B. Chtholly's request

— Thanks a lot for today.
— I experienced so many great things.

— You gave me memories like dreams... But I have to leave now...

— One last request, can you...

— Help me solve a Codeforces problem?

— ......

— What?

Chtholly has been thinking about a problem for days:

If a number is *palindrome* and length of its decimal representation without leading zeros is even, we call it a zcy number. A number is *palindrome* means when written in decimal representation, it contains no leading zeros and reads the same forwards and backwards. For example `12321` and `1221` are palindromes and `123` and `12451` are not. Moreover, `1221` is zcy number and `12321` is not.

Given integers k and p, calculate the sum of the k smallest zcy numbers and output this sum modulo p.

Unfortunately, Willem isn't good at solving this kind of problems, so he asks you for help!

Input
The first line contains two integers k and p ($1 \le k \le 10^5$, $1 \le p \le 10^9$).

Output
Output single integer — answer to the problem.

Examples

input
```
2 100
```
output
```
33
```

input
```
5 30
```
output
```
15
```

Note
In the first example, the smallest zcy number is 11, and the second smallest zcy number is 22.

In the second example, .