Problem G
Counting-out Game

Time limit: 5 seconds
Memory limit: 256 megabytes

Problem Description

The following Python 3 program is too slow to pass the time limit.

```
#!/usr/bin/env python3
ncases = int(input())
while ncases>0:
    ncases -= 1
    n, k = [int(x) for x in input().split()]
    s = [int(x) for x in input().split()]
    pos = k
    while len(s)>1:
        step = s[pos]
        s = s[:pos]+s[pos+1:]
        pos += step-1
        pos %= len(s)
    print(s[0])
```

The following C program still cannot pass the time limit.

```
#include<stdio.h>

int main(){
    int ncases;
    scanf("%d",&ncases);
    while(ncases-->0) {
        int n, k, i, pos, step, s[100000];
        scanf("%d%d",&n,&k);
        for(i=0; i<n; i++)
            scanf("%d",&s[i]);
        pos=k;
        while(n-->1) {
            step = s[pos];
            for(i=pos; i<n; i++)
                s[i]=s[i+1];
            pos += step-1;
            pos %= n;
        }
        printf("%d\n",s[0]);
    }
    return 0;
}
```

Write a faster program to pass the time limit.

Input Format

The first line of the input contains an integer t ($t \leq 25$). Each test case consists of two lines. On the first line, there are two integer n ($n \leq 10^5$) and k ($0 \leq k < n$) separated by a blank. n is the number of person, and k is the index of person removed first. On the second line, there are n positive integers $s_1, \ldots, s_n$ where $0 < s_i \leq 10^9$ for $i \in \{1, \ldots, n\}$.

Output Format

You should generate the same output of the program in the problem description.

Sample Input

```
2
5 2
1 2 3 1 2
10 3
1 2 1 2 1 2 1 2 3 2
```

Sample Output

```
1
1
```