

Akhil and GF



After dating for a long time, Akhil is finally going to propose to his girlfriend. She is very strong in mathematics, and will accept his proposal, if and only if Akhil solves a problem given by her. The problem is given below. Help Akhil solve it.

Akhil is given two numbers N and M , and he has to tell her the remainder when $111 \dots (N \text{ times})$ is divided by M .

Input Format

The first line contains an integer T i.e. the number of test cases.

Each of the next T lines contain two space separated integers, N and M .

Output Format

T lines each containing output for the corresponding test case.

Constraints

$$1 \leq T \leq 10001$$

$$1 \leq N \leq 10^{16}$$

$$2 \leq M \leq 10^9$$

Sample Input 00

```
3
3 3
4 7
5 18
```

Sample Output 00

```
0
5
5
```

Explanation

$$111 \% 3 = 0$$

$$1111 \% 7 = 5$$

$$11111 \% 18 = 5$$