**CO2 PROGRAMS**

**1. Program to find the factorial of a number**

n=int(input('Enter a number : '))

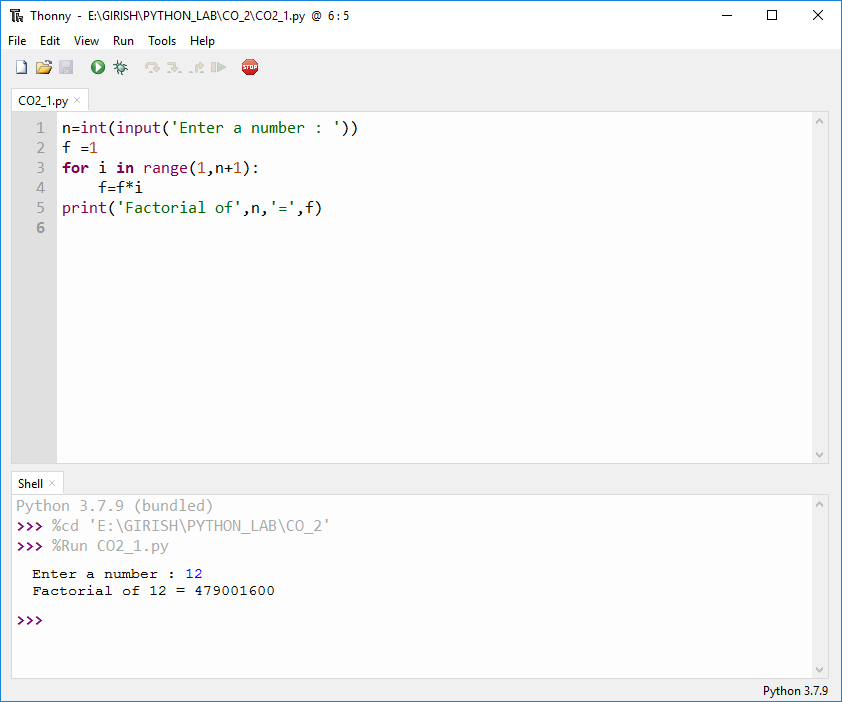
f =1

for i in range(1,n+1):

f=f\*i

print('Factorial of',n,'=',f)

**OUTPUT:**

**2. Generate Fibonacci series of N terms**

n = int(input("Enter the limit : "))

a = 0

b = 1

sum = 0

count = 1

print("Fibonacci Series :",end= " ")

while(count <= n):

print(sum, end = " ")

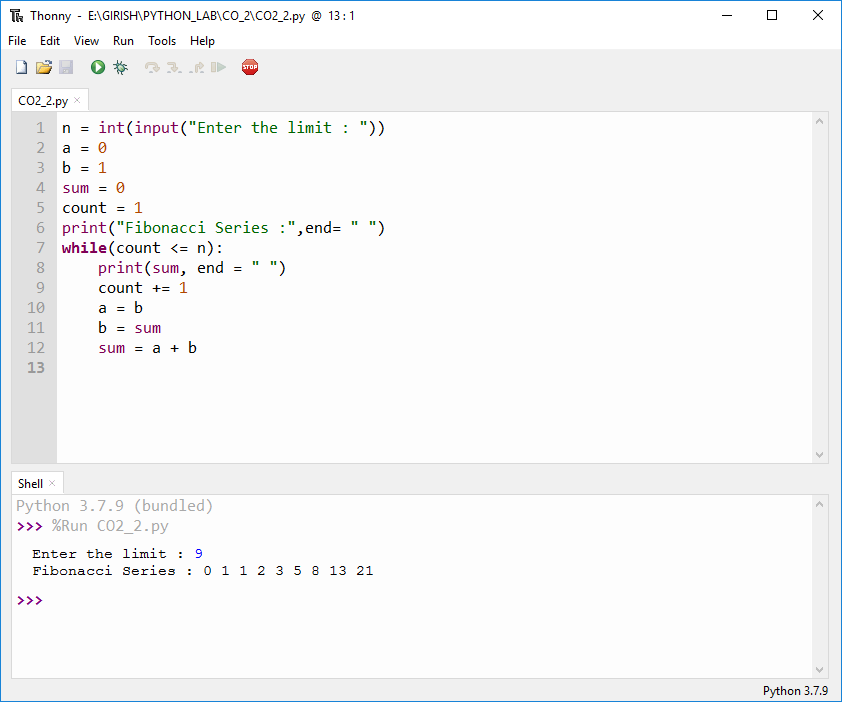
count += 1

a = b

b = sum

sum = a + b

**OUTPUT:**



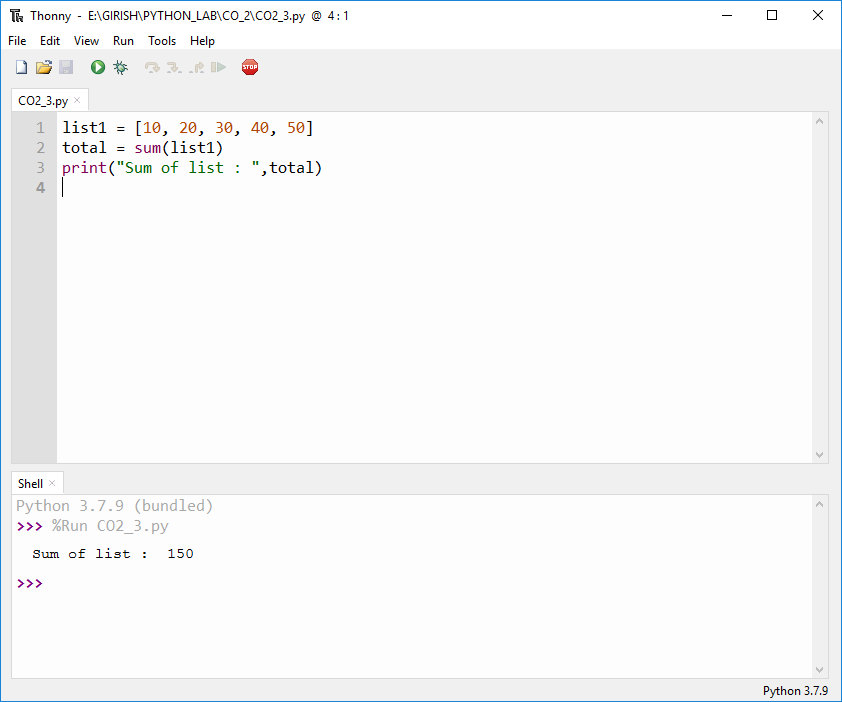
**3. Find the sum of all items in a list**

list1 = [10, 20, 30, 40, 50]

total = sum(list1)

print("Sum of list : ",total)

**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.**

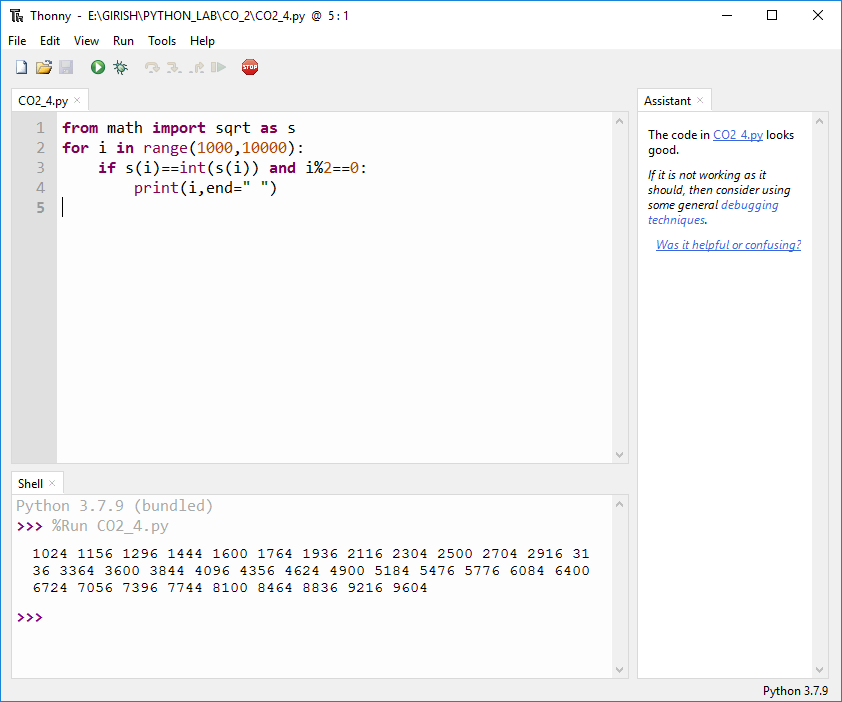
from math import sqrt as s

for i in range(1000,10000):

if s(i)==int(s(i)) and i%2==0:

print(i,end=" ")

**OUTPUT**



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

row = int(input("Enter the number of rows: "))

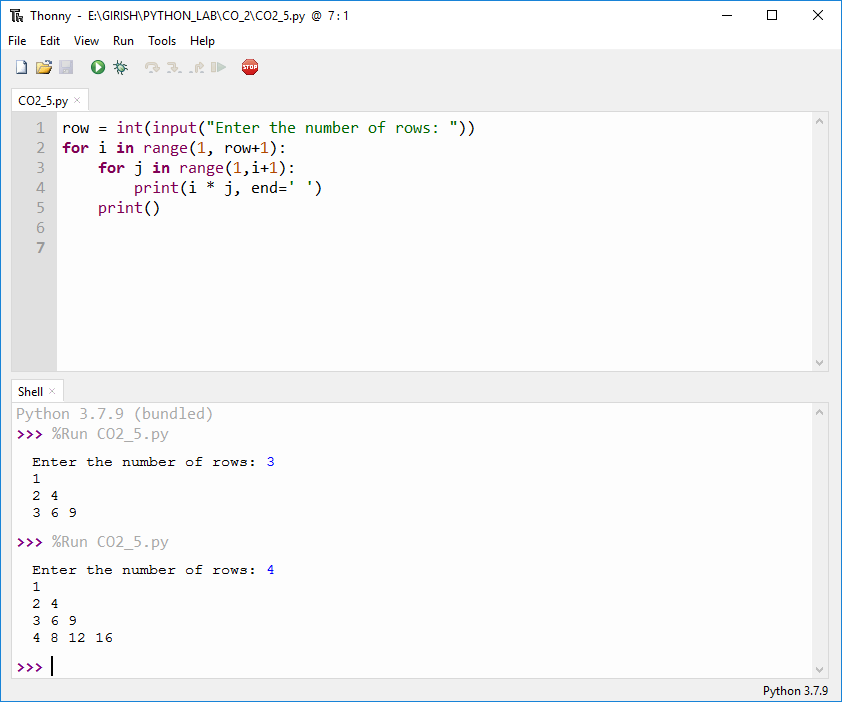
for i in range(1, row+1):

for j in range(1,i+1):

print(i \* j, end=' ')

print()

**OUTPUT:**



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

test\_str=str(input("Enter the string : "))

freq = {}

for i in test\_str:

if i in freq:

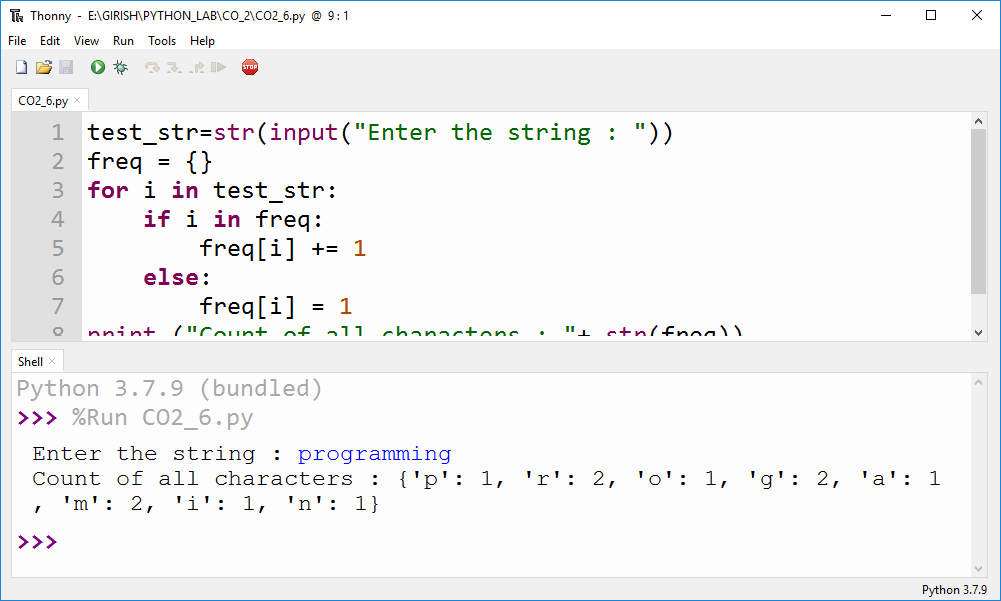
freq[i] += 1

else:

freq[i] = 1

print ("Count of all characters : "+ str(freq))

**OUTPUT**



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

str=input("enter a string:")

print("inputed string is:",str)

if(str.endswith("ing")):

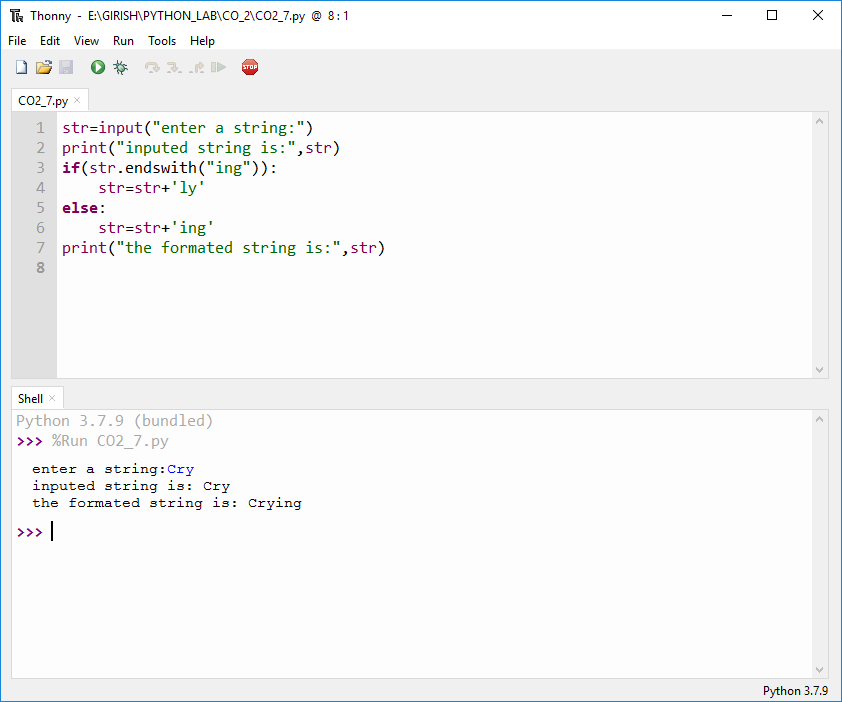
str=str+'ly'

else:

str=str+'ing'

print("the formated string is:",str)

**OUTPUT**



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

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):

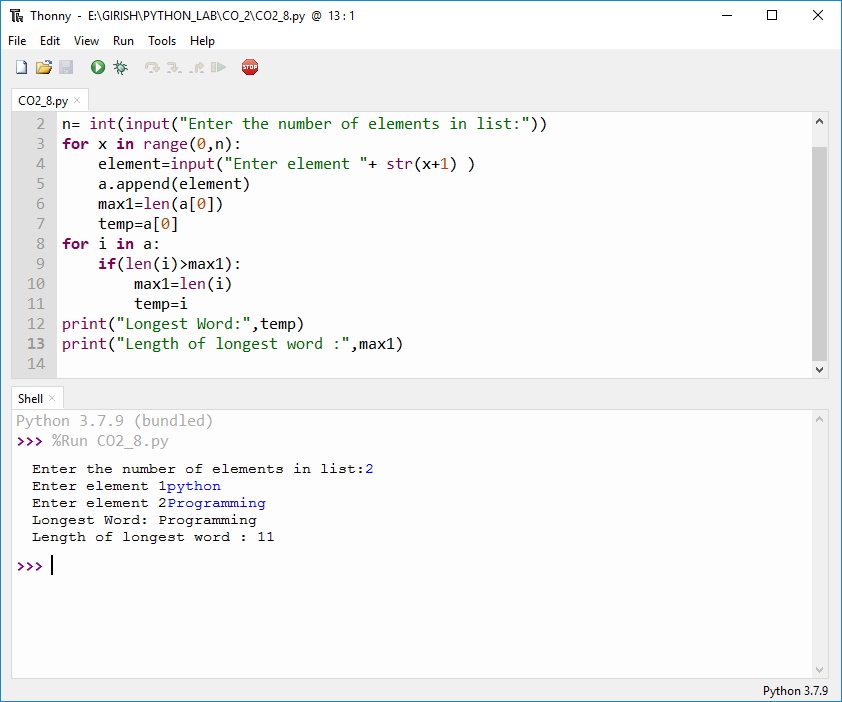
max1=len(i)

temp=i

print("Longest Word:",temp)

print("Length of longest word :",max1)

**OUTPUT**



**9.** **Construct following pattern using nested loop**

n= int(input("Enter the limit:"))

for i in range(n):

for j in range(i):

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

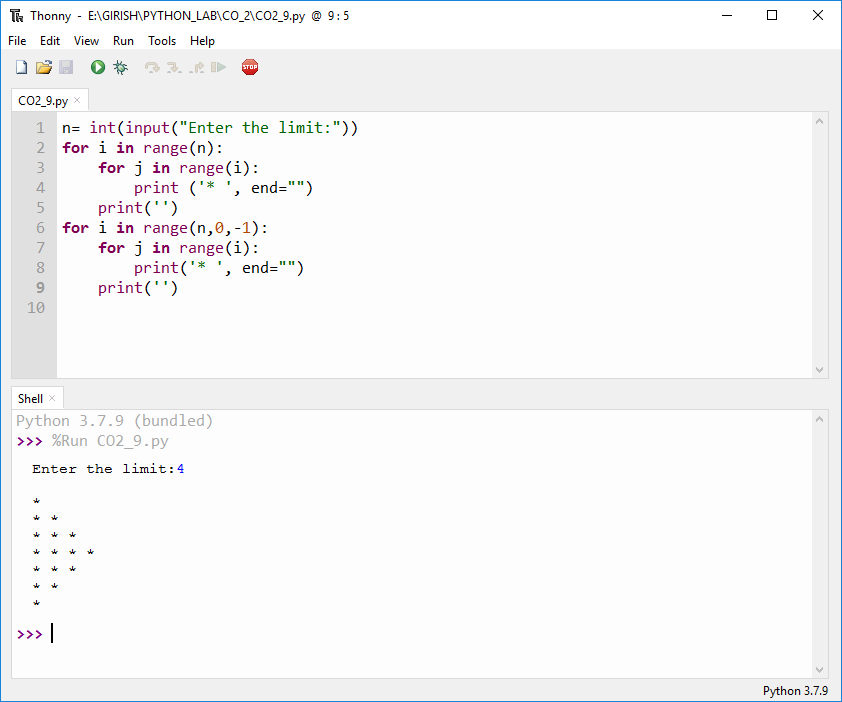
print('')

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

for j in range(i):

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

print('')



**10. Generate all factors of a number. def print\_factors(x):**

def factors(x):

print("The factors of",x,"are:")

for i in range(1, x + 1):

if x % i == 0:

print(i)

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

factors(n)

**OUTPUT**



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

import math

t\_area = lambda b,h : 1/2\*b\*h

r\_area = lambda l,b : l\*b

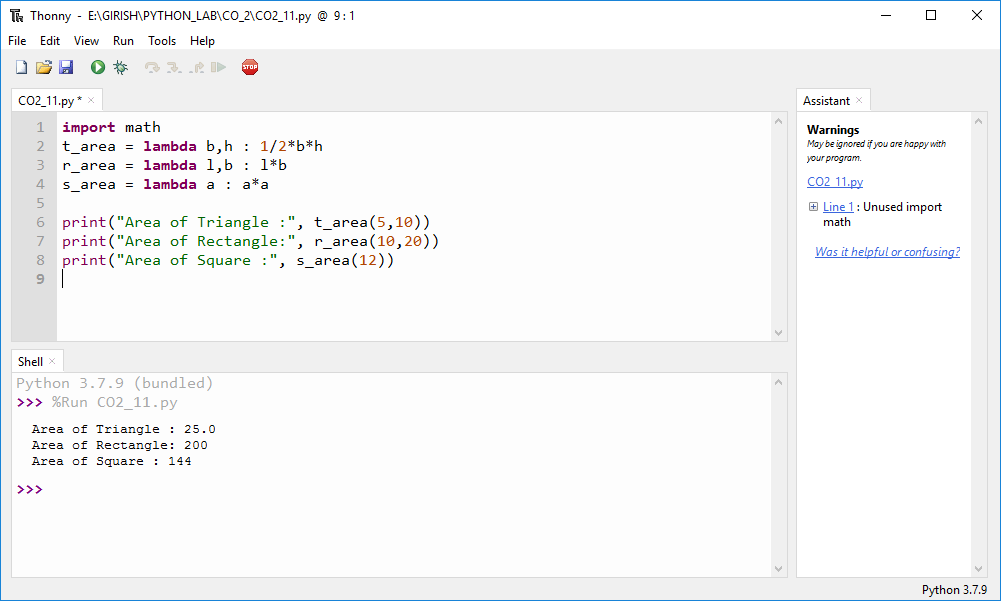
s\_area = lambda a : a\*a

print("Area of Triangle :", t\_area(5,10))

print("Area of Rectangle:", r\_area(10,20))

print("Area of Square :", s\_area(12))

**OUTPUT**



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