

Save the Prisoner!

A jail has a number of prisoners and a number of treats to pass out to them. Their jailer decides the fairest way to divide the treats is to seat the prisoners around a circular table in sequentially numbered chairs. A chair number will be drawn from a hat. Beginning with the prisoner in that chair, one candy will be handed to each prisoner sequentially around the table until all have been distributed.

The jailer is playing a little joke, though. The last piece of candy looks like all the others, but it tastes *awful*. Determine the chair number occupied by the prisoner who will receive that candy.

Example

$$n = 4$$

$$m = 6$$

$$s = 2$$

There are **4** prisoners, **6** pieces of candy and distribution starts at chair **2**. The prisoners arrange themselves in seats numbered **1** to **4**. Prisoners receive candy at positions **2, 3, 4, 1, 2, 3**. The prisoner to be warned sits in chair number **3**.

Function Description

Complete the *saveThePrisoner* function in the editor below. It should return an integer representing the chair number of the prisoner to warn.

saveThePrisoner has the following parameter(s):

- *int n*: the number of prisoners
- *int m*: the number of sweets
- *int s*: the chair number to begin passing out sweets from

Returns

- *int*: the chair number of the prisoner to warn

Input Format

The first line contains an integer, *t*, the number of test cases.

The next *t* lines each contain **3** space-separated integers:

- *n*: the number of prisoners
- *m*: the number of sweets
- *s*: the chair number to start passing out treats at

Constraints

- $1 \leq t \leq 100$
- $1 \leq n \leq 10^9$

- $1 \leq m \leq 10^9$

- $1 \leq s \leq n$

Sample Input 0

```
2
5 2 1
5 2 2
```

Sample Output 0

```
2
3
```

Explanation 0

In the first query, there are $n = 5$ prisoners and $m = 2$ sweets. Distribution starts at seat number $s = 1$. Prisoners in seats numbered 1 and 2 get sweets. Warn prisoner 2.

In the second query, distribution starts at seat 2 so prisoners in seats 2 and 3 get sweets. Warn prisoner 3.

Sample Input 1

```
2
7 19 2
3 7 3
```

Sample Output 1

```
6
3
```

Explanation 1

In the first test case, there are $n = 7$ prisoners, $m = 19$ sweets and they are passed out starting at chair $s = 2$. The candies go all around twice and there are 5 more candies passed to each prisoner from seat 2 to seat 6.

In the second test case, there are $n = 3$ prisoners, $m = 7$ candies and they are passed out starting at seat $s = 3$. They go around twice, and there is one more to pass out to the prisoner at seat 3.