# Softuniada 2019

## Rooks

On a rectangular chess board with **X rows** and **Y columns**, **N rooks** should be placed in such a way, so that **each** of **them** is **attacked** by **at most 1** other **rook**. One rook is attacked by another rook, if they are placed on the **same row**, or on the **same column**, and there are **no** **other** **rooks** **between** them.

Write a program, which finds the **count** of **all possible** **ways** that these N rooks **can be placed** on the X / Y chess board, so that they **cover** the **conditions** **specified** **above**. Due to the fact, that the answer may be a **very big number**, always **print** the **remainder** of the **division** of the **actual** **count** with 1,000,001.

### Input

The input consists of 3 input lines:

* On the first line you will receive **X** – the **rows** of the chessboard
* On the second line you will receive **Y** – the **columns** of the chessboard
* On the third line you will receive **N** – the **count** of **rooks** that should be placed on the chessboard

### Output

The output should consist of a **single line**, containing the **remainder** of the **division** of the **desired count**, with 1,000,001.

### Constraints

* **X**, **Y** and **N** will be integers in **range [1, 100]**.
* Allowed working time / memory: to be defined.

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comment** |
| 4  6  2 | 276 | There are only 2 rooks here and all ways they can be placed are valid. The answer is: (4 \* 6) \* (4 \* 6 - 1) / 2 = 276. |
| 2  3  3 | 6 |  |
| 1  100  3 | 0 | We cannot place 3 rooks on one row. |
| 9  6  10 | 340200 |  |
| 98  99  100 | 951454 | The actual count is:  477162926599652378693202655573012530649120970956713215 413593915639833497991226651408072530190805115228714441 793077869034810249957308229677723184016455888816349376 99689344614655096884769587200000000000000000000000 |