

1. Take a number  $n$  as input and find  $n!$
2. Take two integers  $x$ ,  $y$  as input.
  - a. print “ $x$  is divisible by  $y$ ” as output if that holds. Otherwise print “ $x$  is not divisible by  $y$ ”.  
[Recall that you can use the  $\%$  operator to get the remainder when one number is divided by another. In particular,  $n\%d$  evaluates to the remainder when  $n$  is divided by  $d$ . For example  $8\%3$  is 2 because if you divide 8 by 3, you get a remainder of 2.]
  - b. Check whether  $x = y^n$  where  $n$  is a natural number and  $2 < n < 15$ . If  $x = y^n$ , then print  $n$ . Otherwise print “could not find  $n$ ”.

**Input :** 64 4

**Output:** 3

3.
  - a. Take a number  $n$  as input and print the number of digits.
  - b. Check whether a number is an Armstrong number or not.  
[An Armstrong number is an  $n$ -digit number that is equal to the sum of the  $n$ th powers of its digits. For Example:  
$$407 = 4^3 + 0^3 + 7^3 = 64 + 0 + 343 = 407$$
]

[Here assume that the user will always give a 3 digit number as input.]

4. Write a c code to swap the last and second last digit of a number.
5. Write a c code to print the  $n$ th Fibonacci number.