SPOJ Problem Set (classical)

4557. Musical Chairs

Problem code: ANARC08H

In the traditional game of Musical Chairs, N + 1 children run around N chairs (placed in a circle) as long as music is playing. The moment the music stops, children run and try to sit on an available chair. The child still standing leaves the game, a chair is removed, and the game continues with N children. The last child to sit is the winner.
In an attempt to create a similar game on these days' game consoles, you modify the game in the following manner: N Children are seated on N chairs arranged around a circle. The chairs are numbered from 1 to N . Your program pre-selects a positive number D . The program starts going in circles counting the children starting with the first chair. Once the count reaches D , that child leaves the game, removing his/her chair. The program starts counting again, beginning with the next chair in the circle. The last child remaining in the circle is the winner.

[IMAGE]

For example, consider the game illustrated in the figure above for N = 5 and D = 3 . In the figure, the dot indicates where counting starts and × indicates the child leaving. Starting off, child #3 leaves the game, and counting restarts with child #4. Child #1 is the second child to leave and counting restart with child #2 resulting in child #5 leaving. Child #2 is the last to leave, and child #4 is the winner.
Write a program to determine the winning child given both N and D .

Input

Your program will be tested on one or more test cases. Each test case specifies two positive integers N and D on a single line, separated by one or more spaces, where N, D < 1,000,000 .
The last line of the input file contains two 0's and is not part of the test cases.

Output

For each test case, write the winner using the following format:
N D W
Where N and D are as above, is a space character, and W is the winner of that game.

Example

Input:
```
5 3
7 4
0 0
```

Output:
```
5 3 4
7 4 2
```

Added by: Ahmed Aly
Date: 2009-07-04
Time limit: 15s
Source limit:50000B
Languages: All
Resource: ANARC 2008