Co2

1)Program to find the factorial of a number?

Ans:

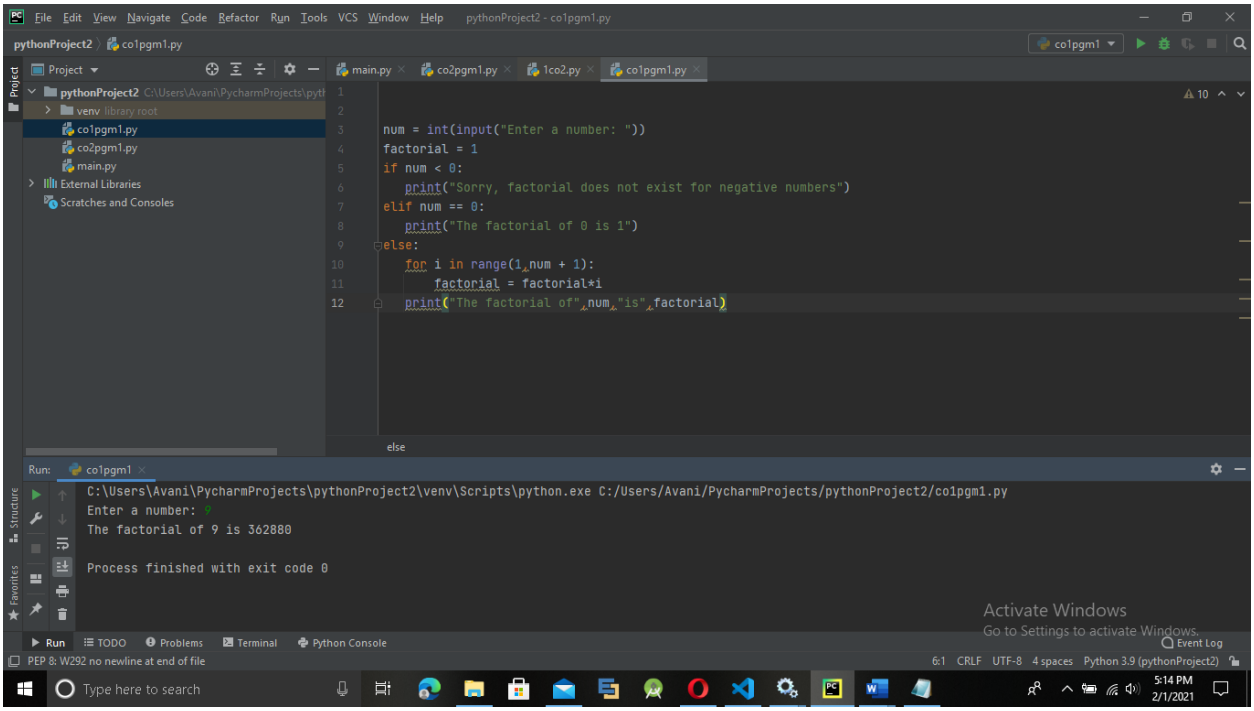
```
num = int(input("Enter a number: "))
factorial = 1
if num < 0:
   print("Sorry, factorial does not exist for negative numbers")
elif num == 0:
   print("The factorial of 0 is 1")
else:
   for i in range(1,num + 1):
       factorial = factorial*i
   print("The factorial of",num,"is",factorial)
```

Output

Enter a number: 9

The factorial of 9 is 362880

Process finished with exit code 0



2)Generate Fibonacci series of N terms?

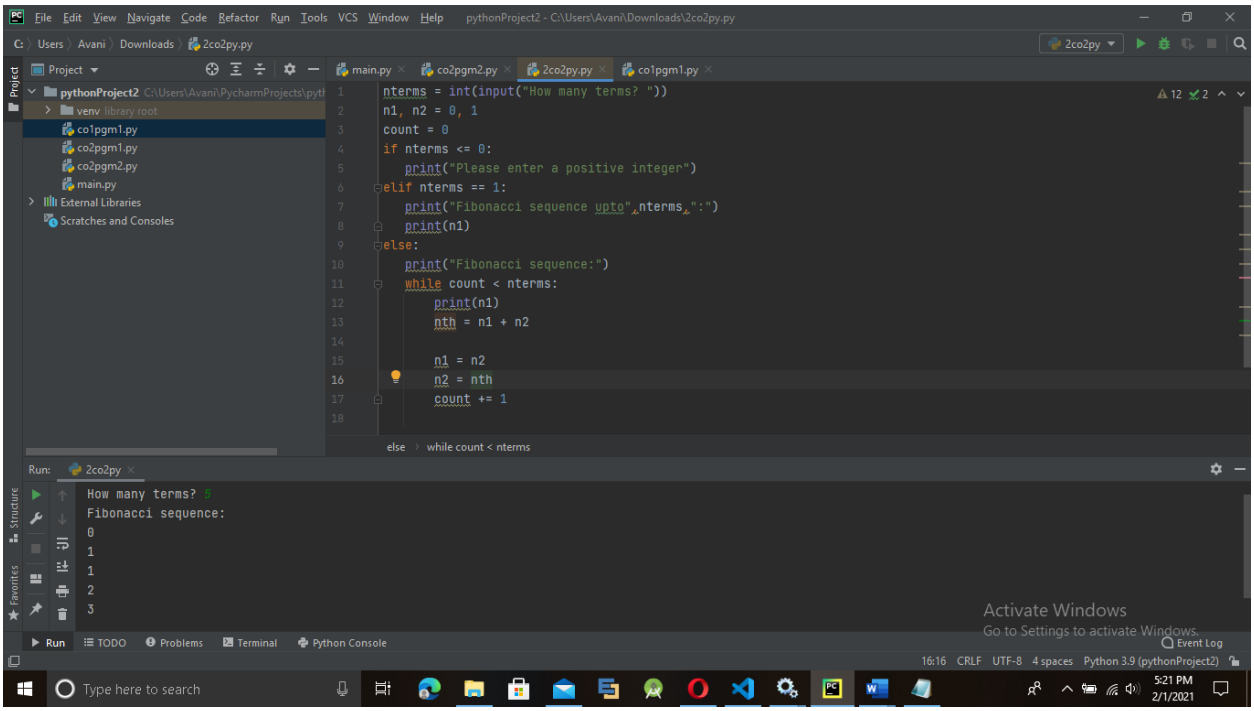
Ans:

```
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

```
How many terms? 5
Fibonacci sequence:
0
1
1
2
3

Process finished with exit code 0
```



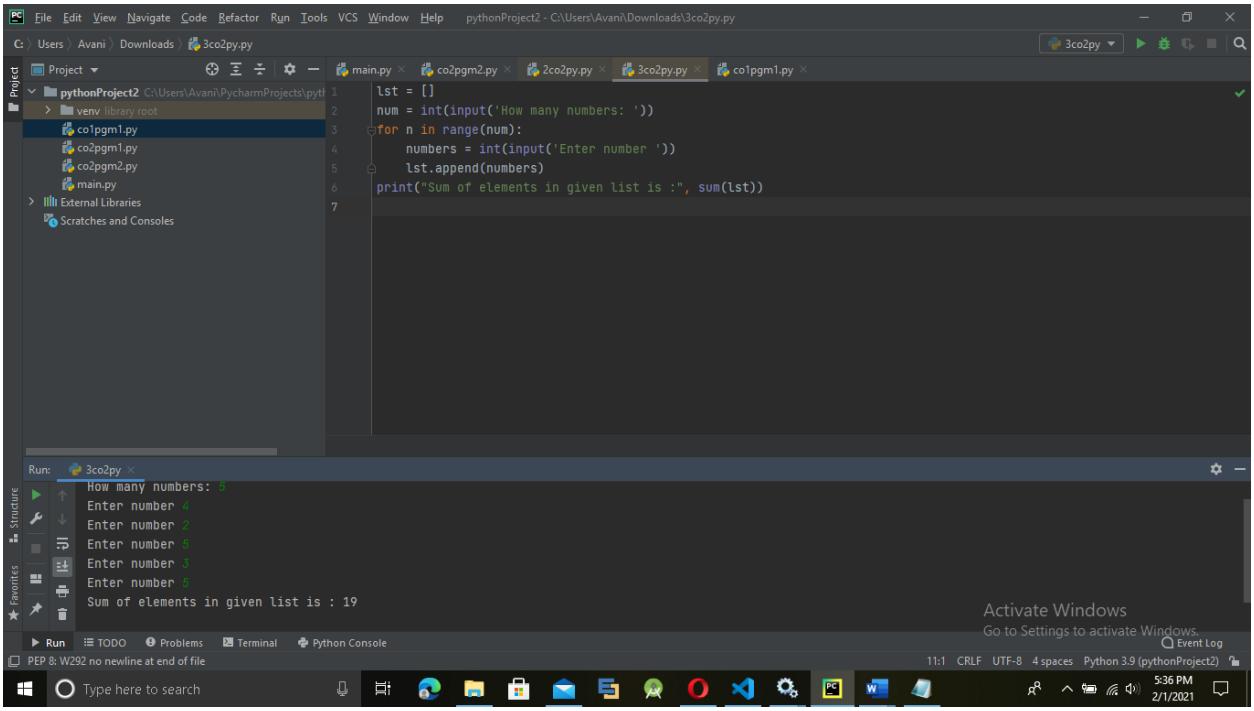
3)Find the sum of all items in a list?

Ans:

```
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

```
How many numbers: 5
Enter number 4
Enter number 2
Enter number 5
Enter number 3
Enter number 5
Sum of elements in given list is : 19

Process finished with exit code 0
```



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

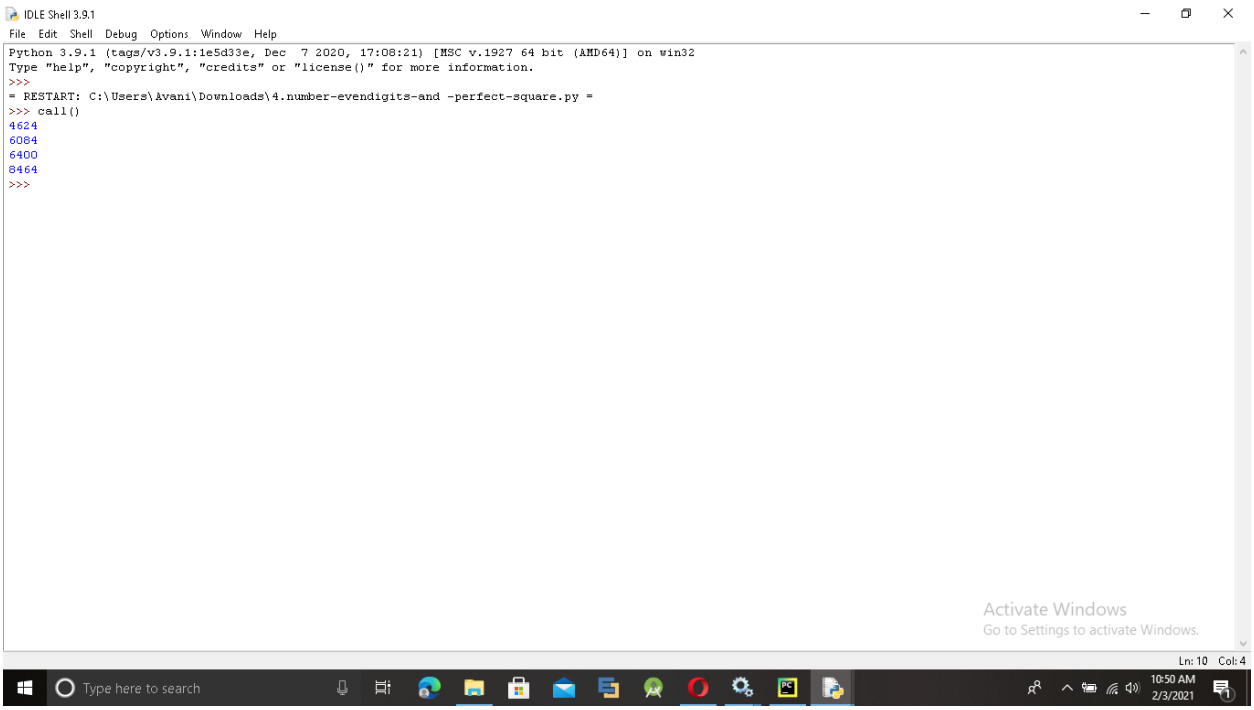
Ans:

```
def call():
    n = 0
    for x in range(1000,10000):
        num=str(x)
        number=int(x)
        first = int(num[0])
        second = int(num[1])
        third = int(num[2])
        fourth = int(num[3])
        if first%2==0:
            if second%2==0:
```

```
        if third%2==0:
            if fourth%2==0:
                for i in range(2,number):
                    if i*i==number:
                        print(number)
```

OUTPUT

```
>>> call()
4624
6084
6400
8464
```



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

Eg: N=4

1

2 4

3 6 9

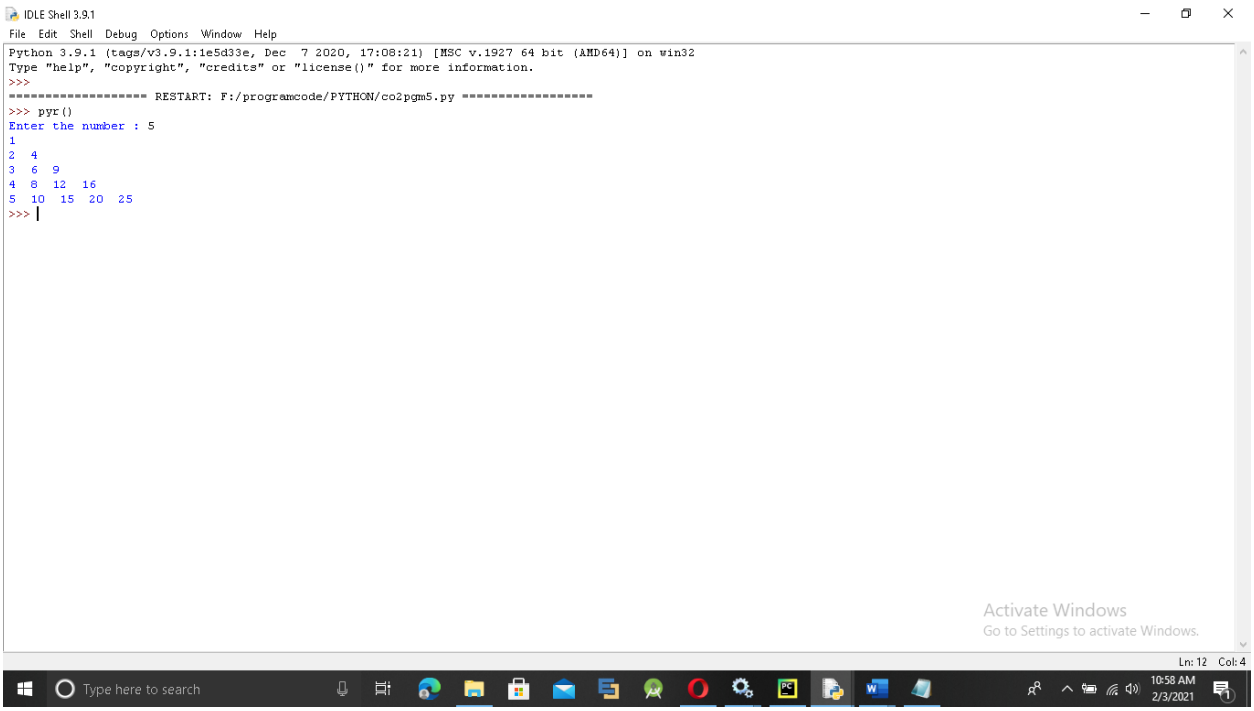
4 8 12 16

Ans:

```
def pyr():
        n=int(input("Enter the number : "))
        i=1
        for i in range(1,n+1):
                j=1
                for j in range(1,i+1):
                        temp=i*j;
                        print(temp,end="  ")
                print("")
```

OUTPUT

```
pyr()
Enter the number : 5
1
2  4
3  6  9
4  8  12  16
5  10  15  20  25
```



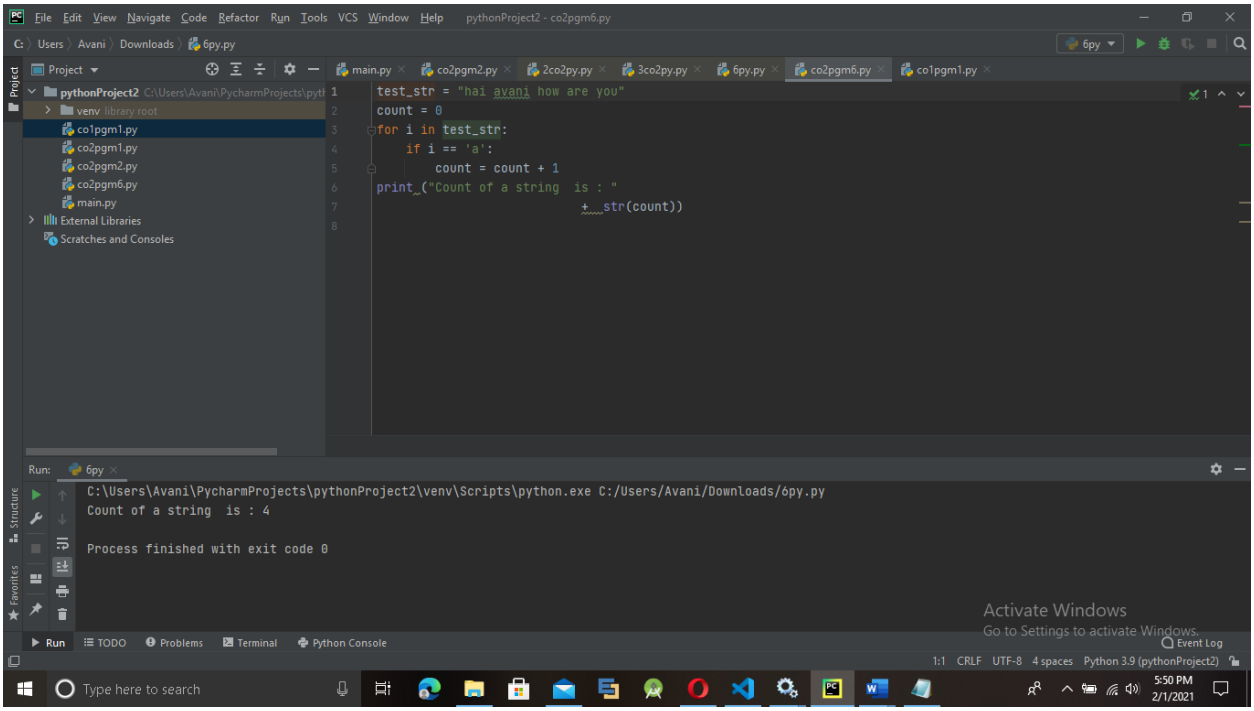
6) Count the number of characters (character frequency) in a string?

Ans:

```
test_str = "hai avani how are you"

count = 0

for i in test_str:

    if i == 'a':

        count = count + 1

print ("Count of a string  is : " +  str(count))
```

OUTPUT

Count of a string is:4



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

Ans:

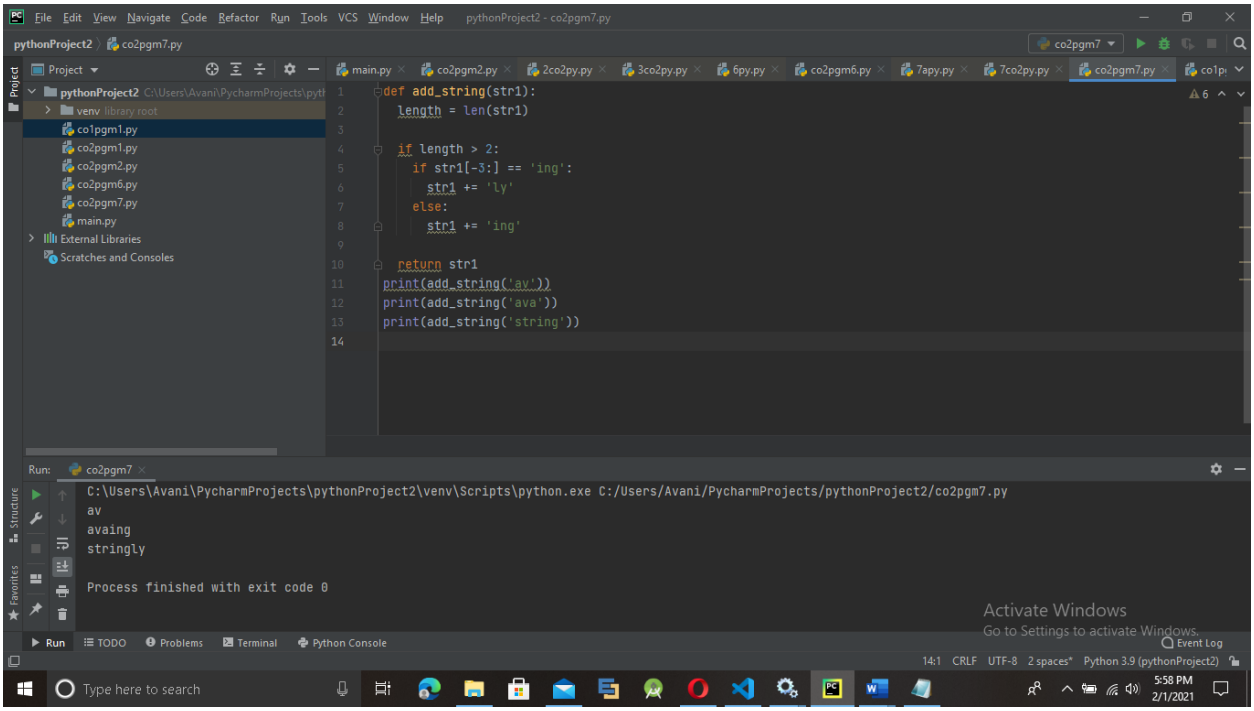
```
def add_string(str1):
  length = len(str1)

  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

av

avaing

stringly



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

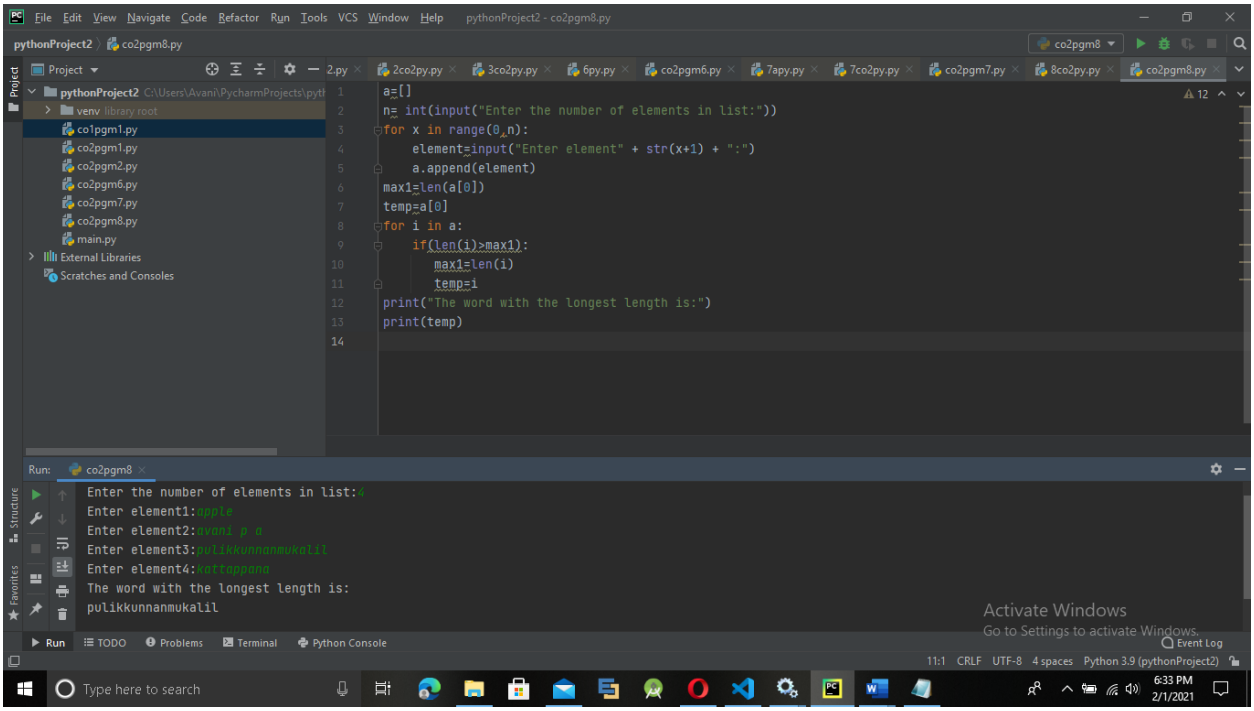
Ans:

```
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

```
Enter the number of elements in list:4
Enter element1:apple
Enter element2:avani p a
Enter element3:pulikkunnanmukalil
Enter element4:kattappana
The word with the longest length is:
pulikkunnanmukalil

Process finished with exit code 0
```



9)Construct following pattern using nested loop?

*

**

***

****

*****

****

***

**

**

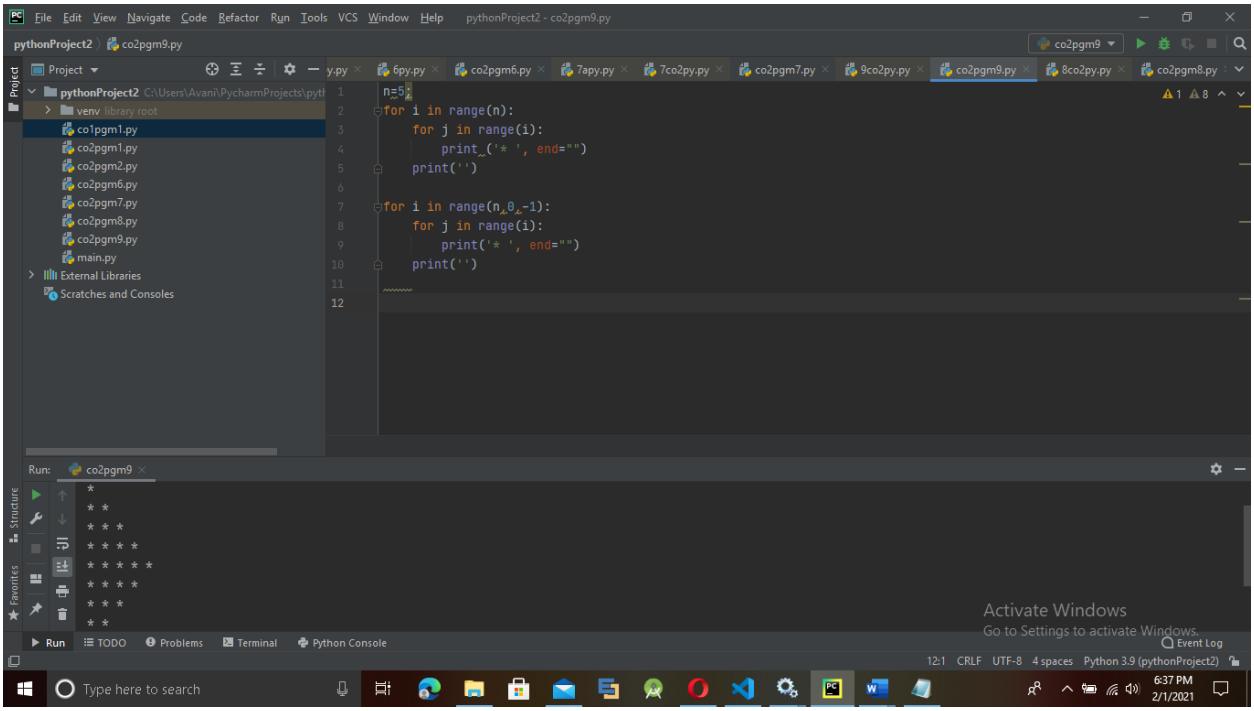
*

Ans:

```
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

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

Process finished with exit code 0
```



10)Generate all factors of numbers of a number?

Ans:

```
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

The factors of 200 are:

1

2

4

5

8

10

20

25

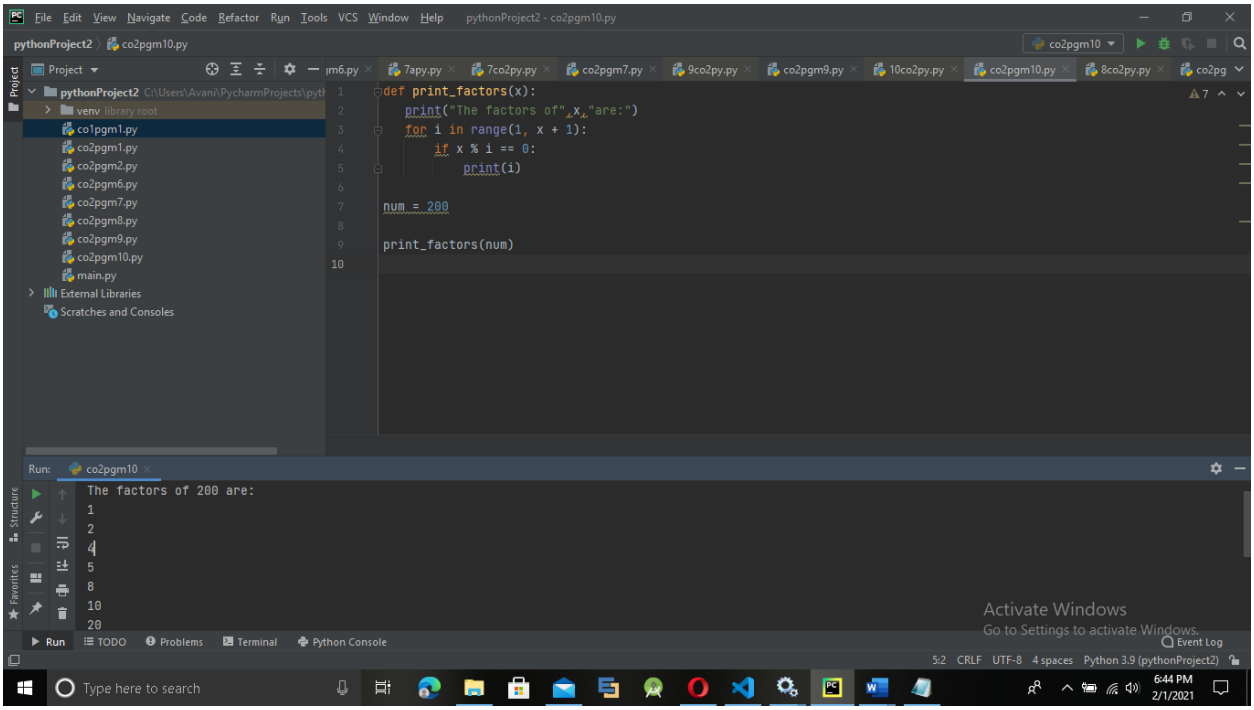
40

50

100

200

Process finished with exit code 0



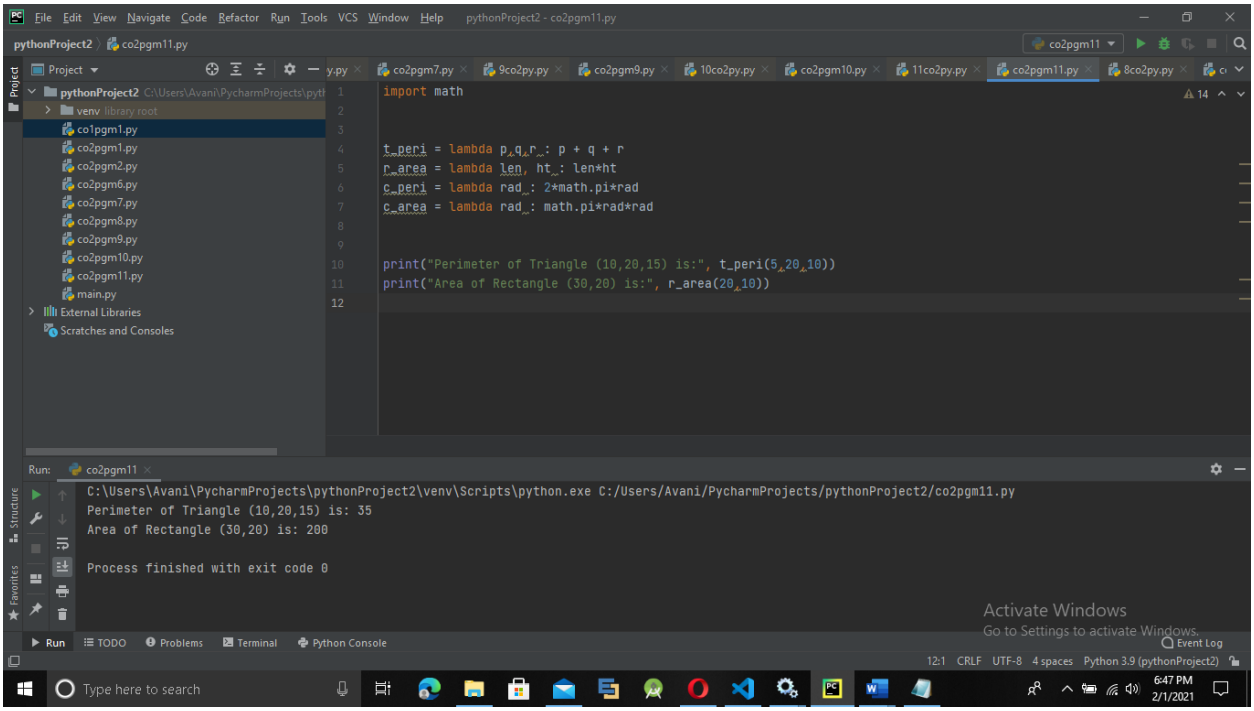
11)Write lambda functions to find area of square, rectangle and triangle?

Ans:

```
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

```
Perimeter of Triangle (10,20,15) is: 35

Area of Rectangle (30,20) is: 200


Process finished with exit code 0
```



Co1

20)From a list of integers, create a list removing even numbers?

Ans:

```
list=[11,22,33,44,55,66]
print("original list")
print (list)
for i in list:
        if(i%2==0):
                list.remove(i)
                print("list after removing an even numbers:")
                print(list)
```

OUTPUT

original list

[11, 22, 33, 44, 55, 66]

list after removing an even numbers:

[11, 33, 44, 55, 66]

list after removing an even numbers:

[11, 33, 55, 66]

list after removing an even numbers:

[11, 33, 55]

Process finished with exit code 0