PYTHON

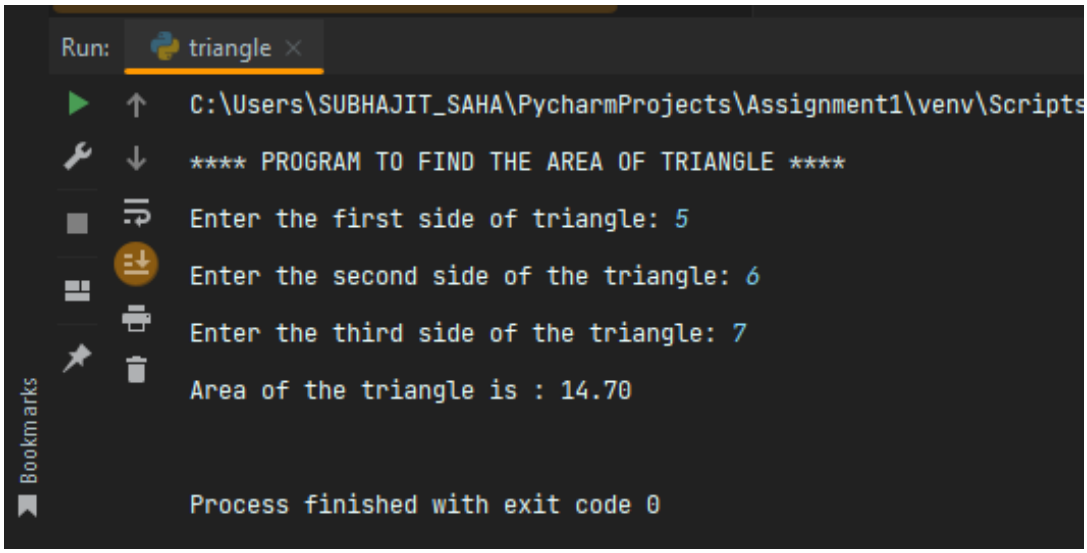
ASSIGNMENT 1

Q1. Write a program in python to calculate the area of a triangle.

CODE:

```
from math import sqrt

print("**** PROGRAM TO FIND THE AREA OF TRIANGLE ****")

a = float(input("Enter the first side of triangle: "))
b = float(input("Enter the second side of the triangle: "))
c = float(input("Enter the third side of the triangle: "))

s = (a + b + c) / 2

# Calculating the area of the triangle
area = sqrt(s * (s - a) * (s - b) * (s - c))

print("Area of the triangle is : %0.2f" % area)
```

OUTPUT:

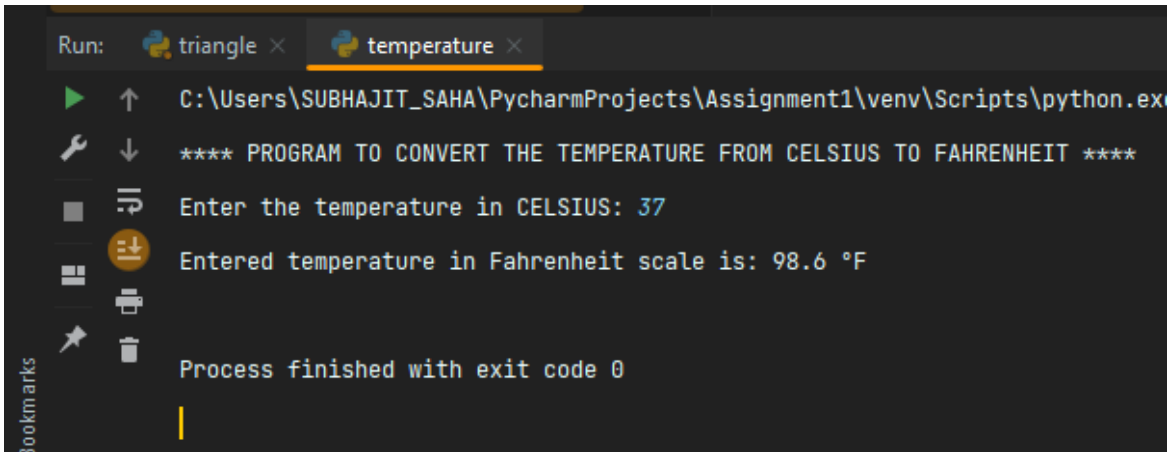


Q2. Write a program in python to convert the temperature from Celsius to Fahrenheit.

CODE:

```
print("**** PROGRAM TO CONVERT THE TEMPERATURE FROM
             CELSIUS TO FAHRENHEIT ****")

c = float(input("Enter the temperature in CELSIUS: "))

# Converting the temperature
f = (c * (9 / 5)) + 32

print("Entered temperature in Fahrenheit scale is:
             %0.1f" % f, "°F")
```

OUTPUT:

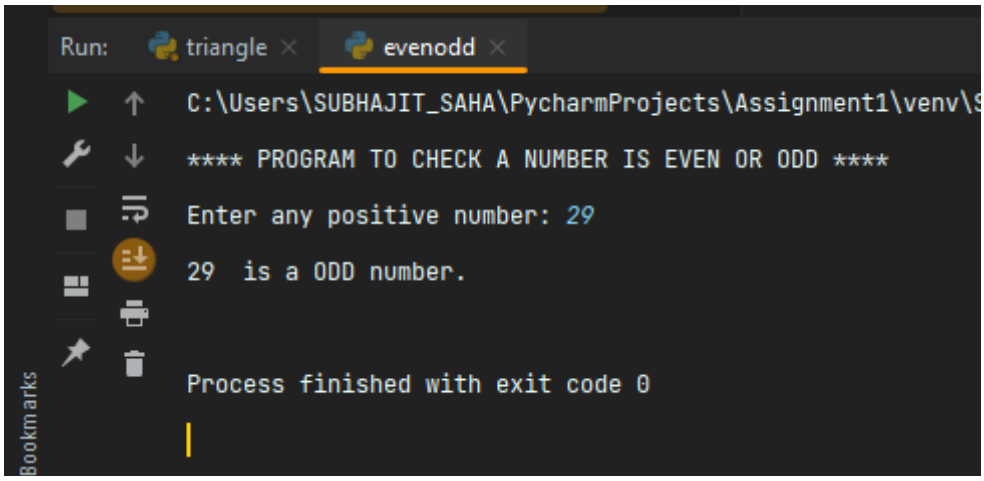


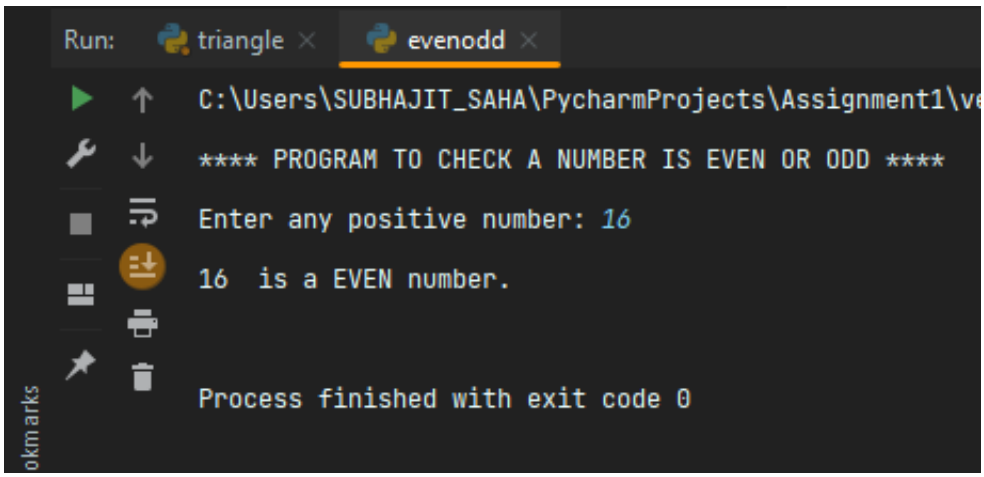
Q3. Write a program in python to whether a number is EVEN or ODD.

CODE:

```
print("**** PROGRAM TO CHECK A NUMBER IS EVEN OR ODD ****")

num = int(input("Enter any positive number: "))

if num % 2 == 0:
    print(num, " is a EVEN number.")
else:
    print(num, " is a ODD number.")
```

OUTPUT:



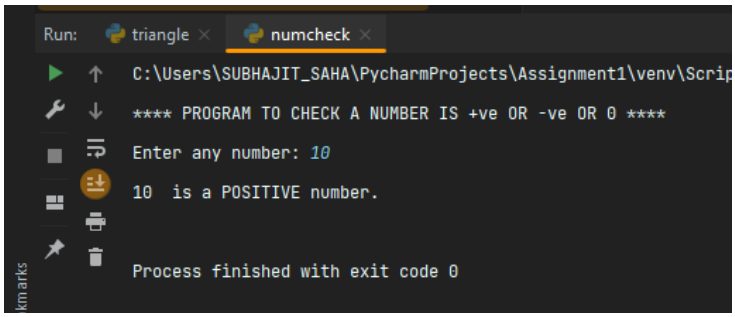


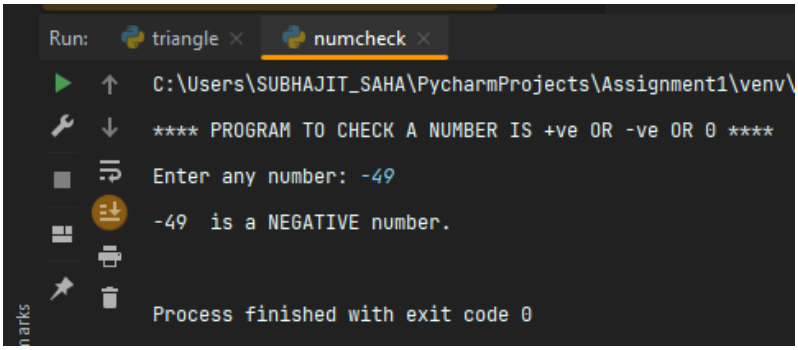
Q4. Write a program in python to whether a number is POSITIVE or NEGATIVE or ZERO.

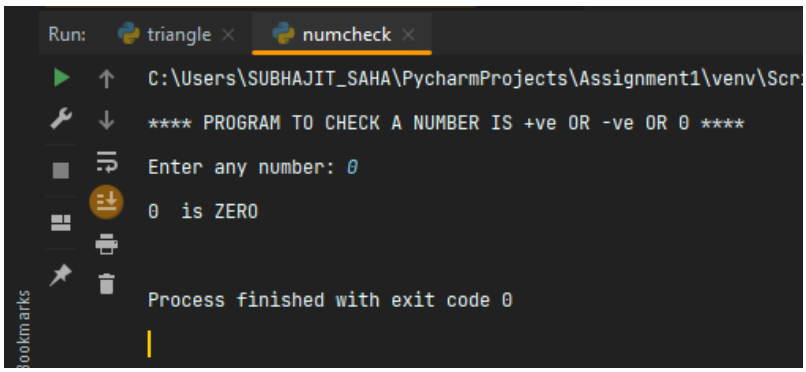
CODE:

```
print("**** PROGRAM TO CHECK A NUMBER IS +ve OR -ve OR 0
        ****")

num = int(input("Enter any number: "))

if num > 0:
    print(num, " is a POSITIVE number.")
elif num < 0:
    print(num, " is a NEGATIVE number.")
elif num == 0:
    print(num, " is ZERO")
```

OUTPUT:





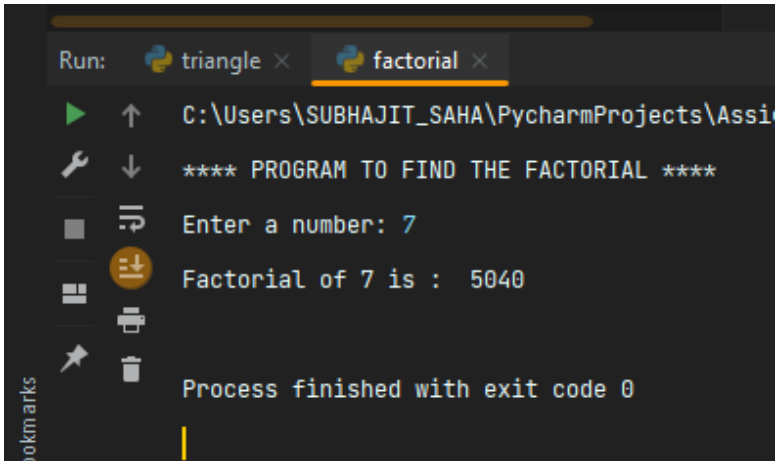


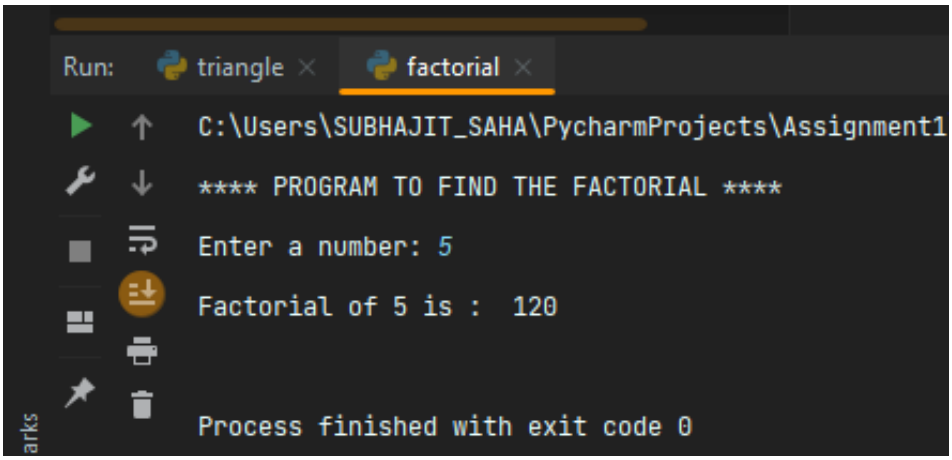
Q5. Write a program in python to find the Factorial.

CODE:

```
print("**** PROGRAM TO FIND THE FACTORIAL ****")

num = int(input("Enter a number: "))

fact = 1

if num < 0:
    print("Factorial doesn't exist for NEGATIVE numbers.
                Try Again!! with a positive number.")
elif num == 0:
    print("Factorial of 0 is: ", fact)
else:
    for i in range(1, num + 1):
        fact = fact * i
    print("Factorial of", num, "is : ", fact)
```

OUTPUT:



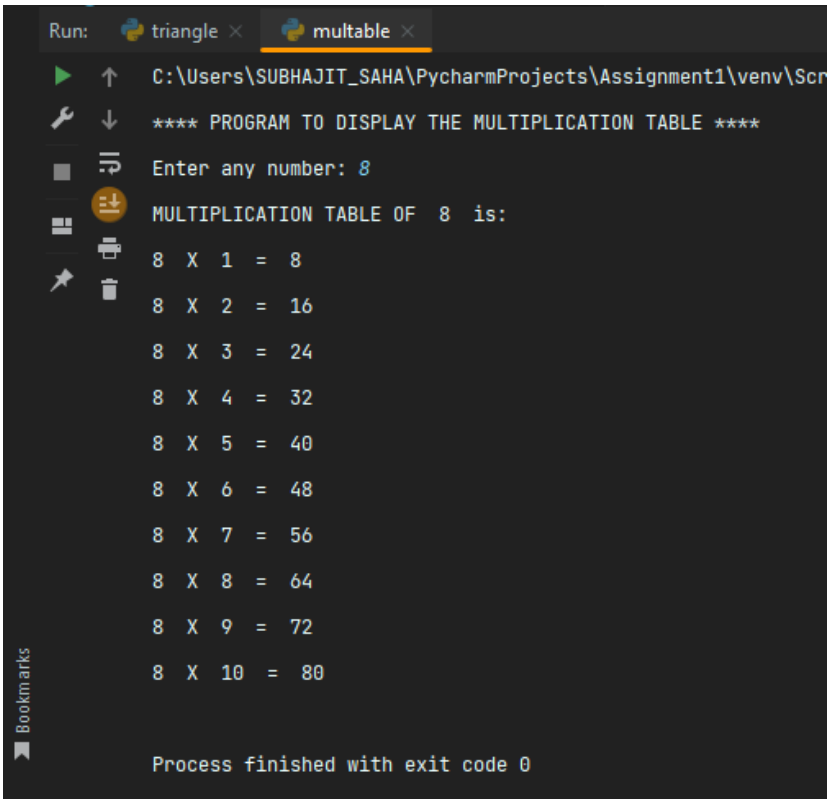


Q6. Write a program in python to display the Multiplication Table.

CODE:

```
print("**** PROGRAM TO DISPLAY THE MULTIPLICATION TABLE
        ****")

num = int(input("Enter any number: "))

if num < 0:
    print("Enter a POSITIVE number.")
elif num == 0:
    print("Multiplication Table of 0 is : 0")
elif num > 0:
    print("MULTIPLICATION TABLE OF ", num, " is: ")
    for i in range(1, 11):
        print(num, " X ", i, " = ", num*i)
```

OUTPUT:

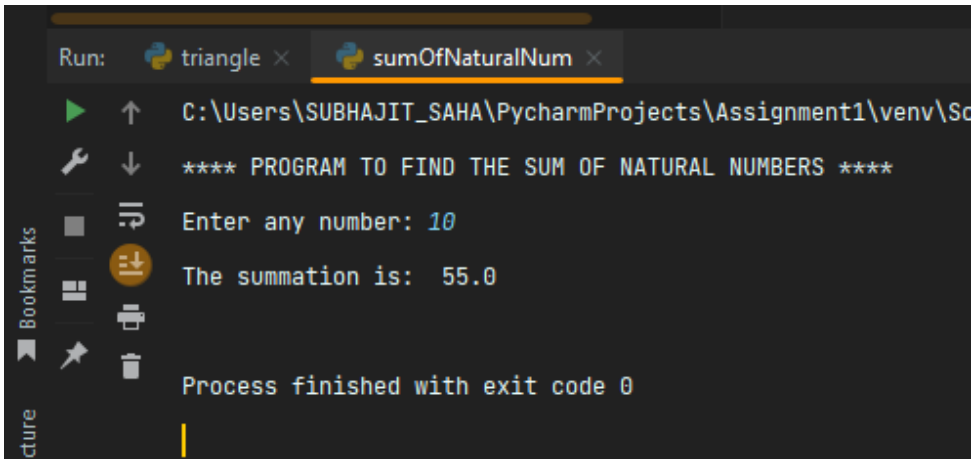


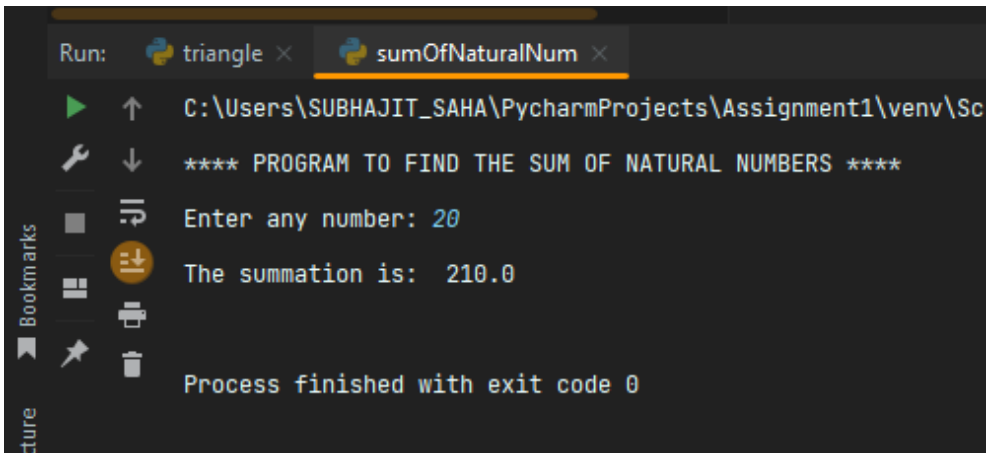
Q7. Write a program in python to find the sum of Natural Numbers.

CODE:

```
print("**** PROGRAM TO FIND THE SUM OF NATURAL NUMBERS
          ****")

num = int(input("Enter any number: "))

if num < 0:
    print("Enter a positive number.")
else:
    sum = 0
    sum = num * (num + 1) / 2
    print("The summation is: ", sum)
```

OUTPUT:



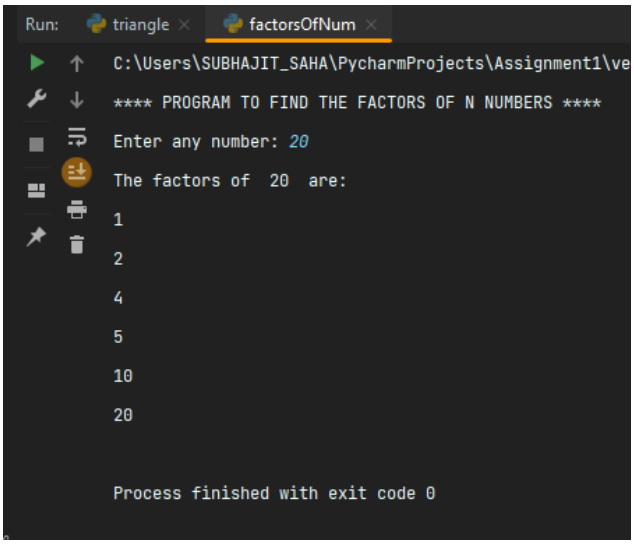


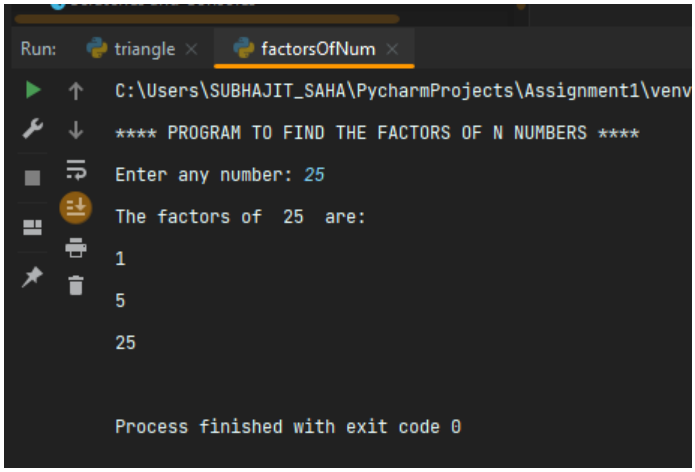
Q8. Write a program in python to find the factors of N number.

CODE:

```
print("**** PROGRAM TO FIND THE FACTORS OF N NUMBERS
        ****")

num = int(input("Enter any number: "))

if num < 0:
    print("Enter a Positive number.")
else:
    print("The factors of ", num, " are:")
    for i in range(1, num+1):
        if num % i == 0:
            print(i)
```

OUTPUT:





PYTHON

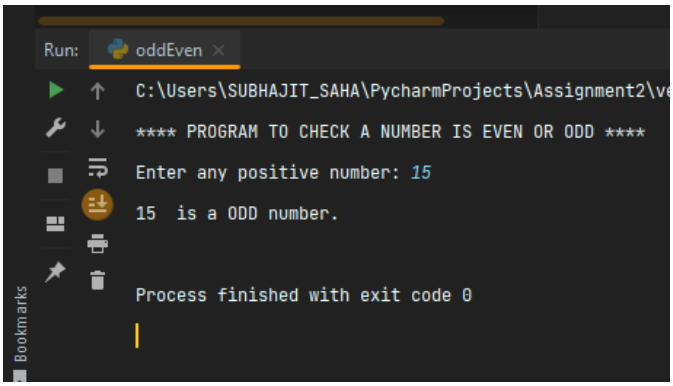
ASSIGNMENT 2

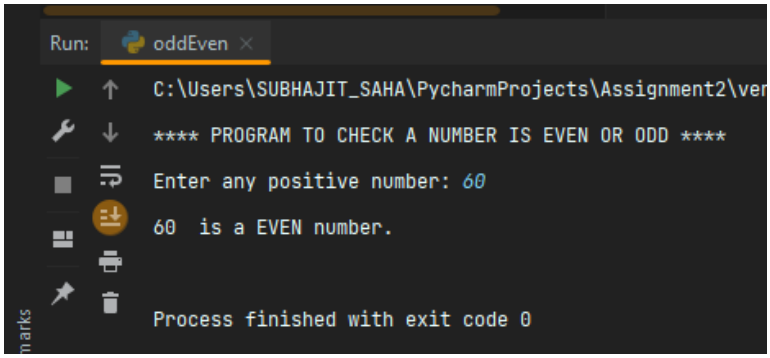
Q1. Write a program in python to check a number whether it is ODD or EVEN using functions.

CODE:

```
print("**** PROGRAM TO CHECK A NUMBER IS EVEN OR ODD ****")


def checkEvenOdd(n):
    if n % 2 == 0:
        print(n, " is a EVEN number.")
    else:
        print(n, " is a ODD number.")
    return 0


num = int(input("Enter any positive number: "))

checkEvenOdd(num)
```

OUTPUT:



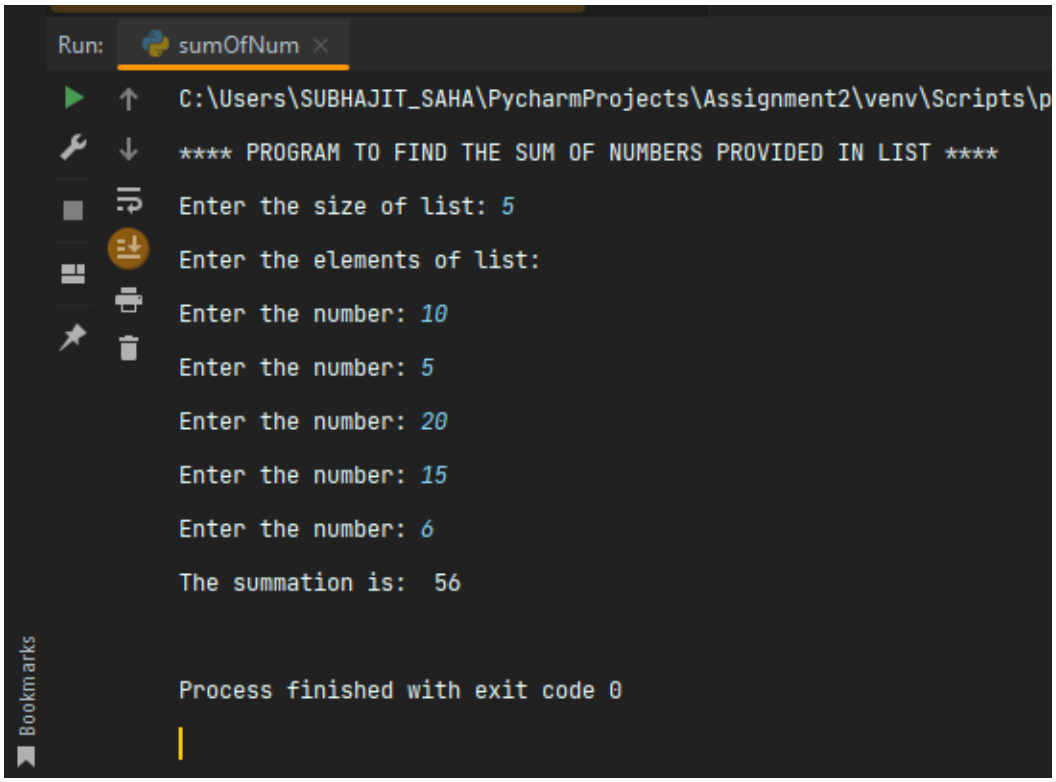


Q2. Write a program in python to find the sum of numbers in a list using functions.

CODE:

```
print("**** PROGRAM TO FIND THE SUM OF NUMBERS PROVIDED IN
        LIST ****")


def SumOfNum(list1):
    sum = 0
    for i in list1:
        sum = sum + i
    return sum


def ListContent(n):
    list1 = []
    print("Enter the elements of list: ")
    for i in range(n):
        num = int(input("Enter the number: "))
        list1.append(num)
    return list1


lstSize = int(input("Enter the size of list: "))
if lstSize < 0:
    print("Enter a POSITIVE number.")
else:
    list2 = ListContent(lstSize)
    print("The summation is: ", SumOfNum(list2))
```

OUTPUT:

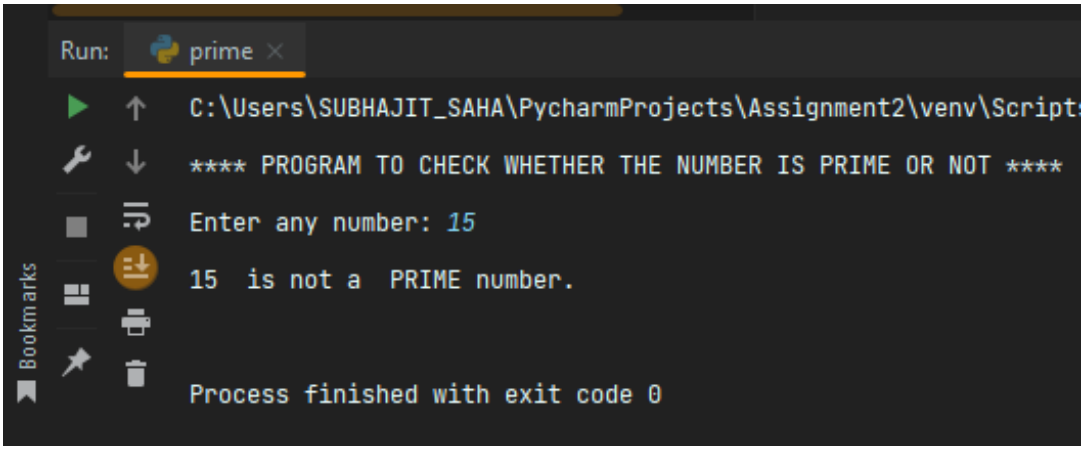

Run:
sumOfNum
C:\Users\SUBHAJIT_SAHA\PycharmProjects\Assignment2\venv\Scripts\p
**** PROGRAM TO FIND THE SUM OF NUMBERS PROVIDED IN LIST ****
Enter the size of list: 5
Enter the elements of list:
Enter the number: 10
Enter the number: 5
Enter the number: 20
Enter the number: 15
Enter the number: 6
The summation is: 56
Process finished with exit code 0
Bookmarks

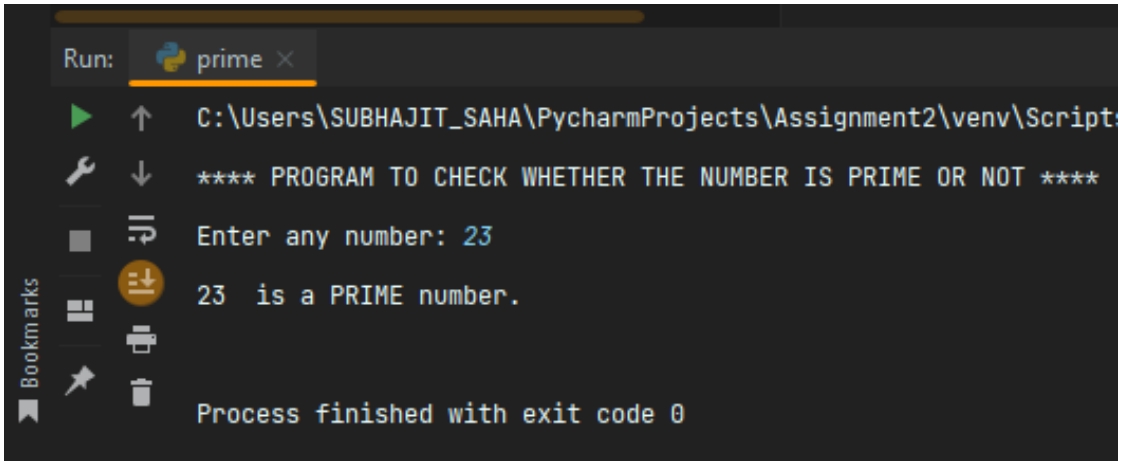
Q3. Write a program in python to check whether a number is PRIME or not using functions.

CODE:

```
print("**** PROGRAM TO CHECK WHETHER THE NUMBER IS PRIME
             OR NOT ****")


def PrimeCheck(n):
    flag = False
    for i in range(2, n):
        if n % i == 0:
            flag = True
            break
    return flag


num = int(input("Enter any number: "))
if num > 1:
    if PrimeCheck(num):
        print(num, " is not a  PRIME number.")
    else:
        print(num, " is a PRIME number.")
else:
    print("PRIME numbers can't be negative and it should
             be always greater than 1")
```

OUTPUT:


Run:
prime
C:\Users\SUBHAJIT_SAHA\PycharmProjects\Assignment2\venv\Script
**** PROGRAM TO CHECK WHETHER THE NUMBER IS PRIME OR NOT ****
Enter any number: 15
15 is not a PRIME number.
Process finished with exit code 0
Bookmarks

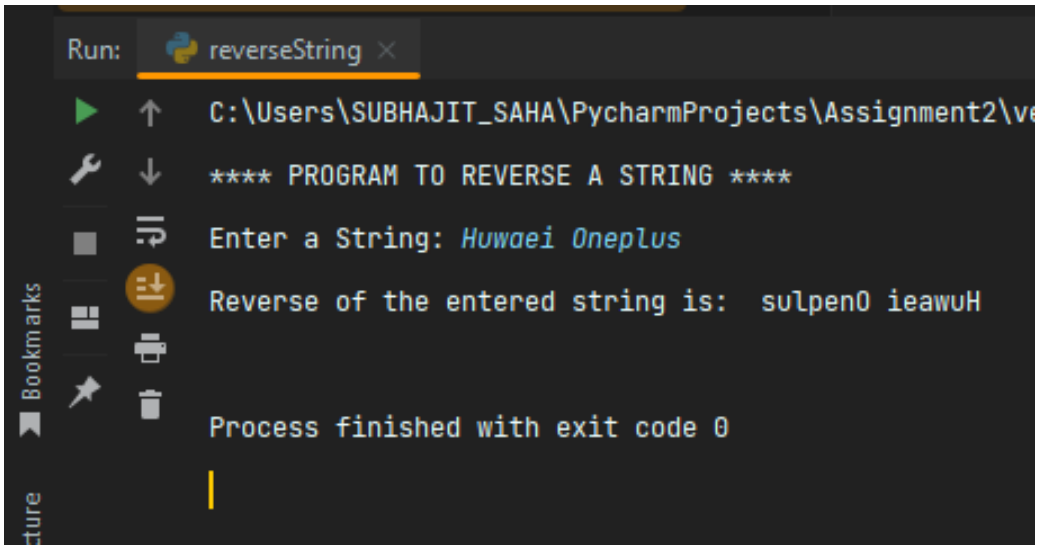

Run:
prime
C:\Users\SUBHAJIT_SAHA\PycharmProjects\Assignment2\venv\Script
**** PROGRAM TO CHECK WHETHER THE NUMBER IS PRIME OR NOT ****
Enter any number: 23
23 is a PRIME number.
Process finished with exit code 0
Bookmarks

Q4. Write a program in python to reverse a string using functions.

CODE:

```
print("**** PROGRAM TO REVERSE A STRING ****")


def StringReverse(str1):
    list1 = []
    for i in str1:
        list1.append(i)

    # print(list1)

    str2 = ""
    for i in list1[::-1]:
        str2 = str2 + i

    return str2


string1 = input("Enter a String: ")
print("Reverse of the entered string is: ",
      StringReverse(string1))
```

OUTPUT:



Q5. Write a program in python to find the factorial using functions.

CODE:

```
print("**** PROGRAM TO FIND THE FACTORIAL ****")


def Factorial(n):
    if n == 1 or n == 0:
        return 1
    else:
        return n * Factorial(n - 1)


num = int(input("Enter a number: "))
if num < 0:
    print("Please Provide a Positive number.")
else:
    print("Factorial of ", num, "! is: ", Factorial(num))
```

OUTPUT: