# Practice

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## Modular Exponentiation for large numbers

Submissions: 2977 (/problem\_submissions.php?pid=401) Accuracy: 59.94% Difficulty: Medium (https://practice.geeksforgeeks.org/Medium/0/0/) Marks: 4

Associated Course(s): Sudo Placement [IITs] (/courses/sudo placement-IIT/)

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Implement pow(A, B) % C.

In other words, given A, B and C, find (AB)%C.

### Input:

The first line of input consists number of the test cases.

The following T lines consist of 3 numbers each separated by a space and in the following order:

ABC

'A' being the base number, 'B' the exponent (power to the base number) and 'C' the modular.

### **Output:**

In each separate line print the modular exponent of the given numbers in the test case.

```
Constraints:
1 \le T \le 70
1 \le A \le 10^5
1 \le B \le 10^5
1 ≤ C ≤ 10^5
Example:
Input:
3
324
1096
450 768 517
Output:
1
4
34
** For More Input/Output Examples Use 'Expected Output' option **
Contributor: Madhur Adlakha
Author: madhuradlakha (https://auth.geeksforgeeks.org/user/madhuradlakha/practice/)
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```
C++ (g++ 5.4)
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    #include <iostream>
    using namespace std;
 3
    int getResult(int a, int b, int c){
 4
        if (b == 0) {
             return 1;
 6
 7
        }
 8
        if (b == 1) {
 9
10
             return a%c;
11
        }
12
13
        int left, right;
14
        left = getResult(a, b/2, c);
        right = getResult(a, b - b/2, c);
15
16
17
        return (left*right)%c;
18
   }
19
20
    int main() {
21
        //code
22
        int t, a, b, c;
23
        cin>>t;
        for (int i=0; i<t; i++) {
24
Test against custom input
```

Submit

Compile & Test

**Expected Outcome** 

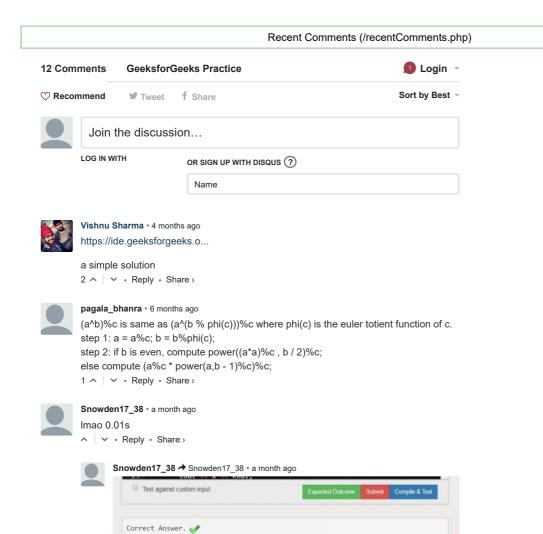
Correct Answer. ✓ Execution Time:0.01

Next Suggested Problem: Print Diagonally (/problems/print-diagonally/0/?ref=self)

Need help with your code? Please use ide.geeksforgeeks.org (https://ide.geeksforgeeks.org), generate link and share the link here.

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