

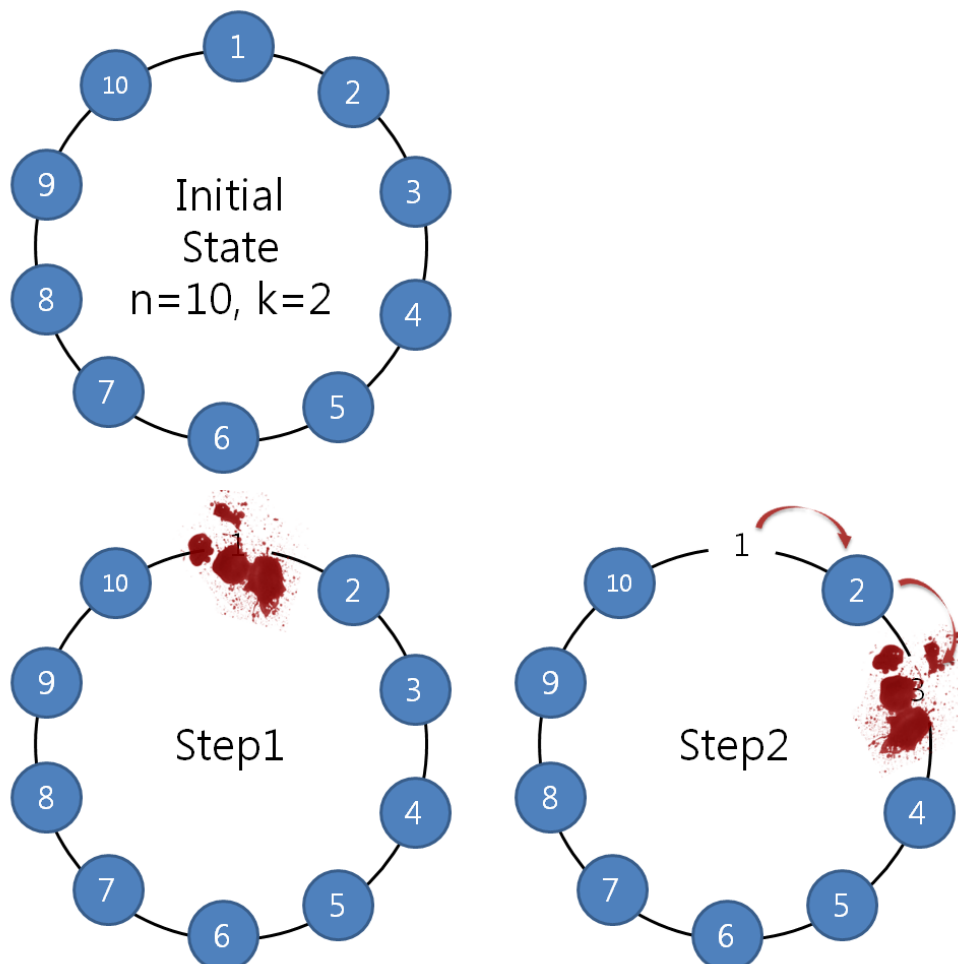
Problem C: Survival

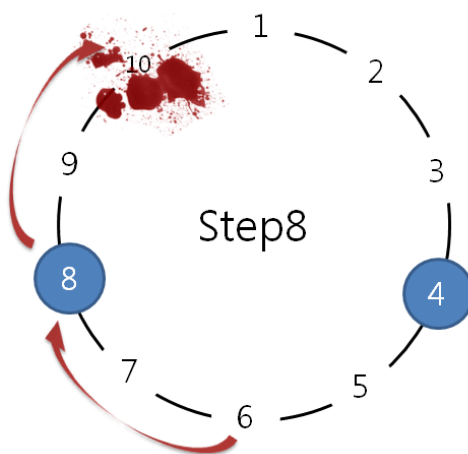
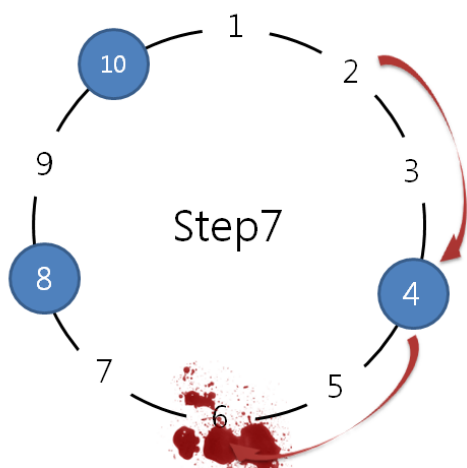
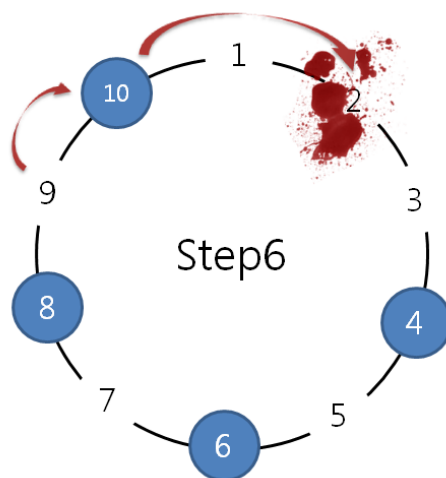
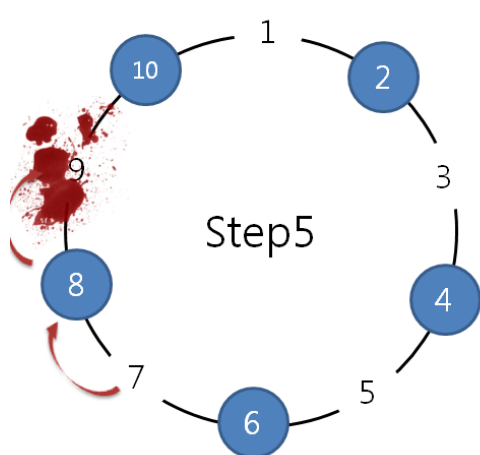
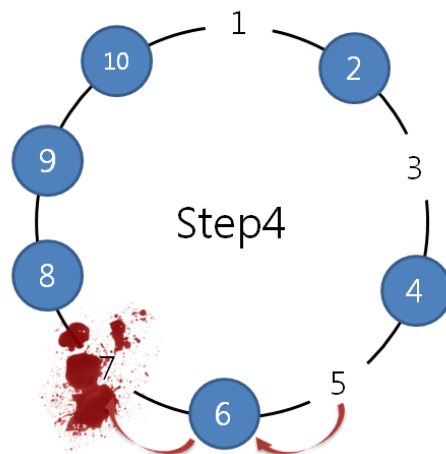
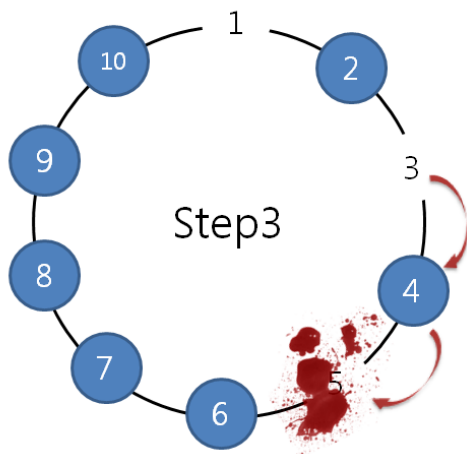
Description

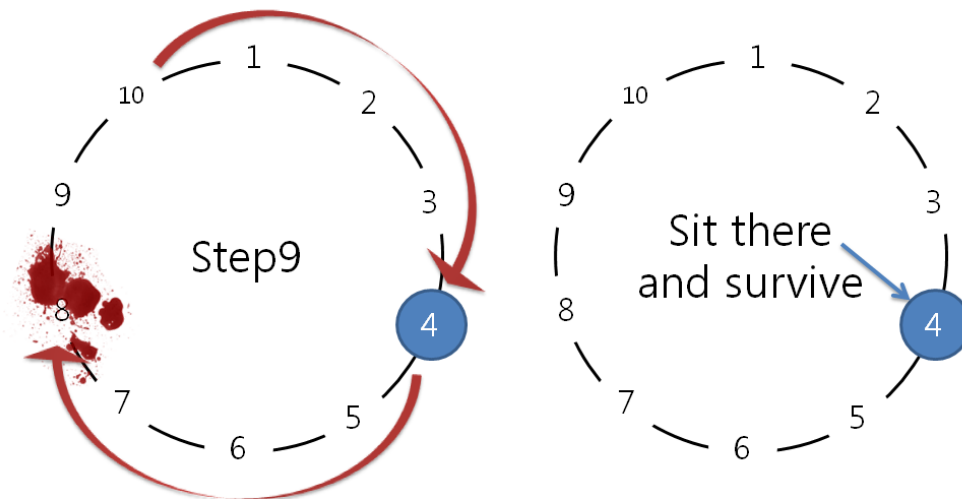
While travelling around the world with $n-1$ people on a boat, your boat got shipwrecked and all of you floated onto an inhabited island. As not even a glimpse of hope was available for the people, all of you decide to die altogether.

Everyone sits around in a circle, and each person is numbered in clockwise direction, from 1 to n . Person number 1 takes his life first. Afterwards, the k -th person from the last dead person in clockwise direction will die.

This is the example for $n=10$ and $k=2$







However, you believe there could be a way to survive and do not wish to die. Find the position you need to sit at in order to survive alone in the circle.

Input

Your program is to read from standard input. The input consists of T test cases. The number of test cases T is given in the first line of input. For each case you are given two integers, n and k on a single line ($1 \leq k < n \leq 1000$), separated by a space.

Output

Your program is to write to standard output. For each test case, you should print which position will let you survive on a single line.

Sample

Input	Output
3	4
10 2	3
5 4	1000
1000 1	