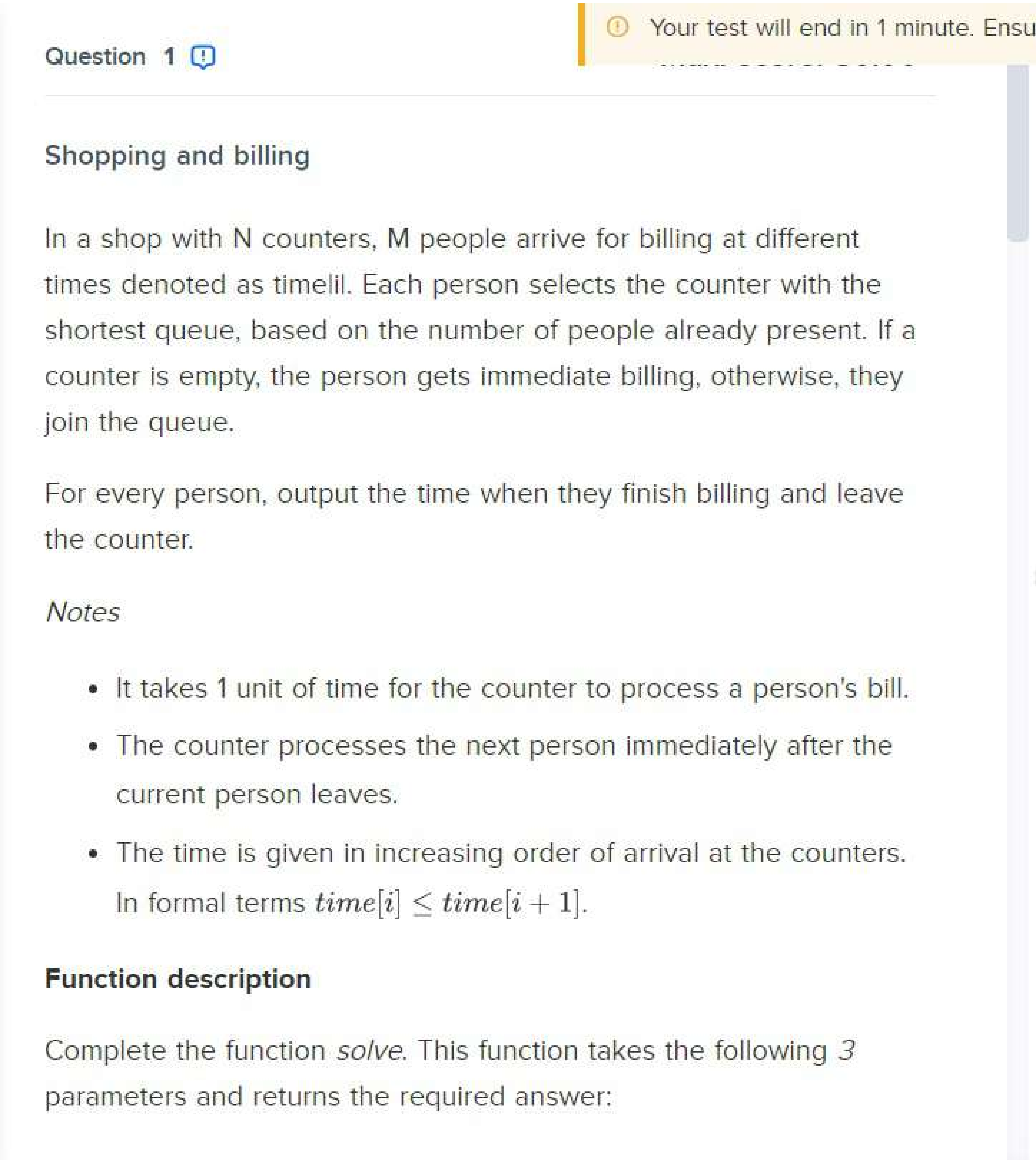


Question 1

Your test will end in 1 minute. Ensu

Shopping and billing

In a shop with N counters, M people arrive for billing at different times denoted as timelil. Each person selects the counter with the shortest queue, based on the number of people already present. If a counter is empty, the person gets immediate billing, otherwise, they join the queue.

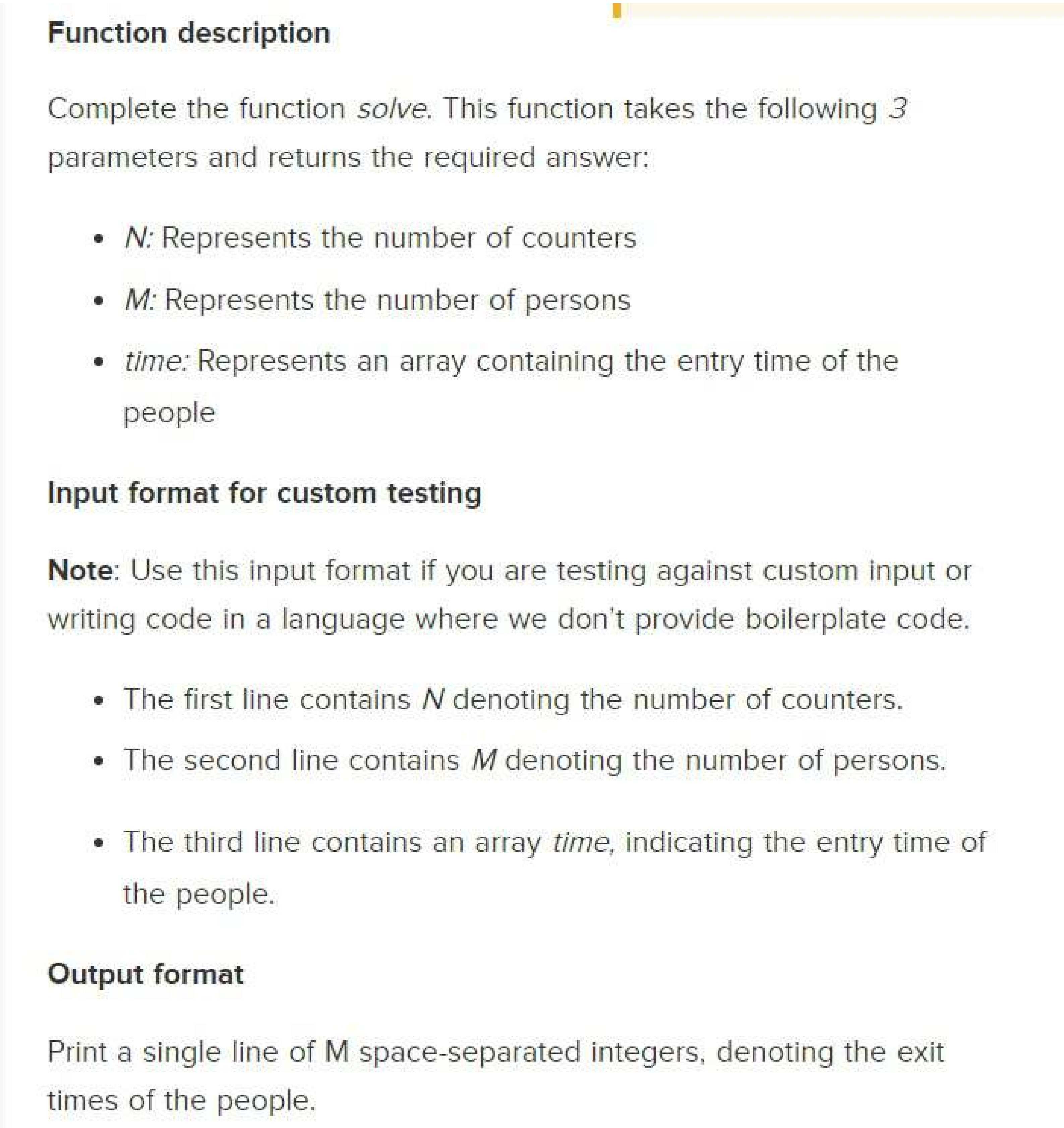
For every person, output the time when they finish billing and leave the counter.

Notes

- It takes 1 unit of time for the counter to process a person's bill.
- The counter processes the next person immediately after the current person leaves.
- The time is given in increasing order of arrival at the counters. In formal terms $time[i] \leq time[i+1]$.

Function description

Complete the function *solve*. This function takes the following *3* parameters and returns the required answer:



Function description

Complete the function *solve*. This function takes the following *3* parameters and returns the required answer:

- *N:* Represents the number of counters
- *M:* Represents the number of persons
- *time:* Represents an array containing the entry time of the people

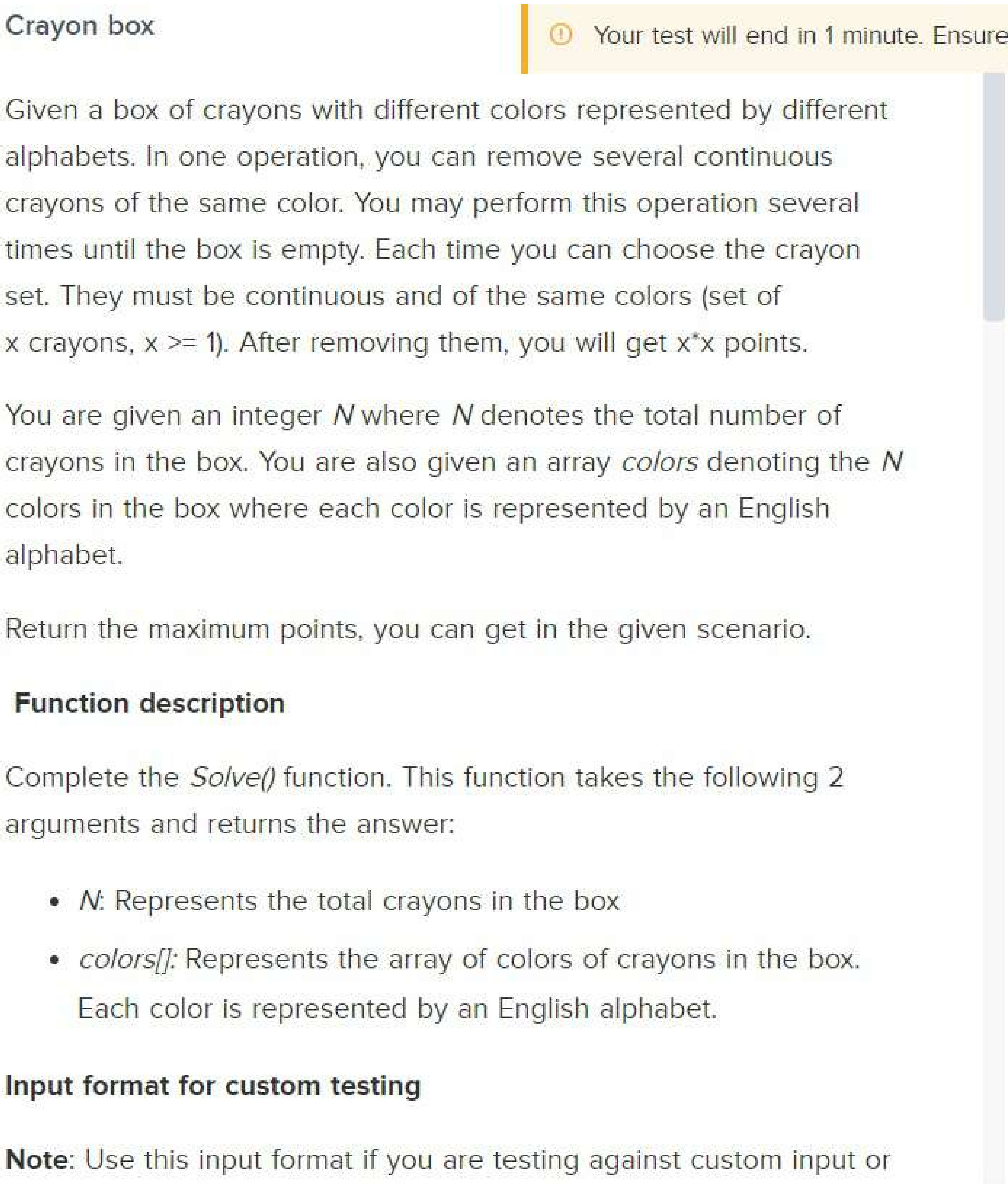
Input format for custom testing

Note: Use this input format if you are testing against custom input or writing code in a language where we don't provide boilerplate code.

- The first line contains *N* denoting the number of counters.
- The second line contains *M* denoting the number of persons.
- The third line contains an array *time*, indicating the entry time of the people.

Output format

Print a single line of M space-separated integers, denoting the exit times of the people.



Crayon box

ⓘ Your test will end in 1 minute. Ensure

Given a box of crayons with different colors represented by different alphabets. In one operation, you can remove several continuous crayons of the same color. You may perform this operation several times until the box is empty. Each time you can choose the crayon set. They must be continuous and of the same colors (set of x crayons, x >= 1). After removing them, you will get x*x points.

You are given an integer *N* where *N* denotes the total number of crayons in the box. You are also given an array *colors* denoting the *N* colors in the box where each color is represented by an English alphabet.

Return the maximum points, you can get in the given scenario.

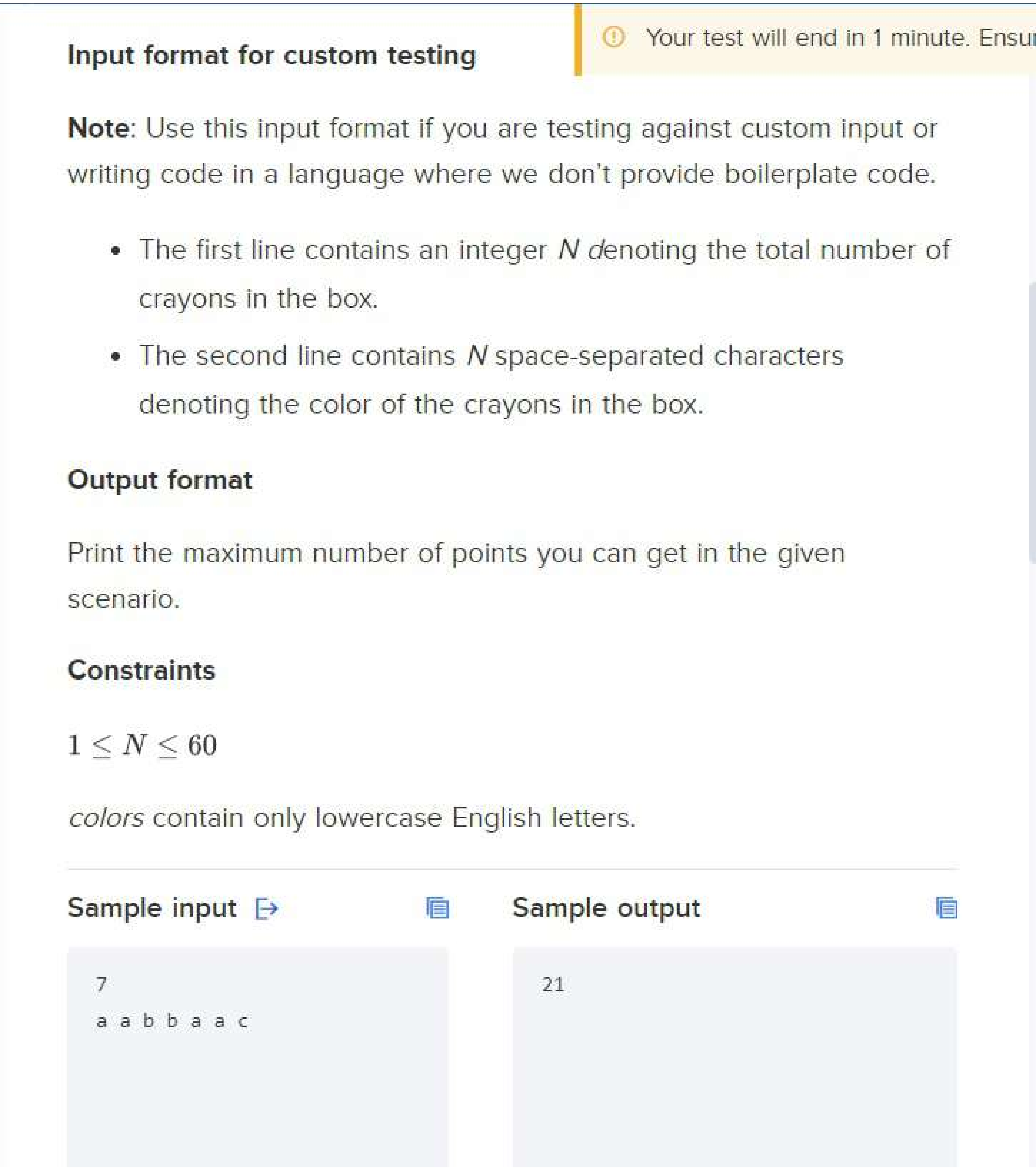
Function description

Complete the *Solve()* function. This function takes the following 2 arguments and returns the answer:

- *N*: Represents the total crayons in the box
- *colors[]:* Represents the array of colors of crayons in the box. Each color is represented by an English alphabet.

Input format for custom testing

Note: Use this input format if you are testing against custom input or



Your test will end in 1 minute. Ensu

Input format for custom testing

Note: Use this input format if you are testing against custom input or writing code in a language where we don't provide boilerplate code.

- The first line contains an integer *N denoting* the total number of crayons in the box.
- The second line contains *N* space-separated characters denoting the color of the crayons in the box.

Output format

Print the maximum number of points you can get in the given scenario.

Constraints

$1 \leq N \leq 60$

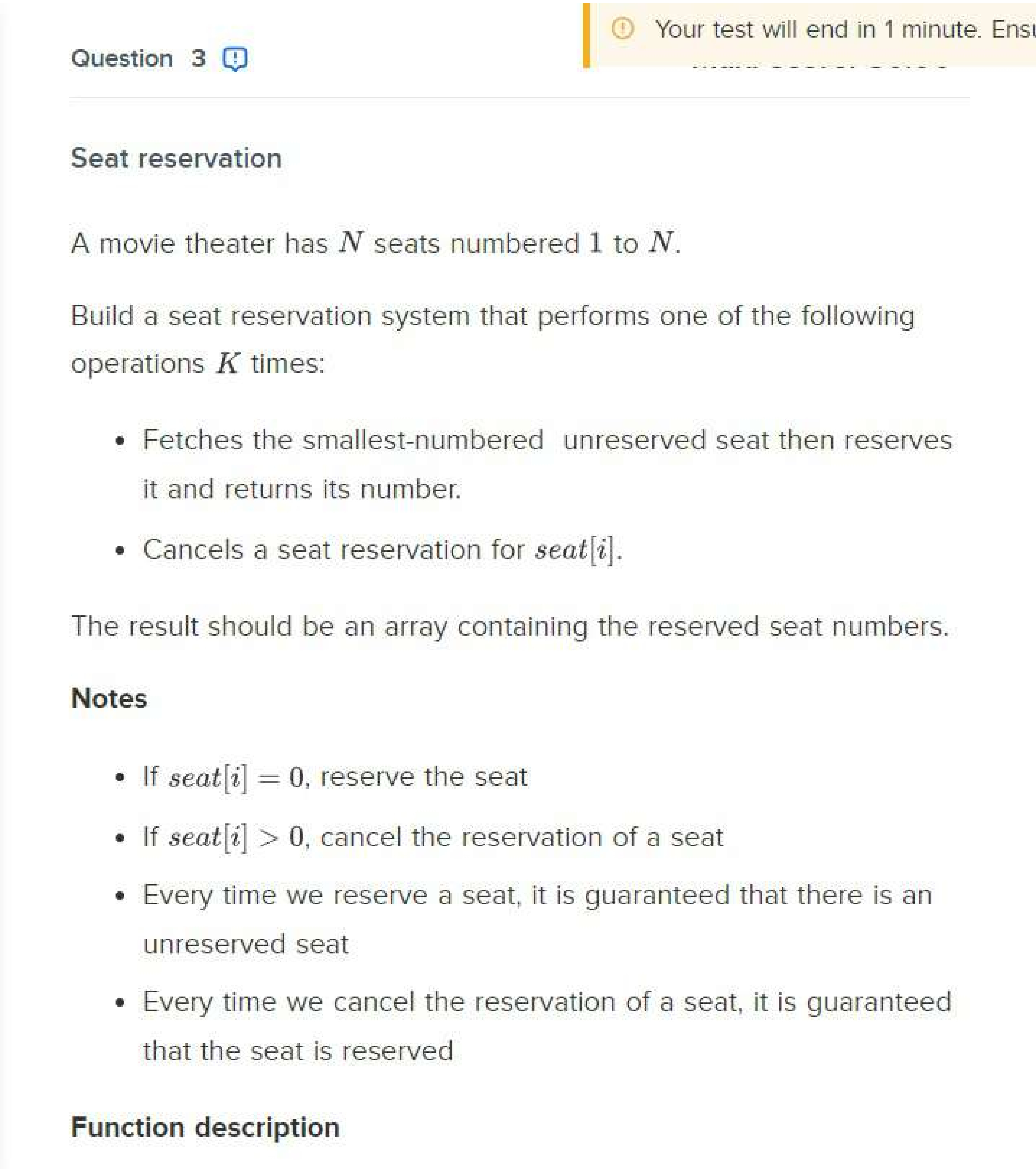
colors contain only lowercase English letters.

Sample input

```
7
a a b b a a c
```

Sample output

```
21
```



Question 3

ⓘ Your test will end in 1 minute. Ensu

Seat reservation

A movie theater has N seats numbered 1 to N.

Build a seat reservation system that performs one of the following operations K times:

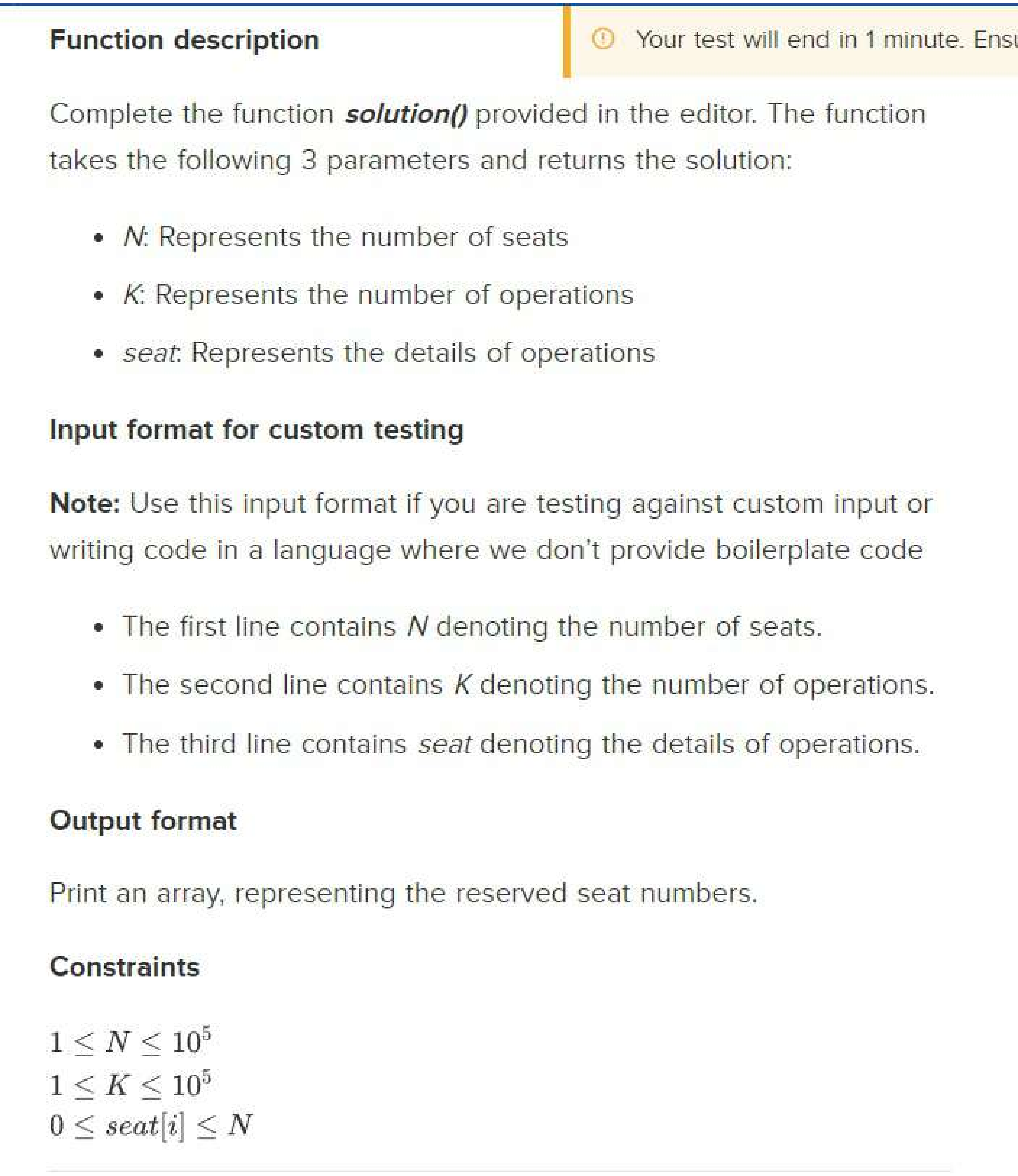
- Fetches the smallest-numbered unreserved seat then reserves it and returns its number.
- Cancels a seat reservation for $seat[i]$.

The result should be an array containing the reserved seat numbers.

Notes

- If $seat[i] = 0$, reserve the seat
- If $seat[i] > 0$, cancel the reservation of a seat
- Every time we reserve a seat, it is guaranteed that there is an unreserved seat
- Every time we cancel the reservation of a seat, it is guaranteed that the seat is reserved

Function description



Function description

ⓘ Your test will end in 1 minute. Ensu

Complete the function ***solution()*** provided in the editor. The function takes the following 3 parameters and returns the solution:

- *N*: Represents the number of seats
- *K*: Represents the number of operations
- *seat*: Represents the details of operations

Input format for custom testing

Note: Use this input format if you are testing against custom input or writing code in a language where we don't provide boilerplate code

- The first line contains *N* denoting the number of seats.
- The second line contains *K* denoting the number of operations.
- The third line contains *seat* denoting the details of operations.

Output format

Print an array, representing the reserved seat numbers.

Constraints

$1 \le N \le 10^5$
$1 \le K \le 10^5$
$0 \le seat[i] \le N$