 4 + 4 - 1 = 27$ .

i = 2, j = 3 then result =  $a_2 + a_3 + j - i = 1 + 9 + 3 - 2 = 11$ .

i = 2, j = 4 then result =  $a_2 + a_4 + j - i = 1 + 4 + 4 - 2 = 7$ .

i = 3, j = 4 then result =  $a_3 + a_4 + j - i = 9 + 4 + 4 - 3 = 14$ .

So the smallest possible result is 7.

- Sheet #9 (General medium)
- Sheet #8 (General easy)
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#### Sheet #3 (Arrays)

#### **Finished**

#### Practice



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## $\rightarrow \textbf{Virtual participation}$

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## J. Lucky Array

time limit per test: 1 second

memory limit per test: 256 megabytes

Given a number N and an array A of N numbers. Determine if the array is **lucky** or **not**.

Note: the array is lucky if the frequency (number of occurrence) of the minimum element is odd.

#### Input

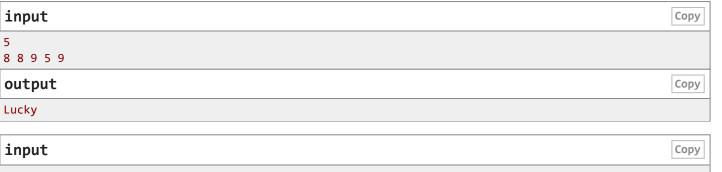
First line contains a number N ( $2 \le N \le 1000$ ) number of elements.

Second line contains N numbers ( -  $10^5 \le A_i \le 10^5$ ).

#### **Output**

Print "Lucky" (without quotes) if the frequency of the **minimum element** is **odd**, otherwise print "Unlucky" (without quotes).

#### **Examples**



5
3 3 3 5 3

output

Unlucky

#### Note







#### First Example:

minimum element is 5 and its frequency is 1 and it's ODD so the array is lucky.

#### Second Example:

minimum element is 3 and its frequency is 4 and it's EVEN so the array is not lucky.

- Sheet #9 (General medium)
- Sheet #8 (General easy)
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- Contest #2
- Sheet #2 (Loops)
- Contest #1
- Sheet #1 (Data type Conditions)

#### Sheet #3 (Arrays)

#### **Finished**

#### Practice



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## K. Sum Digits

time limit per test: 2 seconds<sup>2</sup> memory limit per test: 256 megabytes

Given a number N and an array A of N digits (not separated by space). Print the summation of these digits.

#### Input

First line contains a number N (1  $\leq N \leq 10^6$ ) number of digits.

Second line contains N digits  $(0 \le A_i \le 9)$ .

## Output

Print the **summation** of these digits.

#### **Example**

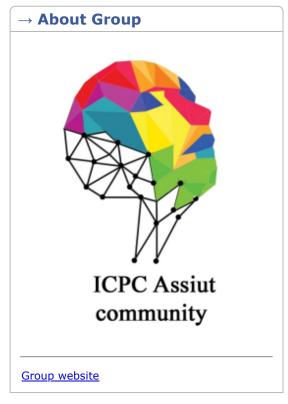


#### **Note**

First Example :

1 + 3 + 3 + 0 + 5 = 12





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## L. Max Subarray

time limit per test: 1 second 
memory limit per test: 256 megabytes

A sub-array of array is an array composed from a contiguous block of the original array's elements.

In other words A sub-array A[i-j], where  $(1 \le i \le j \le N)$ , is a sequence of integers  $A_i, A_{i+1}, ..., A_j$ .

For Example :

IF array = [1,6,3,7] then the subarrays are [1], [6], [3], [7], [1,6], [6,3], [3,7], [1,6,3], [6,3,7], [1,6,3,7].

Something like [1,3] would not be a sub-array as it's not a contiguous subsection of the original array.

Given a number N and an array A of N numbers. Print the **maximum** number of every sub-array separated by space.

## Input

First line contains a number  $T (1 \le T \le 5)$  number of test cases.

Each test case contains two lines:

- First line contains a number N ( $1 \le N \le 100$ ) number of elements.
- Second line contains N numbers (  $10^5 \le A_i \le 10^5$ ).

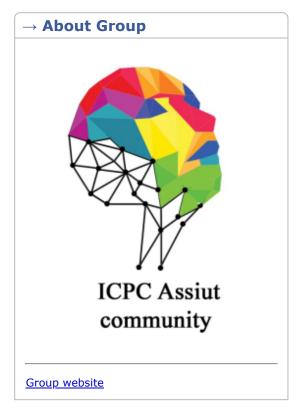
## Output

For each test case print a single line contains the **maximum** number of every sub-array separated by space.

print the answer in any order.

input	Сору
2	
4	







```
1 6 3 7 3 3 1 2 Copy

output

1 6 3 7 6 6 7 6 7 7 3 3 3 1 2 2
```

#### Note

First Case:

All Sub arrays are:

[1], [6], [3], [7], [1,6], [6,3], [3,7], [1,6,3], [6,3,7], [1,6,3,7]

- Sub-array [1] it maximum number is 1.
- Sub-array [6] it maximum number is 6.
- Sub-array [3] it maximum number is 3.
- Sub-array [7] it maximum number is 7.
- Sub-array [1,6] it maximum number is 6.
- Sub-array [6,3] it maximum number is 6.
- Sub-array [3,7] it maximum number is 7.
- Sub-array [1,6,3] it maximum number is 6.
- Sub-array [6,3,7] it maximum number is 7.
- Sub-array [1,6,3,7] it maximum number is 7.

so the maximum numbers are [1,6,3,7,6,6,7,6,7,7] you can print them in any order.

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#### **Finished**

#### Practice



#### → About Time Scaling

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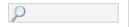
### → Virtual participation

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## M. Replace MinMax

time limit per test: 1 second

memory limit per test: 256 megabytes

Given a number N and an array A of N numbers. Print the array after doing the following operations:

- Find **minimum** number in these numbers.
- Find maximum number in these numbers.
- Swap minimum number with maximum number.

#### Input

First line contains a number N ( $2 \le N \le 1000$ ) number of elements.

Second line contains N numbers ( -  $10^5\!\le\!A_i\!\le\!10^5)$ 

It's guaranteed that all numbers are distinct.

### **Output**

Print the array after the **replacement** operation.

input	Сору
5 4 1 3 10 8	
output	Сору
4 10 3 1 8	







3/4/25, 5:46 AM Problem - N - Codeforces

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## N. Check Code

time limit per test: 1 second 
memory limit per test: 256 megabytes

Given two numbers A, B and a code S consisting of digits (0,1,2,...,9) and a symbol '-'.

Determine if the code follows the following rules or not:

- The **position** A+1 in the code is the symbol '-'.
- All other characters are one of the following digits: (0,1,2,...,9).

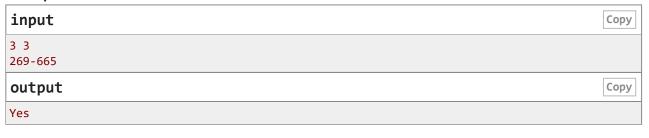
## Input

First line contains two numbers A, B ( $1 \le A, B \le 10$ ).

Second line contains S(|S| = A + B + 1) and consists of '-' and digits from 0 through 9.

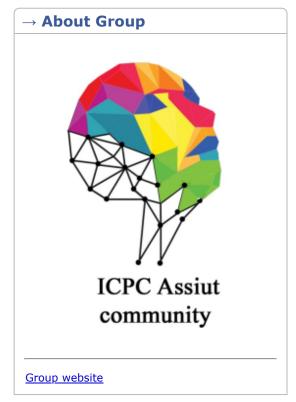
#### **Output**

Print "Yes" if the code S follows the above rules otherwise, print "No".



input	Сору





3/4/25, 5:46 AM Problem - N - Codeforces





#### Note

First example:

The (A+1)-th character of code is '-', and the other characters are digits from '0' through '9', so it follows the format.

#### → Group Contests

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#### **Finished**

## **Practice**



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### O. Fibonacci

time limit per test: 1 second 
memory limit per test: 256 megabytes

Given a number N. Print the **Fibonacci** number of N.

**Note:** In order to create the Fibonacci sequence use the following function:

- fib(1) = 0.
- fib(2) = 1.
- fib(n) = fib(n 1) + fib(n 2).

#### Input

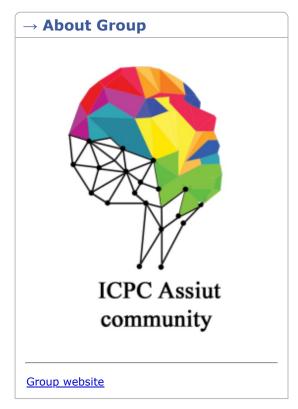
Only one line containing a number N ( $1 \le N \le 50$ ).

### **Output**

Print the **Fibonacci** number of N.







3/4/25, 5:45 AM Problem - O - Codeforces

#### output



3

#### **Note**

For more information visit Fibonacci: https://www.mathsisfun.com/numbers/fibonacci-sequence.html.

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### **Finished**

## **Practice**



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## P. Minimize Number

time limit per test: 1 second

memory limit per test: 256 megabytes

Given a number N and an array A of N **positive** numbers. Print **maximum** possible operations that can be performed.

The operation is as follows: if all numbers are **even** then divide each of them by **2** otherwise, you can not perform any more operations.

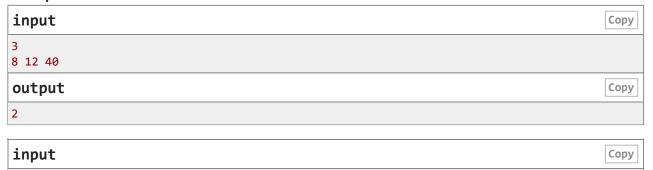
#### Input

First line contains a number N ( $1 \le N \le 200$ ) number of elements.

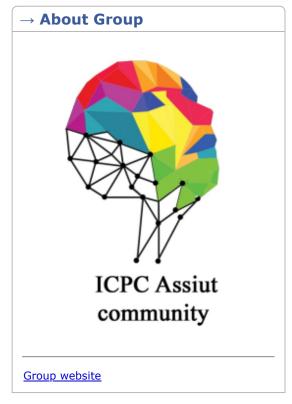
Second line contains N numbers (1  $\leq A_i \leq 10^9$ ).

#### **Output**

Print the maximum possible number of operations that can be performed.



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#### **Note**

First example:

Initially, [8,12,40] are written on the blackboard. Since all those integers are even, You can perform the operation.

After the operation is performed once, [4,6,20] are written on the blackboard. Since all those integers are again even, You can perform the operation.

After the operation is performed twice, [2,3,10] are written on the blackboard. Now, there is an odd number 3 on the blackboard, so you cannot perform the operation any more.

Thus, you can perform the operation at most twice.

Second example:

Since there is an odd number **5** on the blackboard already in the beginning, You cannot perform the operation at all.

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#### **Finished**

## **Practice**



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## Q. Count Subarrays

time limit per test: 1 second 
memory limit per test: 256 megabytes

A sub-array of array is an array composed from a contiguous block of the original array's elements.

In other words A sub-array A[i-j], where  $(1 \le i \le j \le N)$ , is a sequence of integers  $A_i, A_{i+1}, ..., A_j$ .

For Example :

IF array = [1,6,3,7] then the subarrays are [1], [6], [3], [7], [1,6], [6,3], [3,7], [1,6,3], [6,3,7], [1,6,3,7].

Something like [1,3] would not be a sub-array as it's not a contiguous subsection of the original array.

Given a number N and an array A of N numbers. Print the number of sub-arrays which are **non-decreasing**.

#### Note:

• A sub-array A[i-j] is non-decreasing if  $(A_i \leq A_{i+1} \leq A_{i+2} \leq ... \leq A_j)$ .

#### Input

First line contains a number  $T(1 \le T \le 5)$  number of test cases.

Each test case contains two lines:

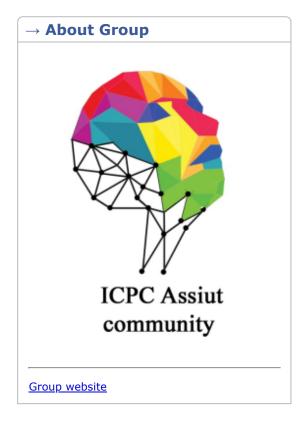
- First line contains a number  $N(1 \le N \le 10^2)$  number of elements.
- Second line contains *N* numbers (  $10^5 \le A_i \le 10^5$ )

## Output

For each test case print a single line contains the number of sub-arrays which are **non-decreasing**..

input	Сору







#### Note

First example:

All valid sub-arrays are:

- [1] , [1,4] , [4] , [2] , [3] , [5] , [2,3] , [3,5] , [2,3,5]

Second example:

Only single sub-array [5] is non-decreasing.

Note that singleton sub-arrays ( have only one element) are identically non-decreasing.

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### **Finished**

#### Practice



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## R. Permutation with arrays

time limit per test: 1 second<sup>2</sup> memory limit per test: 256 megabytes

Given a number N and two arrays A, B of N numbers. Determine if B is a **permutation** of A or **not**.

Note: A permutation is an arrangement of all or part of a set of objects.

For example: The array [2, 1, 3], [3, 2, 1] and [2, 3, 1] are permutation of the array [1, 2, 3].

### Input

First line contains a number  $N~(1 \leq N \leq 10^3)$  Number of elements.

Second line contains N numbers  $(1 \le A_i \le 10^7)$  elements of array A.

Third line contains N numbers  $(1 \le B_i \le 10^7)$  elements of array B.

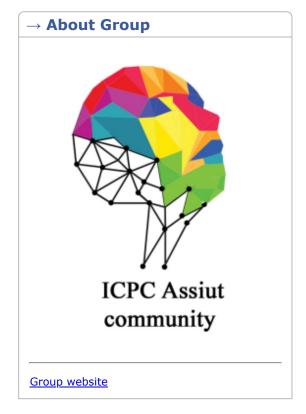
#### **Output**

Print "yes" if array B is a permutation of A otherwise, print "no" without quotations.

input	Сору
4	
4 2 3 7 2 3 4 9	
2 3 4 9	
output	Сору
no	

input	Сору
5	
5 1 1 9 3	
5 1 1 9 3 1 9 1 5 3	







output

yes

Сору

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#### **Finished**

#### Practice



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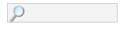
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### S. Search In Matrix

time limit per test: 2 seconds<sup>1</sup> memory limit per test: 64 megabytes

Given two numbers N and M, a 2D array of size N \* M and a number X. Determine whether X exists in the 2D array A or **not**.

#### Input

First line contains two numbers N, M ( $2 \le N$ ,  $M \le 100$ ) N donates number of rows and M donates number of columns.

Each of the next N lines will contain M numbers  $(1 \le A_i \le 10^5)$ .

Last line contains a number  $X(0 \le X \le 10^5)$  described above.

### **Output**

Print "will take number" if the number doesn't exist in the 2D array otherwise, print "will not take number".

input	Сору
2 2	
2 2 1 2	
3 4	
3	
output	Сору
will not take number	









output

will take number



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#### **Finished**

#### Practice



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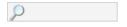
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## T. Matrix

time limit per test: 1 second

memory limit per test: 256 megabytes

Given a number N and a 2D array A of size N \* N. Print the **absolute difference** between the **summation** of its two diagonals (**primary diagonal and secondary diagonal**).

#### Input

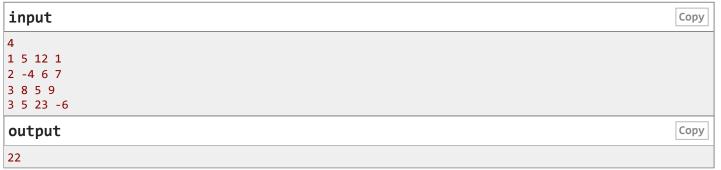
First line contains a number N ( $1 \le N \le 100$ ) described above.

Each of the next *N* lines will contain *N* numbers ( -  $100 \le A_i \le 100$ ).

### **Output**

Print the absolute difference between the summation of the matrix main diagonals.

## **Example**



#### Note

First Example:







1	5	12	1
2	-4	6	7
3	8	5	9
3	5	23	-6

# Main Diagonal Elements with colors red:

1, -4, 5, -6 and it's summation -4.

# Secondary Diagonal Elements with colors green:

1, 6, 8,3 and it's summation 18.

So the answer is | -4 - 18 | = 22.

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#### Sheet #3 (Arrays)

#### **Finished**

Practice



#### **→ About Time Scaling**

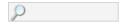
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## U. Is B a subsequence of A?

time limit per test: 1 second

memory limit per test: 256 megabytes

**a sub sequence** is a sequence that can be derived from another sequence by deleting some or no elements without changing the order of the remaining elements.

IF array = [1,6,3,7], then the some subsequences are [1,3,7], [6,7], [1], [6,3,7], [1,7].

Something like [3,1] and [6,7,1] would not be sub sequences of the array [1,6,3,7].

Given **2** numbers N, M and **2** arrays A consists of N numbers and B consists of M numbers. Determine whether B is a **sub-sequence** of A or **not**.

**Note:** The array B is called a **sub-sequence** of A if it's possible to **remove** zero or some elements from A to get B.

For example: if A = [1,4,7], and B is [1], [1,4], [1,7],[1,4,7] or [4,7] then B is a sub-sequence of A.

## Input

First line contains two numbers N,M  $(1 \le N \le 10^4, 1 \le M \le N)$  , the sizes of arrays A and B respectively.

Second line contains N numbers  $(1 \le A_i \le 10^9)$  elements of array A.

Third line contains M numbers  $(1 \leq B_i \leq 10^9)$  elements of array B.

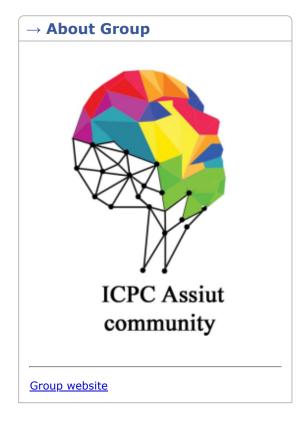
## **Output**

Print "YES" (without the quotes), if B is a sub-sequence of A otherwise, print "NO" (without the quotes).

## **Examples**

input	Сору
3 2	
3 2 1 4 7	
1 7	

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## Sheet #3 (Arrays)

## **Finished**

## Practice



## **→ About Time Scaling**

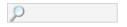
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## $\rightarrow$ Virtual participation

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# V. Frequency Array

time limit per test: 1 second

memory limit per test: 256 megabytes

Given **2** numbers N, M and an array A of N numbers. For every number from **1** to M, print how many times this number **appears** in this array.

## Input

First line contains two numbers N, M ( $1 \le N \le 10^5$ ,  $1 \le M \le 10^5$ ).

Second line contains N numbers  $(1 \le A_i \le M)$ .

## **Output**

Print M lines, the  $i_{th}$  line should contain number of times that the number i appears in A

## **Example**

input	Сору
10 5 1 2 3 4 5 3 2 1 5 3	
output	Сору
2	
2	
3	
1	
2	

#### Note

Numbers from 1 to 5 appearance are :

- 1 appears 2 times in the array.
- 2 appears **2** times in the array.
- 3 appears 3 times in the array.







- 4 appears **once** in the array.
- 5 appears 2 times in the array.

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## Sheet #3 (Arrays)

## **Finished**

## Practice



## **→ About Time Scaling**

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## $\rightarrow$ Virtual participation

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## W. Mirror Array

time limit per test: 1 second 
memory limit per test: 256 megabytes

Given two numbers N, M and a 2D array of size N \* M. Print the **inverted** array that appeared in the mirror.

## Input

First line contains two numbers N, M ( $1 \le N, M \le 100$ ) N donates number of rows and M donates number of columns.

Each of the next N lines will contain M numbers  $(1 \le A_{i,j} \le 10^9)$ .

## **Output**

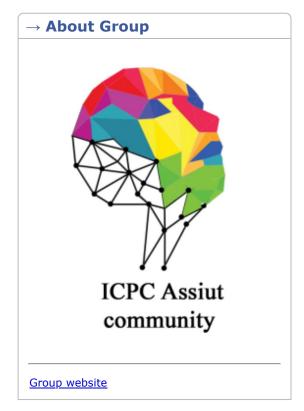
Print the inverted array.

## **Example**



## Note





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5 3 2 20 9 7 12 1 35

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## Sheet #3 (Arrays)

#### **Finished**

## Practice



## → About Time Scaling

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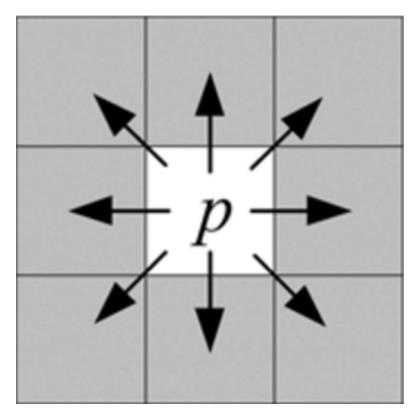
## X. 8 Neighbors

time limit per test: 1 second memory limit per test: 256 megabytes

Given two numbers N and M, a 2D array A of size N \* M which contains 'x' or '.' only and two numbers X, Y which donates a cell position in A such that X is the row number and Y is the column number.

Determine whether all neighbors of the given cell are 'x' or not.

Note: The neighbor cell is any cell that shares an edge or a corner and it should be inside 2D array.









First line contains two numbers N, M ( $2 \le N, M \le 100$ ) N donates number of rows and M donates number of columns.

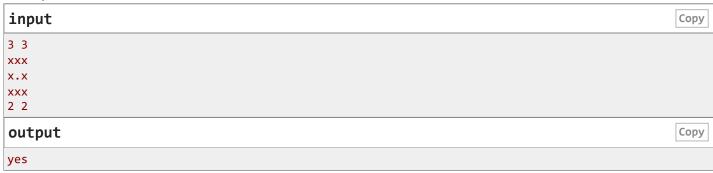
Each of the next N lines will contain M symbol can be ('.' or 'x').

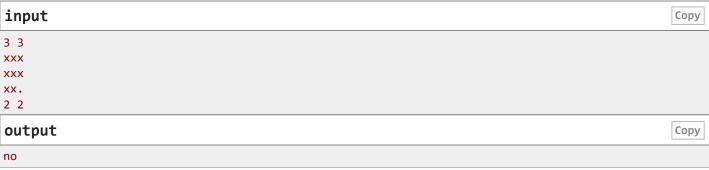
Last line contains two numbers  $X, Y \ (1 \le X \le N, 1 \le Y \le M)$ .

#### **Output**

Print "yes" if all neighbors of the given cell are 'x' otherwise, print "no" without quotations.

## **Examples**







- Sheet #9 (General medium)
- Sheet #8 (General easy)
- Sheet #7 (Recursion)
- Sheet #6 (Math Geometry)
- Sheet #5 (Functions)
- Sheet #4 (Strings)
- Contest #3.1
- Sheet #3 (Arrays)
- Contest #2
- Sheet #2 (Loops)
- Contest #1
- Sheet #1 (Data type Conditions)

# Sheet #3 (Arrays) Finished

# Practice



## **→ About Time Scaling**

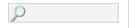
This contest uses time limits scaling policy (depending on a programming language). The system automatically adjusts time limits by the following multipliers for some languages. Despite scaling (adjustment), the time limit cannot be more than 30 seconds. Read the details by the link.

## → Virtual participation

# **Newcomers Training , Do Your Best**



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PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS STANDINGS CUSTOM INVOCATION

# Y. Range sum query

time limit per test: 1.5 seconds<sup>1</sup> memory limit per test: 256 megabytes

Given **2** numbers N and Q, an array A of N number and Q number of pairs L, R. For each query Q print a single line that contains the **summation** of all numbers from index L to index R.

#### Input

First line contains two numbers N, Q ( $1 \le N$ ,  $Q \le 10^5$ ) where N is number of elements in A and Q is number of query pairs.

Second line contains N numbers  $(1 \le A_i \le 10^9)$ .

Next Q lines contains L, R  $(1 \le L \le R \le N)$ .

## **Output**

For each query Q print a single line that contains the **summation** of all numbers from index L to index R.

## **Examples**

input

input	Сору
6 3 6 4 2 7 2 7	
1 3 3 6	
output	Сору
12 18	
28	







Copy

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

output

Copy

12
7
15
```

- Sheet #9 (General medium)
- Sheet #8 (General easy)
- Sheet #7 (Recursion)
- Sheet #6 (Math Geometry)
- Sheet #5 (Functions)
- Sheet #4 (Strings)
- Contest #3.1
- Sheet #3 (Arrays)
- Contest #2
- Sheet #2 (Loops)
- Contest #1
- Sheet #1 (Data type Conditions)

## Sheet #3 (Arrays)

#### **Finished**

## Practice



## → About Time Scaling

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## $\rightarrow$ Virtual participation

3/4/25, 5:46 AM Problem - Z - Codeforces

# **ICPC Assiut University Community**

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PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS STANDINGS CUSTOM INVOCATION

## Z. Binary Search

time limit per test: 1 second 
memory limit per test: 256 megabytes

Given 2 numbers N and Q, array A of N numbers and Q queries each one contains a number X.

For each query print a single line that contains "found" if the number X exists in array A otherwise, print "not found".

## Input

First line contains two numbers N, Q ( $1 \le N$ ,  $Q \le 10^5$ ).

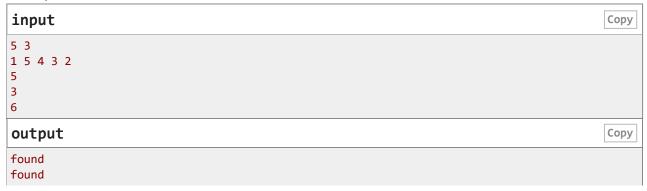
Second line contains N numbers  $(1 \le A_i \le 10^9)$ .

Next Q lines contains X ( $1 \le X \le 10^9$ ).

## **Output**

Print the answer for each query in a single line.

## **Example**







3/4/25, 5:46 AM Problem - Z - Codeforces

not found

## $\rightarrow$ Group Contests

- Sheet #10 (General Hard)
- Sheet #9 (General medium)
- Sheet #8 (General easy)
- Sheet #7 (Recursion)
- Sheet #6 (Math Geometry)
- Sheet #5 (Functions)
- Sheet #4 (Strings)
- Contest #3.1
- Sheet #3 (Arrays)
- Contest #2
- Sheet #2 (Loops)
- Contest #1
- Sheet #1 (Data type Conditions)

## Sheet #3 (Arrays)

## **Finished**

## **Practice**



## → About Time Scaling

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