

## Find power of a number

**Problem Description:** You are given a number  $x$  and another number  $n$ . You have to print  $x^n$  ( $x$  raised to the power  $n$ ).

For example, if  $x=3$  and  $n=2$  then, you have to print 9 ( $3^2$ ).

### How to approach?

1. Take  $x$  and  $n$  as input from the user.
2.  $x^n$  basically means, multiplying  $x$ ,  $n$  times. So, initialize an  $ans$  with 1.
3. Now, run a loop until  $n$  becomes 0, and multiply  $x$  with  $ans$  each time.
4. Print the final  $ans$  obtained.

Pseudo code for this problem:

*Input =  $x$*

*Input =  $n$*

*$ans = 1$*

*While  $n$  is greater than 0:*

*$ans = ans * x$*

*Decrement  $n$  by 1*

*Print( $ans$ )*

❑ Let us dry run the code:

$x=4$  and  $n=2$

- $ans = 1$
- $n=2(>0)$ , so  $ans=1*4=4$
- $n=1(>0)$ , so  $ans=4*4=16$
- $n=0(==0)$ , so move out of the loop and we will print the  $ans$
- Output:  
16