# C. Games with Rectangle

In this task Anna and Maria play the following game. Initially they have a checkered piece of paper with a painted $n \times m$ rectangle (only the border, no filling). Anna and Maria move in turns and Anna starts. During each move one should paint inside the last-painted rectangle a new lesser rectangle (along the grid lines). The new rectangle should have no common points with the previous one. Note that when we paint a rectangle, we always paint only the border, the rectangles aren't filled.

Nobody wins the game — Anna and Maria simply play until they have done $k$ moves in total. Count the number of different ways to play this game.

## Input

The first and only line contains three integers: $n, m, k$ ($1 \le n, m, k \le 1000$).

## Output

Print the single number — the number of the ways to play the game. As this number can be very big, print the value modulo $1000000007$ ($10^9 + 7$).

## Examples

input
```
3 3 1
```
output
```
1
```

input
```
4 4 1
```
output
```
9
```

input
```
6 7 2
```
output
```
75
```

## Note

Two ways to play the game are considered different if the final pictures are different. In other words, if one way contains a rectangle that is not contained in the other way.

In the first sample Anna, who performs her first and only move, has only one possible action plan — insert a $1 \times 1$ square inside the given $3 \times 3$ square.

In the second sample Anna has as much as 9 variants: 4 ways to paint a $1 \times 1$ square, 2 ways to insert a $1 \times 2$ rectangle vertically, 2 more ways to insert it horizontally and one more way is to insert a $2 \times 2$ square.