

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

- $1 \leq T \leq 200$
- $0 \leq A \leq 10^3$
- $0 < N < 10^{12}$
- $1 < M < 10^9$

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:
 $A = 12$
 $N = 2$
 $X = 1212$
 $1212 \text{ modulo } 17 = 5$

Second testcase:
 $A = 523$
 $N = 3$

$$X = 523523523$$

$$523523523 \bmod 11 = 6$$