Akari Counting

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	1024 megabytes

You are given integers H, W, A, B, C, D.

There is a grid with H rows and W columns. The cell in the i-th row from the top and the j-th column from the left is called cell (i, j).

Each cell is colored either white or black. Cell (i, j) is black if and only if $A \leq i \leq B$ and $C \leq j \leq D$; otherwise, it is white.

You place lights on some of the white cells of this grid. A light placed on a white cell (i, j) **illuminates** all white cells that satisfy both of the following conditions:

- They are in the same row or the same column as cell (i, j).
- There is no black cell between cell (i, j) and that cell.

A placement of lights is said to be **valid** if it satisfies the following two conditions:

- Every white cell is illuminated by at least one light.
- No cell that has a light is illuminated by any other light.

Find the number of valid placements of lights, modulo 998244353.

Input

The input is given in the following format:

H W A B C D

- All input values are integers.
- $1 \leq A \leq B \leq H \leq 5 \times 10^5$
- $1 \leq C \leq D \leq W \leq 5 \times 10^5$
- $(A, B) \neq (1, H)$
- $(C, D) \neq (1, W)$

Output

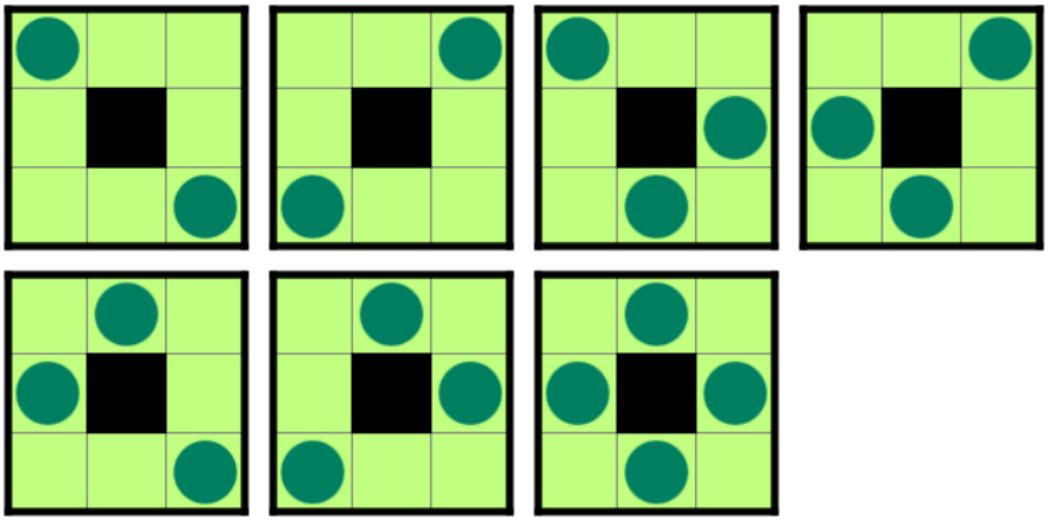
Output the answer.

Examples

standard input	standard output
3 3 2 2 2 2	7
2 3 1 1 1 2	3
500000 500000 100000 200000 100000 250000	360665510

Note

In the first example, there are exactly 7 valid placements of lights. Cells with lights and white cells illuminated by lights are shown in green in the figures.



Some placements do not satisfy the conditions: in the left case, there exists at least one white cell that is not illuminated by any light; in the right case, there is a white cell with a light that is illuminated by another light. Both cases are invalid.