Eugene and Big Number

Eugene must do his homework, but he is struggling.
He has three integer numbers: A, N, M. He writes number A on the board N times **in a row**. Let's call the resulting big number X. Help Eugene find X modulo M.

Input Format

First line contains T, the number of testcases.
Each testcase contains three numbers: A, N, M separated by a single space.

Constraints

$1 <= T <= 200$
$0 <= A <= 1000$ *(1e3)*
$0 < N < 1000000000000$ *(1e12)*
$1 < M < 1000000000$ *(1e9)*

Output Format

Print the required answer for each testcase in a new line.

Sample Input

```
2
12 2 17
523 3 11
```

Sample Output

```
5
6
```

Explanation

First testcase:
$A = 12$
$N = 2$
$X = 1212$
1212 modulo 17 = 5

Second testcase:
$A = 523$
$N = 3$
$X = 523523523$
523523523 modulo 11 = 6