

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**

$$111 \% 3 = 0$$
$$1111 \% 7 = 5$$
$$11111 \% 18 = 5$$