

05 Hr 42 Min 57 Sec

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

+ Timeout

1

+ Test Case

Example 1

Input

1

4 2 1

Output

500000004

Explanation

The probability is $\frac{1}{2}$. So output is 500000004.

Upload Solution [Question : E]

☐ I, **karandeep singh** confirm that the answer submitted is my own.

☐ Took help from online sources (attributions)

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