

Problem A.

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 256 megabytes

The road network is an **infinite** 4-connected grid map, Farmer John is driving his broken car from (s_x, s_y) to repair station (t_x, t_y) . The start location and repair station are in different places, and $t_x \geq s_x, t_y \geq s_y$.

At the time 0, Farmer John is at (s_x, s_y) and start driving, the speed of car is 1 cell per second. Due to some mechanical issues, the broken car **can not stop** until reaching the repair station, and Farmer John has to change the direction in every m seconds.

For example, he is free to change or not change direction from 1 to $m - 1$ seconds, but he has to change direction at the m second, and so on.

What's the minimum time for Farmer John to reach the repair location?

Input

The first line contains two integers m ($1 \leq m \leq 100$).

The second line contains two integers $s_x s_y$ ($1 \leq s_x, s_y \leq 100$), the coordinate of the start location.

The third line contains two integers $t_x t_y$ ($1 \leq t_x, t_y \leq 100$), the coordinate of the repair station.

Output

The output contains only one line, an integer T , the minimum time to reach the repair location.