

04 Hr **23** Min
36 Sec**Guidelines**

Coding Area

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Coding Area

A**B****C****D****E****F****ONLINE EDITOR (E)**

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

$$0 < T \leq 10000$$

$$0 < N, T \leq 1000$$

$$0 \leq M \leq 1000$$

$$M, T \leq N$$

+ 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 $(p * \text{mullInv}(q))$ modulo 1000000007, where $\text{mullInv}(x)$ is multiplicative inverse of x under modulo 1000000007.

+ Timeout

1

+ Test Case

Example 1

Input

1

4 2 1

Output

5000000004

Explanation

The probability is $\frac{1}{2}$. So output is 5000000004.

Upload Solution [Question : E]

☐ I, **aakash gupta** confirm that the answer submitted is my own. ☐ Took help from online sources (attributions)

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