

Problem B. Board Game

Source file name: board.c, board.cpp, board.java
Input: Standard
Output: Standard
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Toby has a new board game, this board contains a total of N chambers numbered from 1 to N arranged in a circle on the board, this is, chamber i is connected to chamber $i + 1$ for all $1 \leq i \leq N$ and in order to complete the circle chambers N and 1 are connected.

The board game contains also a sphere that once it's dropped to one of the chambers it will start moving through the chambers following the described connections. For example If you drop the ball on chamber 3 it will move to chamber 4 and then to chamber 5 and so on until it gets to the chamber N to continue it's path through chamber 1. The ball will stop only if it finds a blocked chamber.

Since Toby is not working properly because he is playing a lot with his new game you have taken M blocks that you will use to block the chambers on Toby's board. You don't want Toby to witness you are blocking the roads so you proceed to throw the blocks one by one while he is distracted until each block is blocking one chamber into the board, you are so good throwing blocks that there is no chamber containing more than one block.

Suddenly you realized that maybe the ball will not stop as quick as you want, so you start to see the ball moving on the board and start remembering your math classes. Can you count how many different ways you could have put the blocks on the chambers such that the ball will stop between chambers t_1 and t_2 considering the ball started moving from chamber 1?

Input

The input consist of several test cases. Each test case consists of a line containing the numbers N , M , t_1 and t_2 . The end of the test cases is given by the end of file (EOF).

- $1 \leq N \leq 10^6$
- $1 \leq M \leq N$
- $1 \leq t_1 < t_2 \leq N$

Output

For each test case print in one line the requested answer modulo $p = 10^9 + 7$.

Example

Input	Output
5 1 1 2	2
5 2 1 2	7
10 4 6 9	5