Power with Combinatorics(EASY)

Your task is to calculate a^(b^(exp))

a: provided in input,500 \Rightarrow a \Rightarrow 0

b: provided in input,500 => b >= 0

 $exp=(nC0)^2 + (nC1)^2 + (nC2)^2 + ... + (nCn)^2$

n: provided in input,500=>n>=0

Note: The Output for 0^0 should be 1.

nCr denotes n choose r.

As the answer can be too large, you need to output modulo 10^9+7 .

Input

The first line of each input file contains number of test cases t(t<=1000).

Then follow a new line.

Then follow t lines, each containing 3 integers, (i.e. a b n in order) each of them separated by a space.

Output

Output Contains t lines, ith line contains the answer of the ith test case.

Example

Input:

1 111

Output:

1

Explanation

In first test case, the Value of exp is 2, value of $1^{(1^2)}$ is 1,so output is 1.

Click here to see my set of problems at Spoj.