Fast Factorial Calculator 3

Time limit: 0.4s **Memory limit:** 1G

ho94949 is in a good mood today. He discovered a secret method to compute large factorials very quickly. Can you beat him?

Input Specification

The first and only line of input contains two positive integers, N and P.

You may assume $1 \leq N < P \leq 10^{10}$, and that P is prime.

Output Specification

Print $N! \pmod{P}$.

Sample Input

```
9999999966 9999999967
```

Sample Output

```
9999999966
```