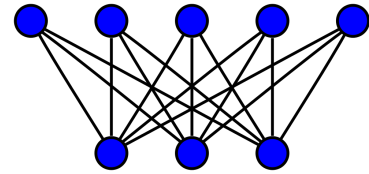


Problem D

Road Network

You are in a strange country with two groups of cities. Each city has a road to every city in the other group, but no road to any city in the same group. You are going to pick a random city to start at, and then proceed to visit a few other cities (without repetition) travelling by road. How many ways can you do this? The answer might be very large so you should output the answer modulo $1\,000\,000\,007 = 10^9 + 7$.



Input

The first line contains a single integer $T \leq 1\,000$ giving the number of test cases. Each test case consists of a line with three integers m and n ($1 \leq m, n \leq 1\,000$), the number of cities in each group, and p ($1 \leq p \leq m + n$), the total number of cities that you will visit.

Output

For each test case, output a single line containing the answer modulo $1\,000\,000\,007$.

Explanation of sample input

The first test case in the sample input corresponds to the diagram above. From each of the 5 cities in the top group, there are 3 possible destinations. From each of the 3 cities in the bottom group, there are 5 possible destinations. Thus, the answer is $5 \times 3 + 3 \times 5 = 30$.

Sample Input	Sample Output
2	30
5 3 2	2
1 1 2	