

## Problem Statement

Nao's boyfriend has forgotten and dumped her and Nao is having a hard time to choose a new boyfriend due to her extremely good looks. Thus she is organising a party to decide who she wants to choose to be the love of her life. She invited  $N$  number of boys the candidates to her party. Not only is Nao good looking she is also very smart and created a game to aid her in choosing her boyfriend.

The game is played like this The candidates stand in a straight row and they are named from 0 to  $N-1$ . Each candidate is asked to choose a positive number and that number will decide who gets kicked out of the game and loses the chance of becoming Nao's boyfriend . This process is repeated  $M$  times until Nao is satisfied with the remaining number of contestants and stops asking for numbers. She will then choose a boyfriend manually from the remaining candidates.

For example if there are 7 candidates candidates 0-6 the first candidate 0 will choose a number  $Y$  which indicates that the  $Y$ th candidate will be eliminated.

For instance if he choose the number 5 the 5th candidate who is candidate 4 will be eliminated from the game.

However if the number exceeds the number of people left like if candidate 0 chooses the number 10 the counting will restart from the first candidate. so after counting to candidate 6 the counting will go back to 0. Hence candidate 2 will be eliminated.

## Subtasks

Subtask	Score	Restrictions
1	20	$1 \leq N \leq 10$ $1 \leq M \leq 10$ $1 \leq Y_i \leq 1000$
2	20	$1 \leq N \leq 1000$ $1 \leq M \leq 1000$ $1 \leq Y_i \leq 1000$
3	20	$1 \leq N \leq 1000$ $1 \leq M \leq 1000$
4	20	$1 \leq N \leq 10^5$ $1 \leq M \leq 10^5$
5	20	<b>No further restrictions</b>
All	-	$1 \leq N \leq 10^6$ $1 \leq M \leq 10^6$ $1 \leq Y_i \leq 10^9$ $M \leq N$

## Limits

Time: 1s

Memory: 128MB

### **Input**

The first line contains 2 integers the number of candidates **N** and the number of times Nao asked for a number **M**. The next line contains m positive numbers indicating the numbers that the candidates chose.

### **Output**

One line representing the candidates that are left in the line after the rounds of elimination.

#### **Sample input**

5 3

8 3 5

#### **Sample output**

0 4

#### **Reason for output**

The candidates will be labelled 0 to 4.

After the first round of elimination candidate 2 is eliminated (0 1 2 3 4 0 1 **2**).

After the second round of elimination candidate 3 is eliminated (0 1 **3**).

After the third round of elimination candidate 1 is eliminated (0 1 4 0 **1**).

Therefore only candidates 0 and 4 are left and Nao will choose a winner from the two.