Power Mod

1 seconds, 64 megabytes

This question is very simple

Given Q Questions

For each question, given a, b, c evaluate $a^b \bmod c$

Input Data

First line consists of single number Q representing the number of questions ($1 \leq Q \leq 100000$)

Next Q Lines consists of three number a, b, c representing a, b, c value of that question

Output Data

Has Q lines

Each line contains answer to each questions

Scoring

There are 10 test cases 10 scores each

10 Score: $a^b \leq 2^{63} - 1$

10 Score: $c = 2$

10 Score: $Q = 1$

10 Score: $b \leq 1000$

60 Score: No Additional Constraint

Examples of Input and Output Data

Input Data Examples	Output Data Examples
1 3 4 5	1
2 5 3 2 7 7 7	1 0

Note

Sample Test Case 1 Explanation

$3^4 = 81$ and $81 \bmod 5 = 1$ thus, the answer to this question is 1