

## Problem Survivor

**Input File:** SuvivorIn.txt

**Output File:** SuvivorOut.txt

**Project File:** Survivor

The latest reality-TV gimmick has stranded  $n$  survivors and a referee monkey, Zimba, on Grand Cayman Island. The survivors decide to gather all of the  $m$  coconuts on the island into one pile. That night while they are sleeping, the first survivor wakes up and decides to take his portion of the coconuts. He divides the coconuts into  $n$  equal piles of whole coconuts (leaving perhaps a few remaining) and hides one of the piles. He puts the other  $n-1$  piles (and the remainders) back into one large pile and buys Zimba's silence with one of the coconuts from the large pile. The first survivor then goes back to sleep. Each of the other survivors in turn wakes up and follows the same routine. Write a program to determine how many coconuts remain after all of the survivors are done with their late night chicanery.

### Inputs

The input file will consist of a sequence of integers  $n$  and  $m$ , one number per line. The input will terminate with  $n=0$  and  $m=0$ .

### Outputs

Your program should output one line, for each  $n$  and  $m$  pair, that gives the number of coconuts remaining, with an appropriate label (see below).

### Sample input

```
3
106
5
14
10
3000
0
0
```

### Sample output

```
The number of coconuts remaining is 30
The number of coconuts remaining is 3
The number of coconuts remaining is 1043
```