

# Power - Mod Power



So far, we have only heard of Python's powers. Now, we will witness them!

Powers or exponents in Python can be calculated using the built-in power function. Call the power function  $a^b$  as shown below:

```
>>> pow(a,b)
```

or

```
>>> a**b
```

It's also possible to calculate  $a^b \bmod m$ .

```
>>> pow(a,b,m)
```

This is very helpful in computations where you have to print the resultant % mod.

**Note:** Here,  $a$  and  $b$  can be floats or negatives, but, if a third argument is present,  $b$  cannot be negative.

**Note:** Python has a math module that has its own *pow()*. It takes two arguments and returns a float. Frankly speaking, we will never use *math.pow()*.

## Task

You are given three integers:  $a$ ,  $b$ , and  $m$ , respectively. Print two lines.

The first line should print the result of  $pow(a,b)$ . The second line should print the result of  $pow(a,b,m)$ .

## Input Format

The first line contains  $a$ , the second line contains  $b$ , and the third line contains  $m$ .

## Constraints

$$1 \leq a \leq 10$$

$$1 \leq b \leq 10$$

$$2 \leq m \leq 1000$$

## Sample Input

```
3
4
5
```

## Sample Output

```
81
1
```