Coding Area

Lazy Student

Problem Description

There is a test of Algorithms. Teacher provides a question bank consisting of N questions and guarantees all the questions in the test will be from this question bank. Due to lack of time and his laziness, Codu could only practice M questions. There are T questions in a question paper selected randomly. Passing criteria is solving at least 1 of the T problems. Codu can't solve the question he didn't practice. What is the probability that Codu will pass the test?

Constraints

0 < T <= 10000

0 < N, T <= 1000

0 <= M <= 1000

M,T <= N

Input Format

First line contains single integer T denoting the number of test cases.

First line of each test case contains 3 integers separated by space denoting N, T, and M.

Output

For each test case, print a single integer.

If probability is p/q where p & q are co-prime, print (p*mulInv(q)) modulo 1000000007, where mulInv(x) is multiplicative inverse of x under modulo 1000000007.

Test Case

Explanation

Example 1

Input

1

4 2 1

Output

500000004

Explanation

The probability is ½. So output is 500000004.

Upload Solution [Question : E]

☐ I, **chukka bharath** confirm that the answer submitted is my own.

☐ Took help from online sources (attributions)

Choose a File ...