Magic Chess Piece

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

Given a grid consisting of n rows and m columns. Each cell (r, c) contains a number determined by the following formula (where r is the row number, c is the column number, and both rows and columns are numbered starting from 1):

$(n + m + c + \lfloor \frac{r^2}{c} \rfloor + \lfloor \frac{c^3}{r^2} \rfloor) \bmod 4$;

Here, $\lfloor x \rfloor$ denotes rounding x down to the nearest integer, and $x \bmod y$ is the remainder of the division of x by y.

In the cell with coordinates (r_1, c_1), there is a magical chess piece. The way the magical chess piece moves depends on the cell it is moving from. If the cell contains the number 0 — the piece moves like a knight, 1 — like a bishop, 2 — like a rook, and 3 — like a queen.

Determine the number of ways to move the piece from the starting cell (r_1, c_1) to the final cell (r_2, c_2) in no more than 3 moves. Two ways are considered different if they involve a different number of moves, or if in one way the piece moves to a different cell at any specific move. The final cell may be visited multiple times in a single way.

Input

The first line contains the integers n and m ($1 \le n, m \le 10^5$). The second line contains the integers r_1, c_1, r_2, c_2 ($1 \le r_1, r_2 \le n$; $1 \le c_1, c_2 \le m$). The coordinates (r_1, c_1) and (r_2, c_2) are distinct.

Output

Output a single integer — the answer to the problem.

Example

standard input	standard output
5 5 2 4 5 5	19

Note

In the first example, the grid looks as follows:

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10020
30032
00331
30321
00221
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The chess pieces move according to the following rules:

- The knight moves two squares horizontally and then one square vertically, or one square horizontally and then two squares vertically.
- The bishop moves to any other cell that is on the same diagonal.
- The rook moves to any other cell that is in the same row or column.
- The queen can move as either a bishop or a rook.