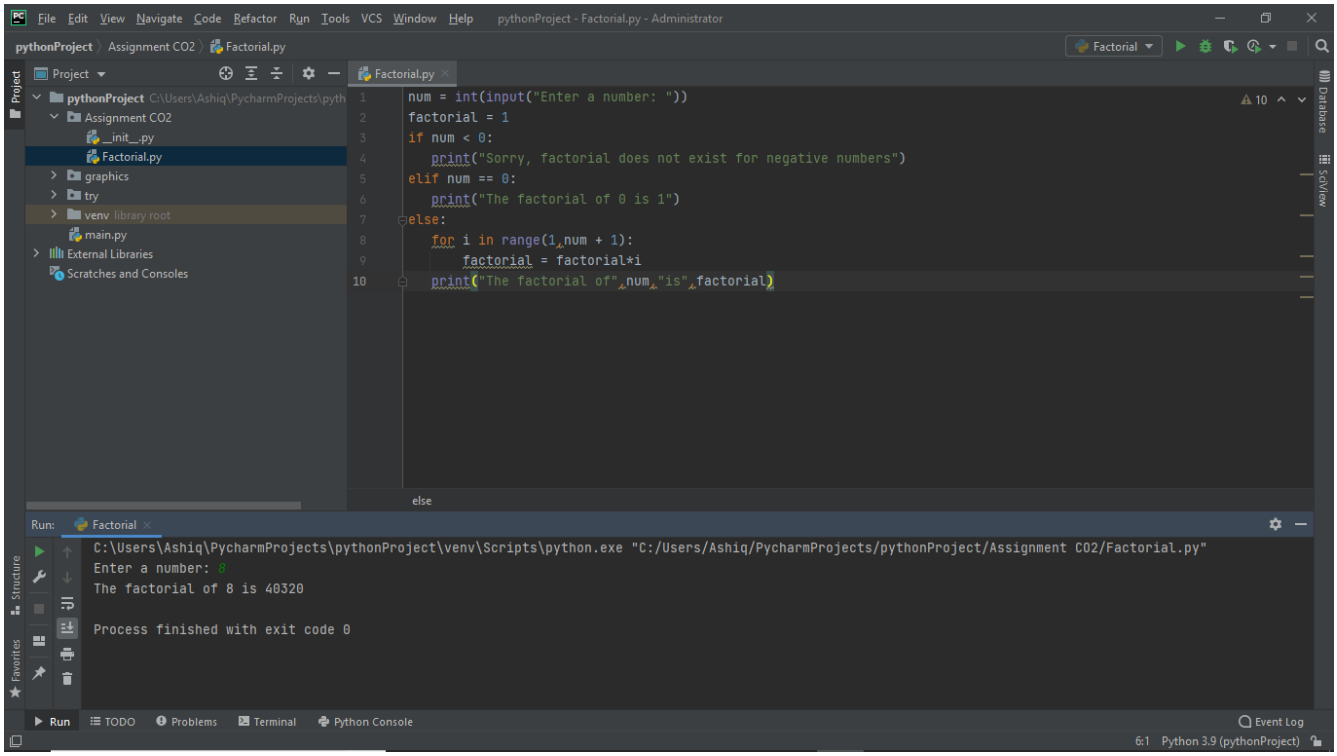
Assignment-CO2
submission on 03/02/21

1.Write a program to find the factorial of a number?

Program

```
num = int(input("Enter a number: "))
factorial = 1
if num < 0:
   print("Sorry, factorial does not exist for negative numbers")
elif num == 0:
   print("The factorial of 0 is 1")
else:
   for i in range(1,num + 1):
       factorial = factorial*i
   print("The factorial of",num,"is",factorial)
```

Output



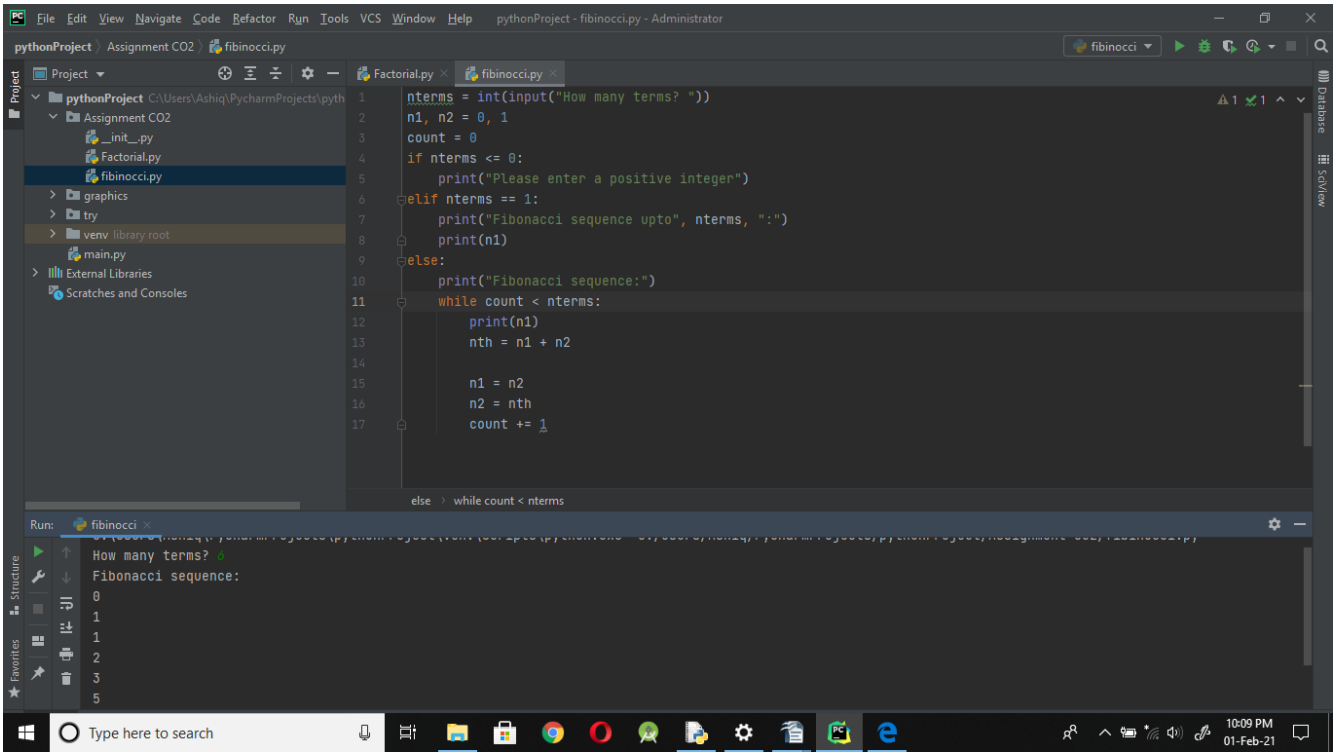
2.Generate Fibonacci series of N terms ?

Program

```
nterms = int(input("How many terms? "))
n1, n2 = 0, 1
count = 0
if nterms <= 0:
   print("Please enter a positive integer")
elif nterms == 1:
   print("Fibonacci sequence upto",nterms,":")
   print(n1)
else:
   print("Fibonacci sequence:")
   while count < nterms:
      print(n1)
      nth = n1 + n2

      n1 = n2
      n2 = nth
      count += 1
```

Output

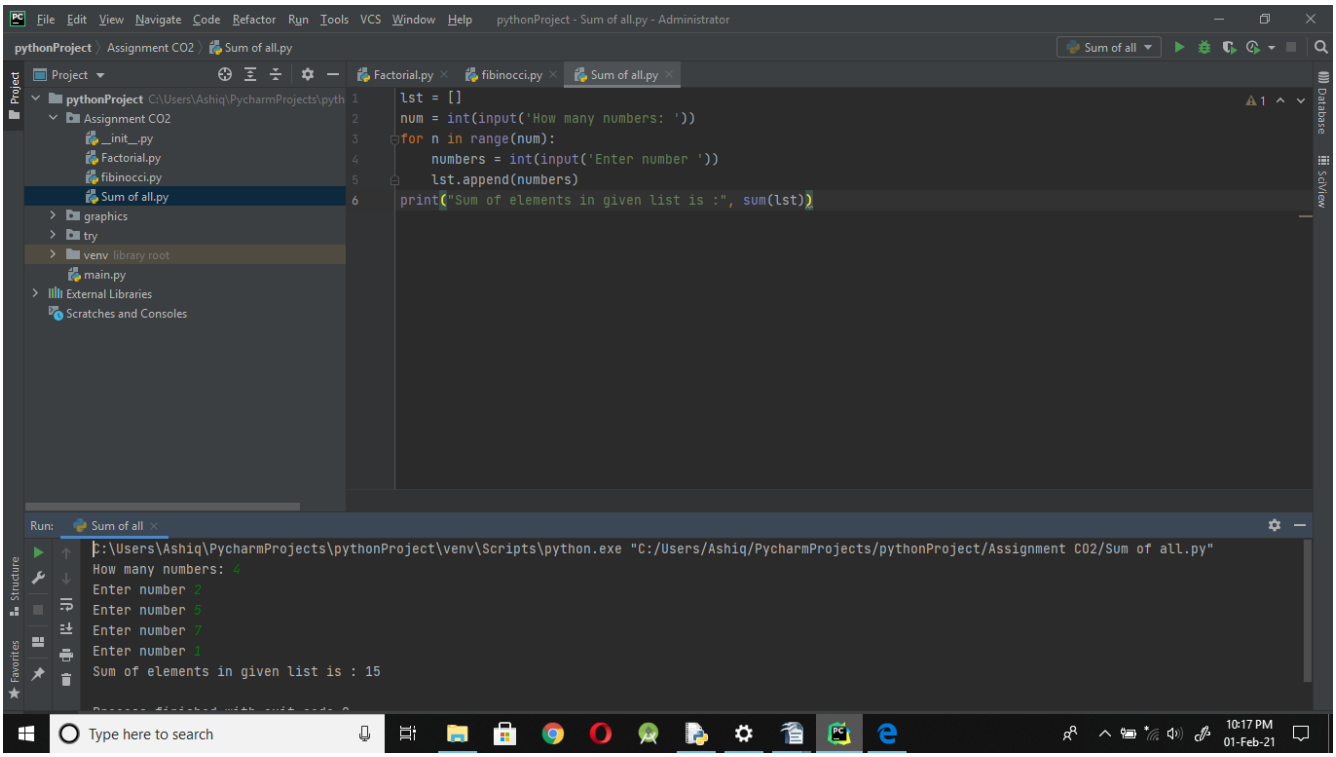


3.Find the sum of all items in a list ?

Program

```
lst = []
num = int(input('How many numbers: '))
for n in range(num):
    numbers = int(input('Enter number '))
    lst.append(numbers)
print("Sum of elements in given list is :", sum(lst))
```

Output

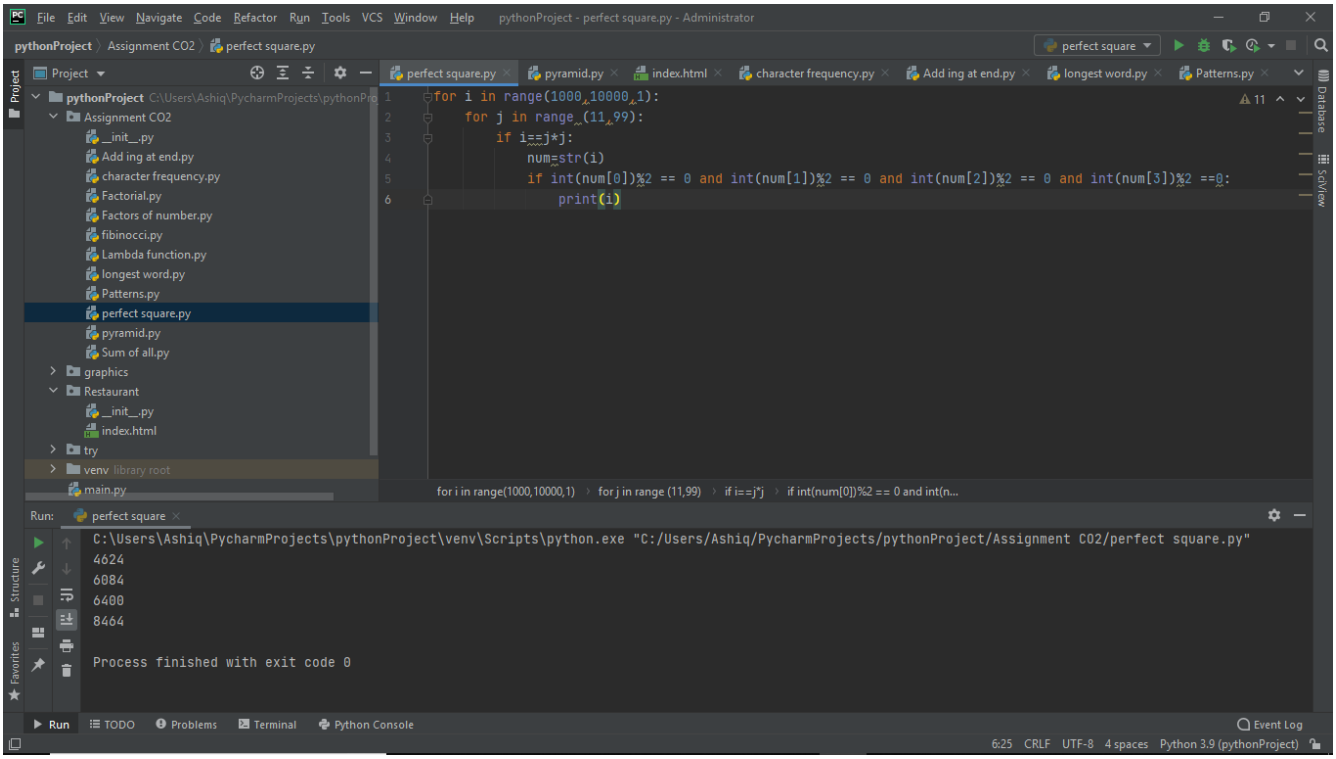


4.Generate a list of four digit numbers in a given range with all their digits even and the number is a perfect square ?

Program

```
for i in range(1000,10000,1):
    for j in range (11,99):
        if i==j*j:
            num=str(i)
            if int(num[0])%2 == 0 and int(num[1])%2 == 0 and int(num[2])%2 == 0 and int(num[3])%2
==0:
                print(i)
```

Output



5.Display the given pyramid with step number accepted from user ?

Eg: N=4

1

2 4

3 6 9

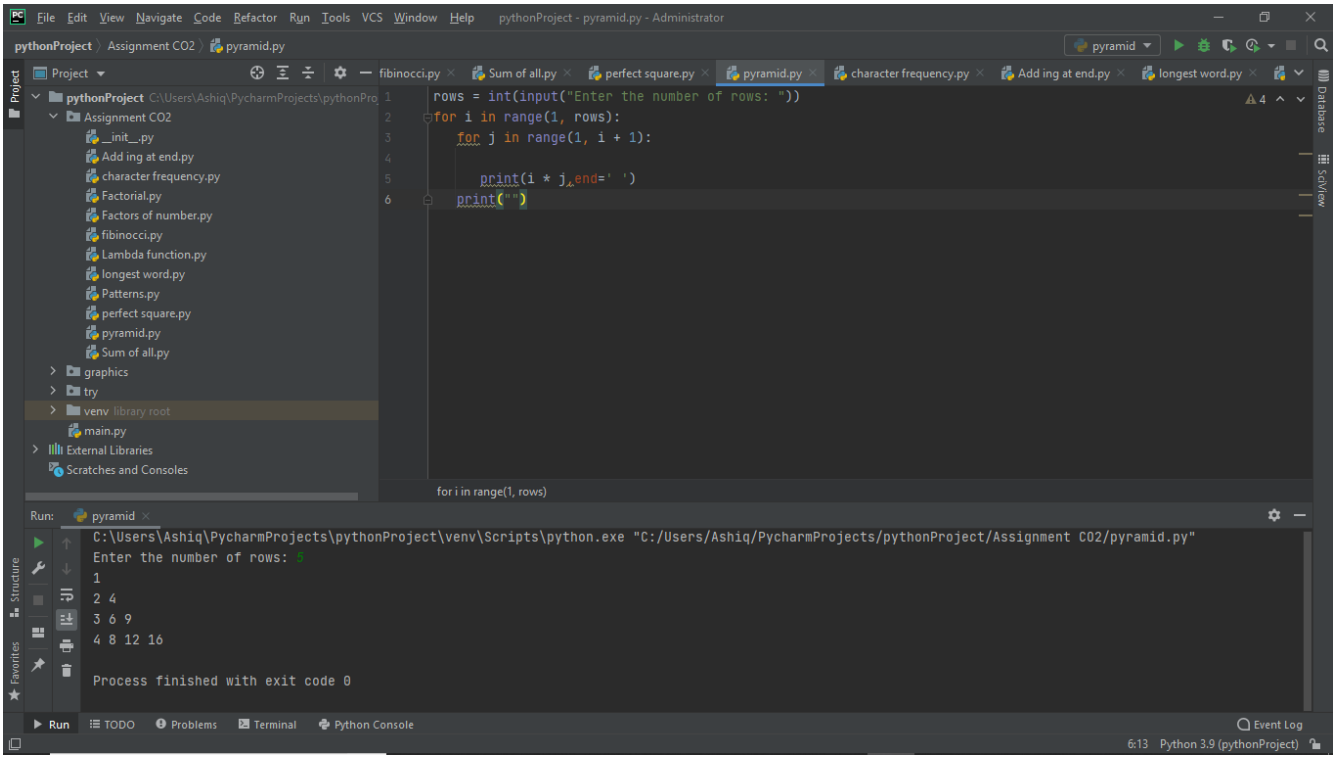
4 8 12 16

Program

```
rows = int(input("Enter the number of rows: "))
for i in range(1, rows):
   for j in range(1, i + 1):

      print(i * j,end=' ')
   print("")
```

Output

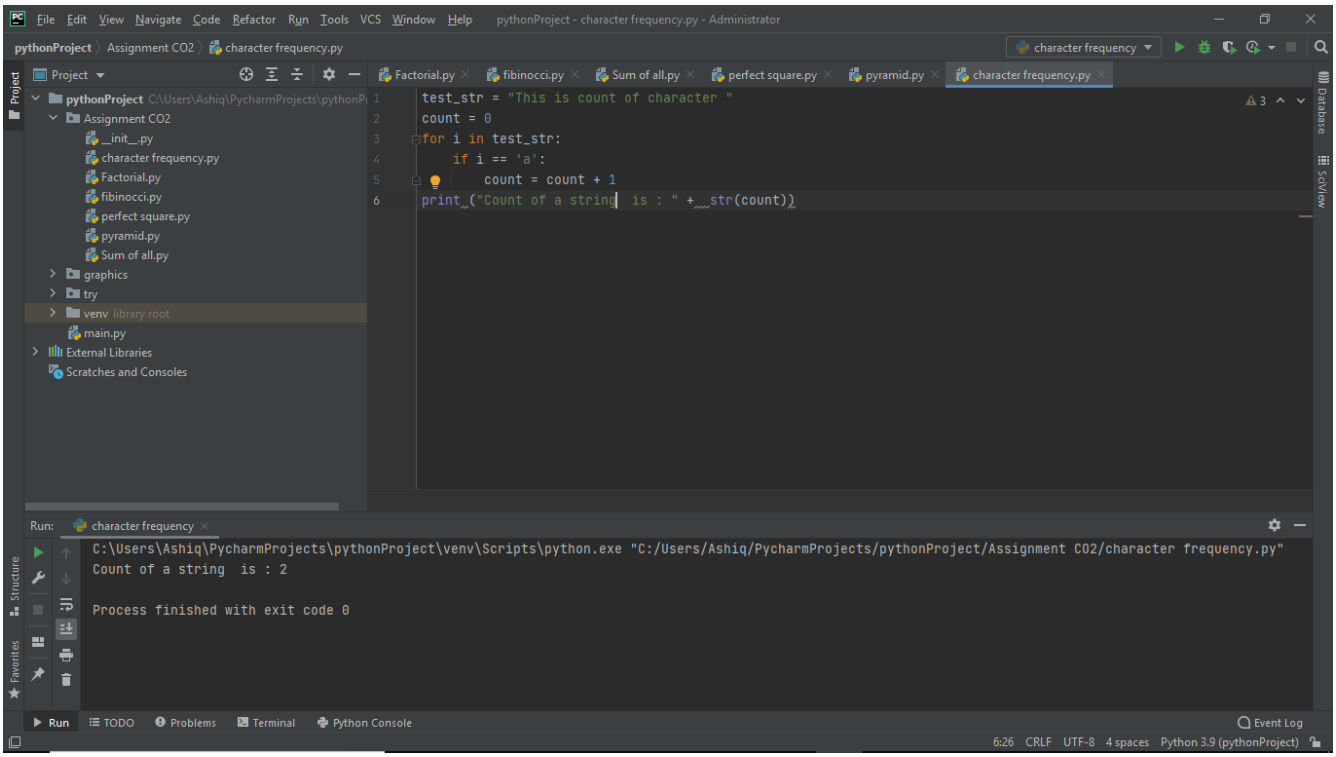


6.Count the number of characters (character frequency) in a string ?

Program

```
test_str = "This is count of character"
count = 0
for i in test_str:
    if i == 'a':
        count = count + 1
print ("Count of a string  is : " +  str(count))
```

Output



7.Add ‘ing’ at the end of a given string. If it already ends with ‘ing’, then add ‘ly’ ?

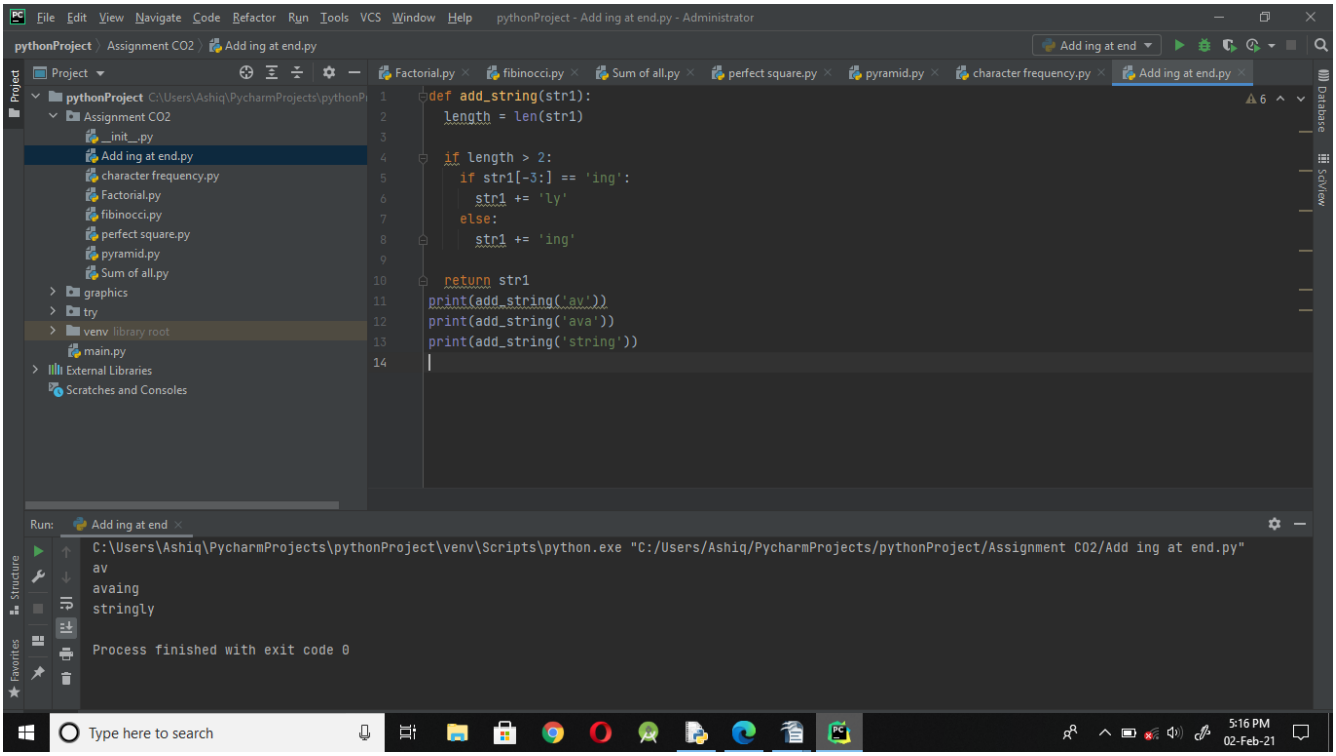
Program

```
def add_string(str1):
  length = len(str1)

  if length > 2:
    if str1[-3:] == 'ing':
      str1 += 'ly'
    else:
      str1 += 'ing'

  return str1
print(add_string('av'))
print(add_string('ava'))
print(add_string('string'))
```

Output

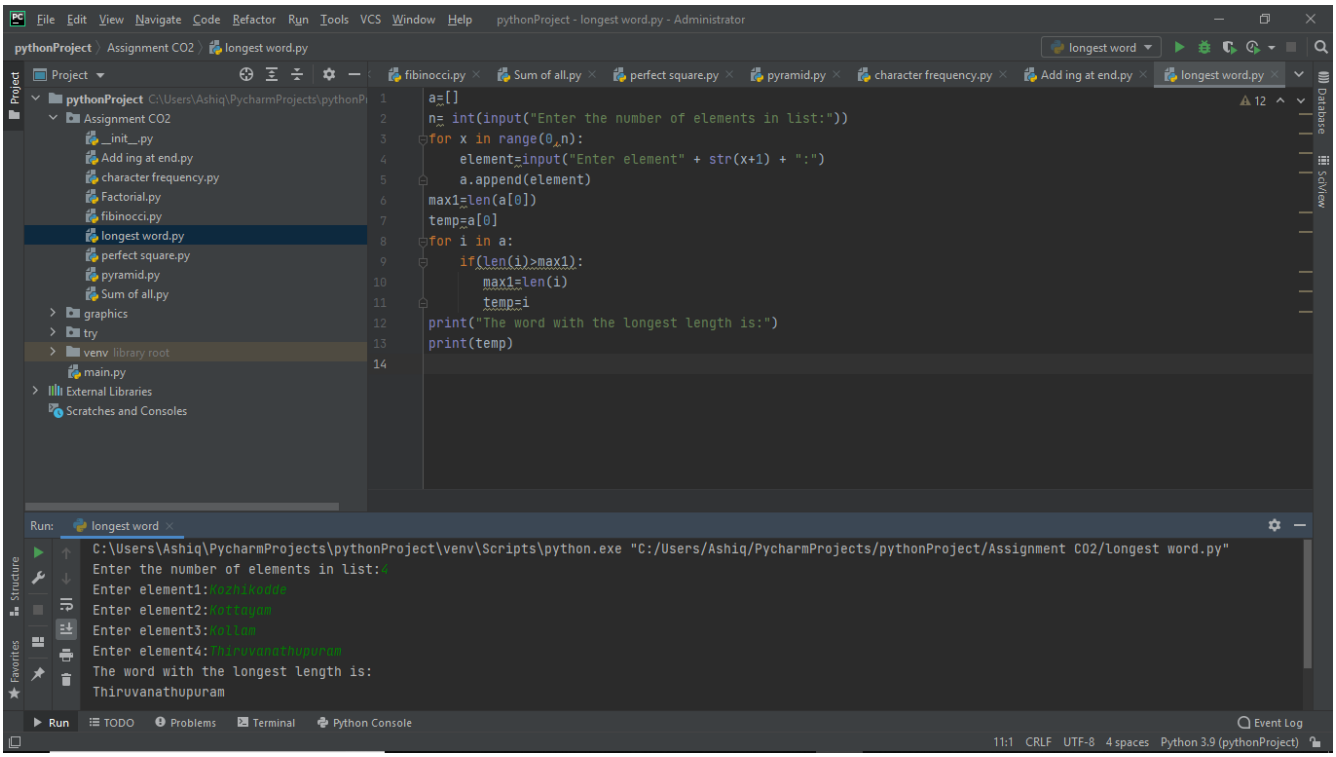


8.Accept a list of words and return length of longest word ?

Program

```
a=[]
n= int(input("Enter the number of elements in list:"))
for x in range(0,n):
    element=input("Enter element" + str(x+1) + ":")
    a.append(element)
max1=len(a[0])
temp=a[0]
for i in a:
    if(len(i)>max1):
        max1=len(i)
        temp=i
print("The word with the longest length is:")
print(temp)
```

Output



9.Construct following pattern using nested loop ?

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

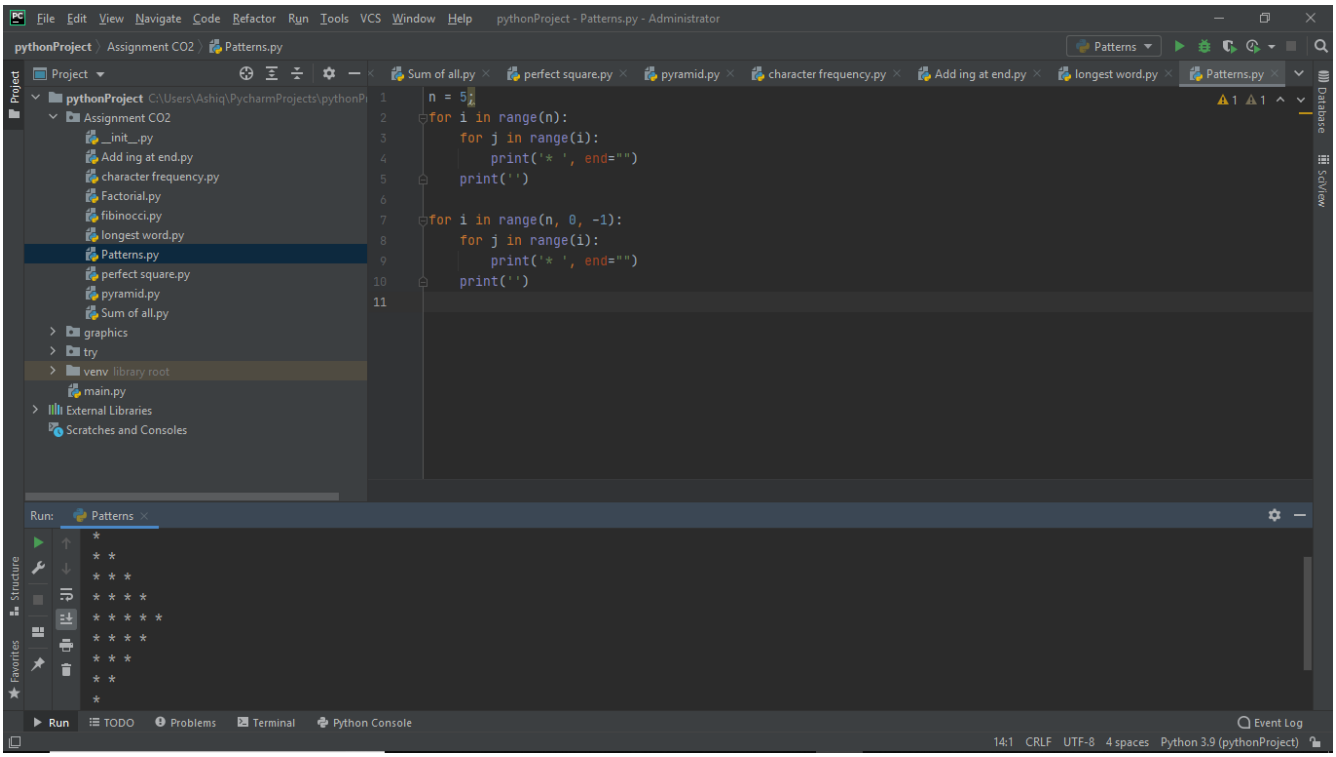
Program

```
n=5;
for i in range(n):
    for j in range(i):
        print ('* ', end="")
    print('')

for i in range(n,0,-1):
    for j in range(i):
```

```
        print('* ', end="")
    print('')
```

Output

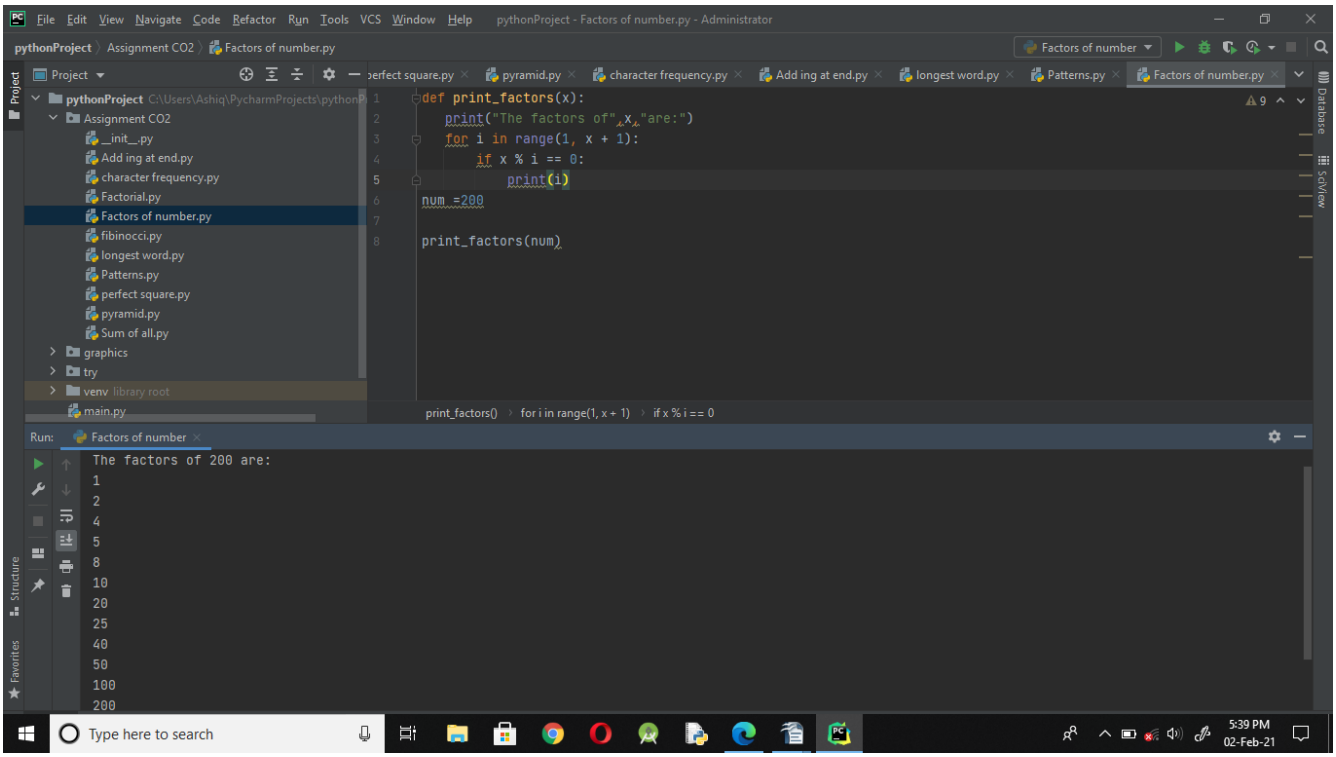


10.Generate all factors of a number ?

Program

```
def print_factors(x):
   print("The factors of",x,"are:")
   for i in range(1, x + 1):
       if x % i == 0:
           print(i)
num = 200
print_factors(num)
```

Output

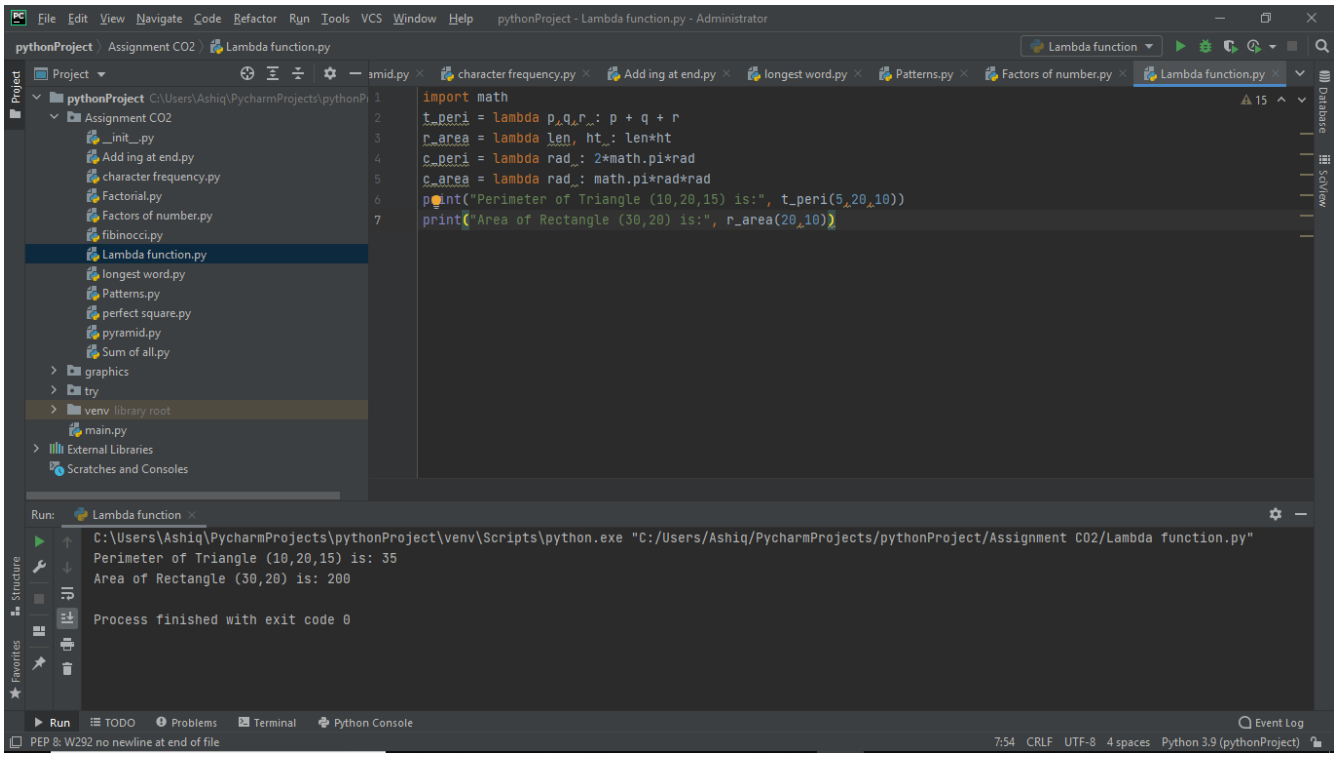


11.Write lambda functions to find area of square, rectangle and triangle ?

Program

```
import math
t_peri = lambda p,q,r : p + q + r
r_area = lambda len, ht : len*ht
c_peri = lambda rad : 2*math.pi*rad
c_area = lambda rad : math.pi*rad*rad
print("Perimeter of Triangle (10,20,15) is:", t_peri(5,20,10))
print("Area of Rectangle (30,20) is:", r_area(20,10))
```

Output


File Edit View Navigate Code Refactor Run Tools VCS Window Help
pythonProject - Lambda function.py - Administrator
pythonProject 〉 Assignment CO2 〉 Lambda function.py
Lambda function
Project
pythonProject C:\Users\Ashiq\PycharmProjects\pythonP
Assignment CO2
__init__.py
Add ing at end.py
character frequency.py
Factorial.py
Factors of number.py
fibinocci.py
Lambda function.py
longest word.py
Patterns.py
perfect square.py
pyramid.py
Sum of all.py
graphics
try
venv library root
main.py
External Libraries
Scratches and Consoles
character frequency.py
Add ing at end.py
longest word.py
Patterns.py
Factors of number.py
Lambda function.py
import math
t_peri = lambda p,q,r: p + q + r
r_area = lambda len, ht: len*ht
c_peri = lambda rad: 2*math.pi*rad
c_area = lambda rad: math.pi*rad*rad
print("Perimeter of Triangle (10,20,15) is:", t_peri(5,20,10))
print("Area of Rectangle (30,20) is:", r_area(20,10))
Run: Lambda function
C:\Users\Ashiq\PycharmProjects\pythonProject\venv\Scripts\python.exe "C:/Users/Ashiq/PycharmProjects/pythonProject/Assignment CO2/Lambda function.py"
Perimeter of Triangle (10,20,15) is: 35
Area of Rectangle (30,20) is: 200
Process finished with exit code 0
Run TODO Problems Terminal Python Console
Event Log
PEP 8: W292 no newline at end of file
7:54 CRLF UTF-8 4 spaces Python 3.9 (pythonProject)