Sherlock and the Maze

Watson gives a 2-D grid to Sherlock. Rows are numbered *1* to *N* from top to bottom and columns are numbered *1* to *M* from left to right. Sherlock is at position *(1,1)* right now and he is free to face any direction before he starts to move. He needs to reach *(N,M)*. In one step, he can either move downwards or rightwards. Also, he cannot make more than *K* turns during his whole journey.

There are two possible scenarios when a turn can occur at point *(i, j)*:

```
Turns Right: (i-1, j)  ->  (i, j)  ->  (i, j+1)
                Down       Right

Turns Down:  (i, j-1)  ->  (i, j)  ->  (i+1, j)
                Right      Dowm
```

Given *N*, *M* and *K*, help him by printing the number of ways to reach *(N,M)* with at most *K* turns. As this value can be very large, print the answer modulo $(10^9 + 7)$.

Input
First line contains *T*, the number of testcases. Then *T* lines follow, where each line represents a test case. Each testcase consists of three space separated integers, *N M K*, where *(N, M)* is the final location and *K* is the maximum number of allowed turns.

Output
For each testcase, print the required answer in one line.

Constraints
$1 \leq T \leq 10$
$1 \leq N, M \leq 100$
$0 \leq K \leq 100$

Note

1. He can take **at most** *K* turns.
2. He is free to face any direction before starting from *(1, 1)*.

Sample Input

```
3
2 2 3
2 3 1
4 4 4
```

Sample Output

```
2
2
18
```

Sample explanation
Test Case #00: There is no way to reach *(2, 2)* with 0, 2 or 3 turns. He will always reach *(2, 2)* with 1 turn only. There are two ways shown below:

1. He starts from *(1, 1)* facing right and moves to *(1, 2)*. Then he faces down and moves to *(2, 2)*.
2. He starts from *(1, 1)* facing down and moves to *(2, 1)*. Then he turns right and moves to *(2, 2)*.

Test Case #01: He can't reach *(2, 3)* with 0 turns. There are only two ways to reach *(2, 3)* with exactly 1 turn.

1. He starts from *(1, 1)* facing down and moves to *(2, 1)*. Then he turns right and takes two steps forward to reach *(2, 3)*.
2. He starts from *(1, 1)* facing right and moves two steps forward to reach *(1, 3)*. Then he turns down and proceeds one step to *(2, 3)*.

Test Case #02: There are 0 ways with 0 turn, 2 ways with 1 turn, 4 ways with 2 turns, 8 ways with 3 turns and 4 ways with 4 turns to reach *(4, 4)*.

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