Practical No 5 **Date:** /09/2022

Title: Find the largest number among the numbers entered and Factorial of a number using Python.

Description:

Python was developed by Guido van Rossum in the late eighties and early nineties at the National Research Institute for Mathematics and Computer Science in the Netherlands. Python is derived from many other languages including ABC, Modula-3, C, C++, Algol-68, SmallTalk, and Unix shell and other scripting languages. Python is copyrighted. Like Perl, Python source code is now available under the GNU General Public License (GPL).

Syntax for *if-else* statement in Python:

```
if condition :
        Statements
else:
        Statements

if condition :
        statements
elif condition:
        statements
else:
        statements
```

Syntax for *for* loop in python:

```
for variable in sequence:
        statements
```

Program Code:

Input and Output

Conclusion: Thus we have implemented python program to find largest of three numbers and factorial of number.

Practice programs:

1. Write a Python Program to implement a calculator.
2. Write a Python program to find LCM and GCD of two numbers.
3. Write a Python program to print a Pascal triangle.

4. Write a Python program to print the Fibonacci sequence.

FACTORIAL AND LARGEST

```
[5]  def fact(n):
       if n==0:
         return "factorial is 1"
       else:
         fac=1
         for i in range(1,n+1):
           fac*=i
         return fac

     def greater(n1,n2,n3):
         if n1>n2 and n1>n3:
           return n1
         elif n2>n1 and n2>n3:
           return n2
         else:
           return n3

     a=int(input("enter a number:"))
     print("the factorial of number is:",fact(a))
     b=int(input("enter first number:"))
     c=int(input("enter second number:"))
     d=int(input("enter third number:"))
     print("the largest among all three is:",greater(b,c,d))
```

```
enter a number:4
the factorial of number is: 24
enter first number:7
enter second number:5
enter third number:4
the largest among all three is: 7
```

PRACTICE PROBLEMS

1. CALCULATOR

```
def add(a,b):
  return a+b
def sub(a,b):
  return a-b
def mul(a,b):
  return a*b
def div(a,b):
  return a/b

while True:
  y=int(input("press 1 for addition\n press 2 for subtraction\n press 3 for multiplication\n press 4 for division\n press 5 to quit:"))
  if y==1:
    n1=int(input("enter a number:"))
    n2=int(input("enter another number:"))
    print("addition of given numbers is:",add(n1,n2))
  elif y==2:
    n1=int(input("enter a number:"))
    n2=int(input("enter another number:"))
    print("subtraction of given numbers is:",sub(n1,n2))
  elif y==3:
    n1=int(input("enter a number:"))
    n2=int(input("enter another number:"))
    print("multiplication of given numbers is:",mul(n1,n2))
  elif y==4:
    n1=float(input("enter a number:"))
    n2=float(input("enter another number:"))
    print("division of given numbers is:",div(n1,n2))
  elif y==5:
    print("thank you")
    break
```

```
press 1 for addition
 press 2 for subtraction
 press 3 for multiplication
 press 4 for division
 press 5 to quit:1
enter a number:4
enter another number:5
addition of given numbers is: 9
press 1 for addition
 press 2 for subtraction
 press 3 for multiplication
 press 4 for division
 press 5 to quit:2
enter a number:4
enter another number:7
subtraction of given numbers is: -3
press 1 for addition
 press 2 for subtraction
 press 3 for multiplication
 press 4 for division
 press 5 to quit:3
enter a number:7
enter another number:80
multiplication of given numbers is: 560
press 1 for addition
 press 2 for subtraction
 press 3 for multiplication
 press 4 for division
 press 5 to quit:4
enter a number:9
enter another number:11
division of given numbers is: 0.8181818181818182
press 1 for addition
 press 2 for subtraction
 press 3 for multiplication
 press 4 for division
 press 5 to quit:5
thank you
```

2. LCM AND GCD

```
def find_gcd(a,b):

    for i in range(1,a+1):
        if a%i==0 and b%i==0:
            gcd = i
    return gcd
n1 = int(input('Enter first number: '))
n2 = int(input('Enter second number: '))
print('HCF or GCD of %d and %d is %d' %(n1, n2, find_gcd(n1, n2)))
lcm = n1 * n2 / find_gcd(n1, n2)
print('LCM of %d and %d is %d' %(n1, n2, lcm))
```

```
Enter first number: 18
Enter second number: 27
HCF or GCD of 18 and 27 is 9
LCM of 18 and 27 is 54
```

3. PASCAL TRIANGLE

```
from math import factorial

n = int(input("enter number:"))
for i in range(n):
    for j in range(n-i+1):


        print(end=" ")

    for j in range(i+1):


        print(factorial(i)//(factorial(j)*factorial(i-j)), end=" ")


    print()
```

```
enter number:6
     1
    1 1
   1 2 1
  1 3 3 1
 1 4 6 4 1
1 5 10 10 5 1
```

4. FIBONACCI SEQUENCE

```
[9]  n1=0
     n2=1
     n=int(input("enter number of members in the sequence:"))
     print(n1)
     print(n2)
     for i in range(2,n):
       n3=n1+n2
       print(n3)
       n1=n2
       n2=n3
```

```
enter number of members in the sequence:9
0
1
1
2
3
5
8
13
21
```