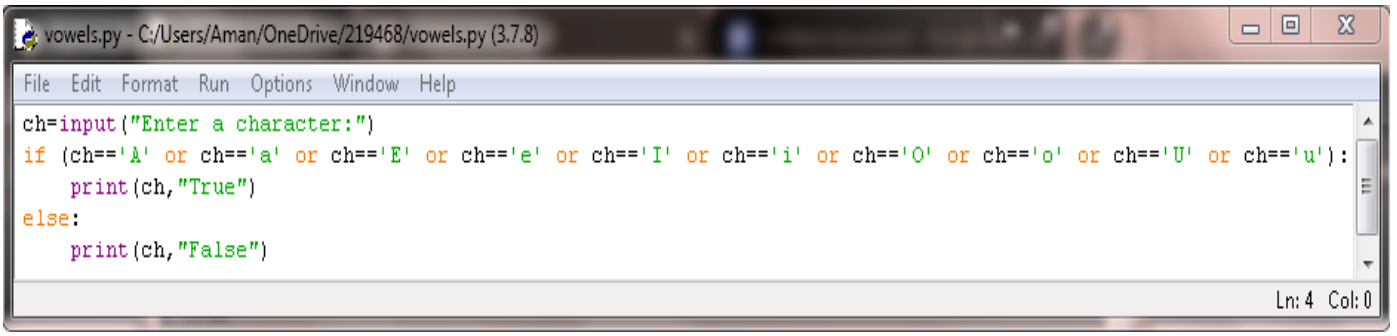
Name : AmanKumar Arunkumar Yadav
Div : B
Roll No. : 219468
Class : SY.BSc.IT.
Subject : Python Programming practical(2-8)

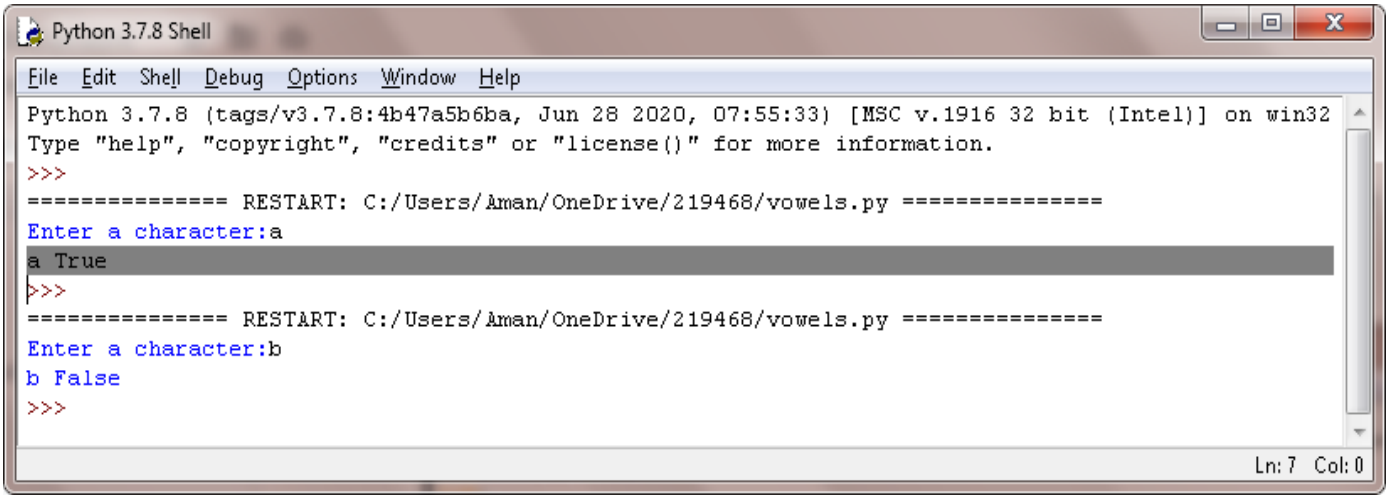
Practical no 2

1.Write a function that takes a character (i.e. a string of length 1) and returns True if it is a vowel, False otherwise.

Code:



Output:



2. Define a function histogram() that takes a list of integers and prints a histogram to the screen. For example, histogram(4, 9, 7) should print the following:

****

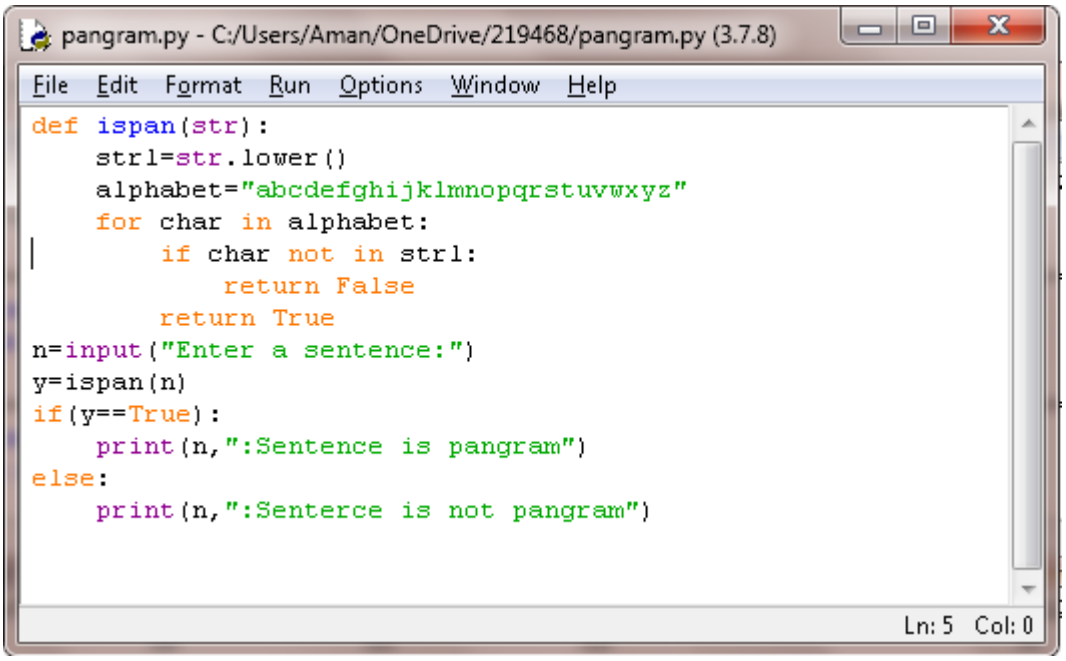
****

****

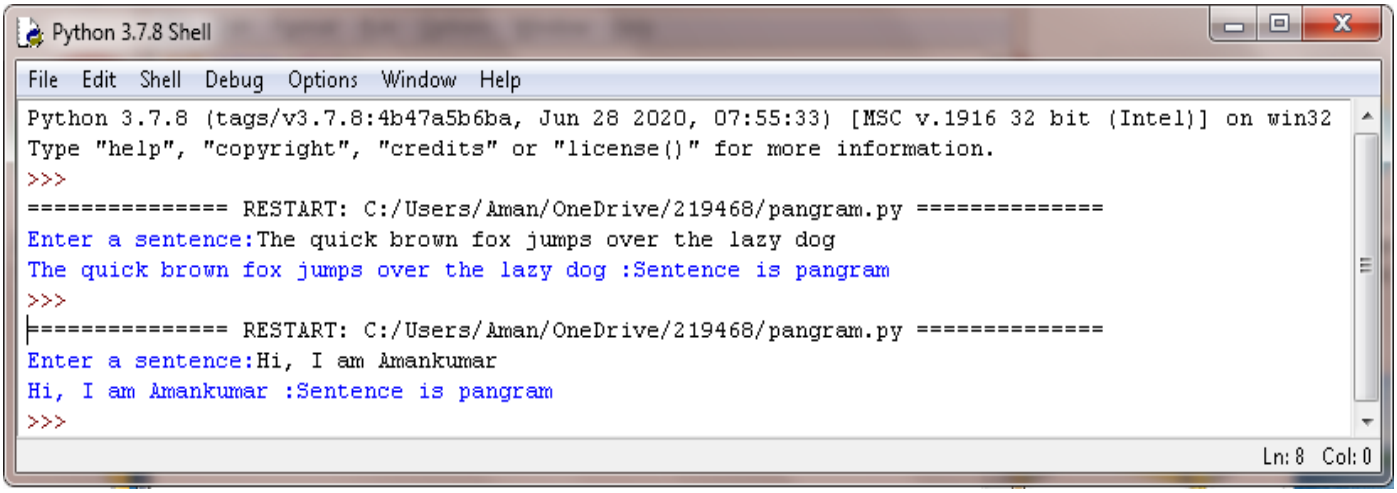
Code:

3. A pangram is a sentence that contains all the letters of the English alphabet at least once, for example: The quick brown fox jumps over the lazy dog. Your task here is to write a function to check a sentence to see if it is a pangram or not.

Code:

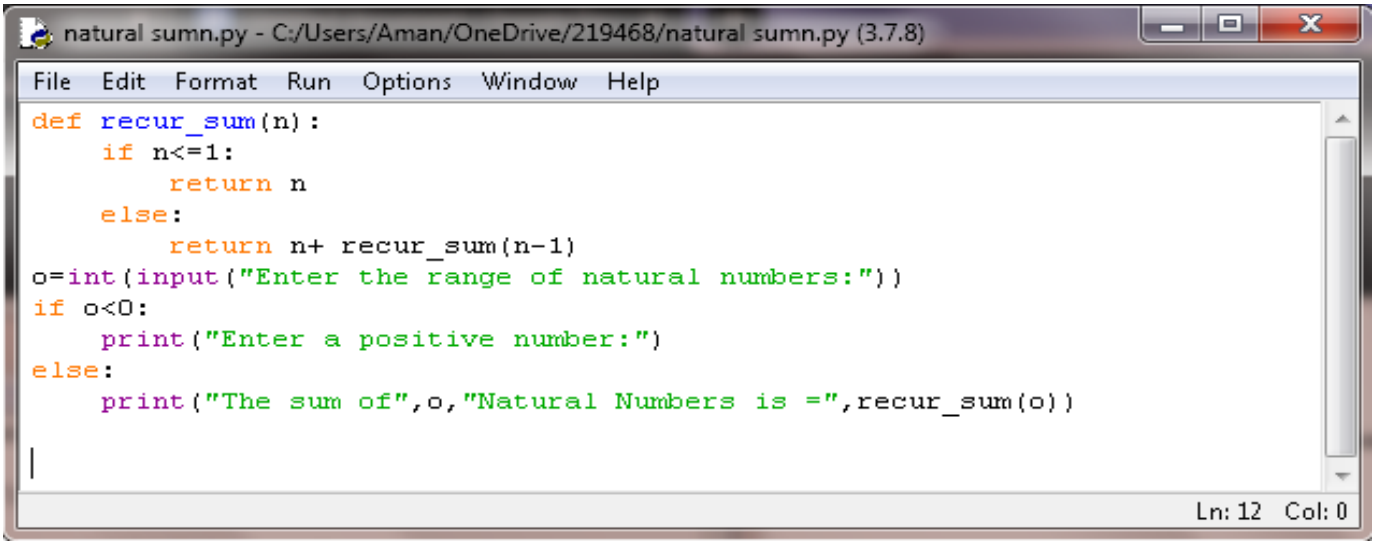


Output:

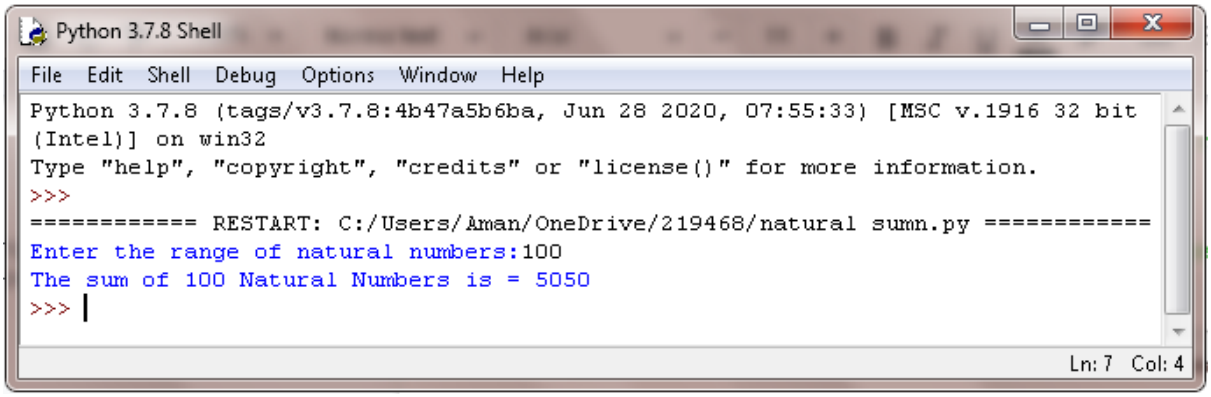


4. Write a python code to print the sum of natural numbers using recursive functions.

Code:

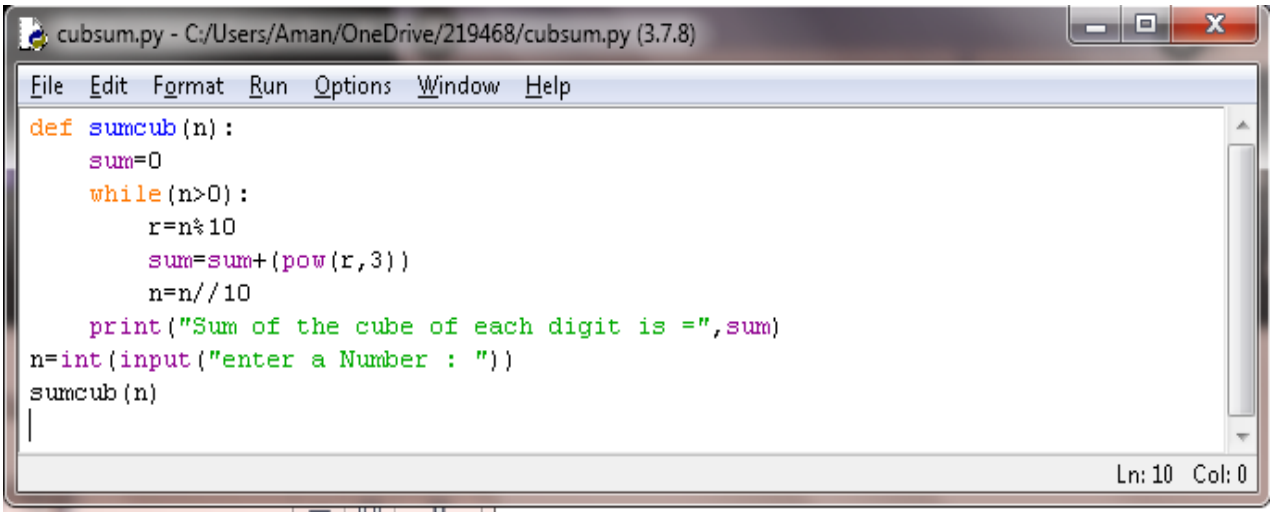


Output:

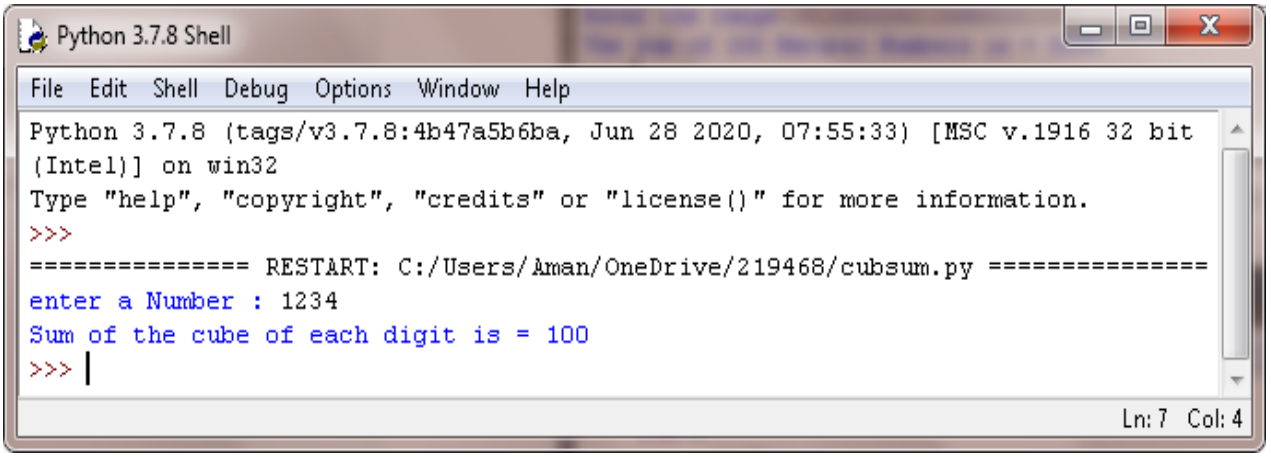


5. Write a python code to display the sum of cubes of digits of a number using function.

Code:



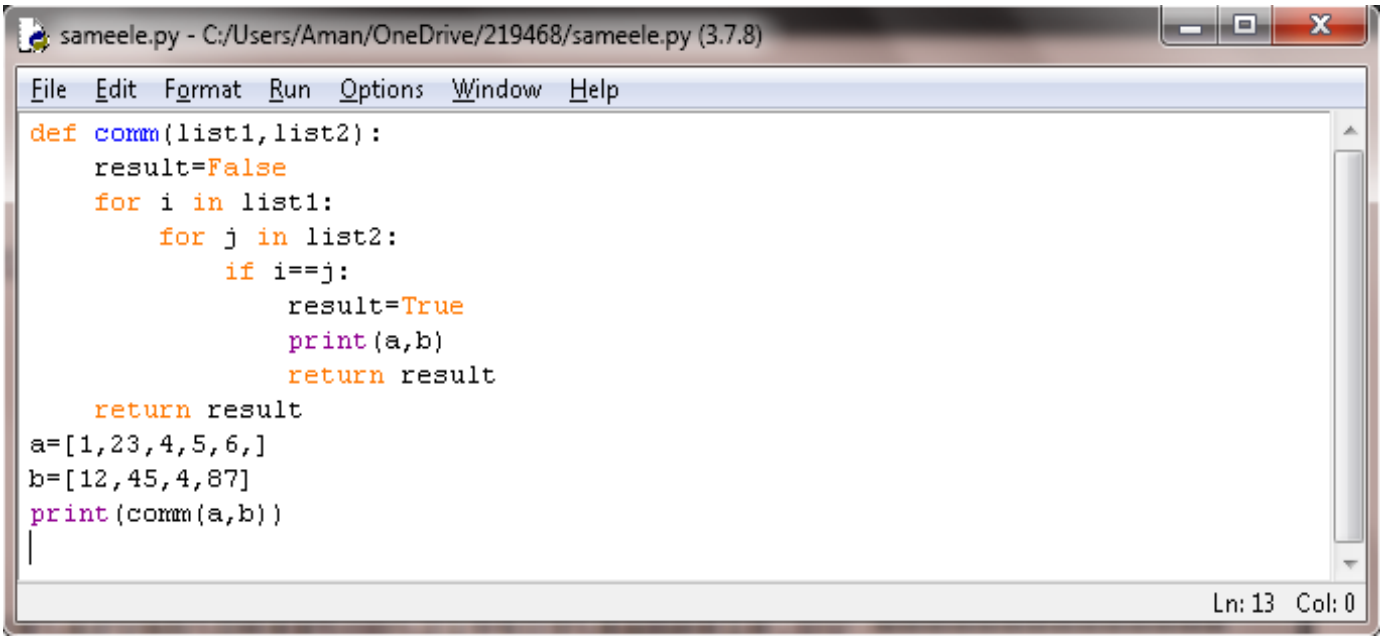
Output :



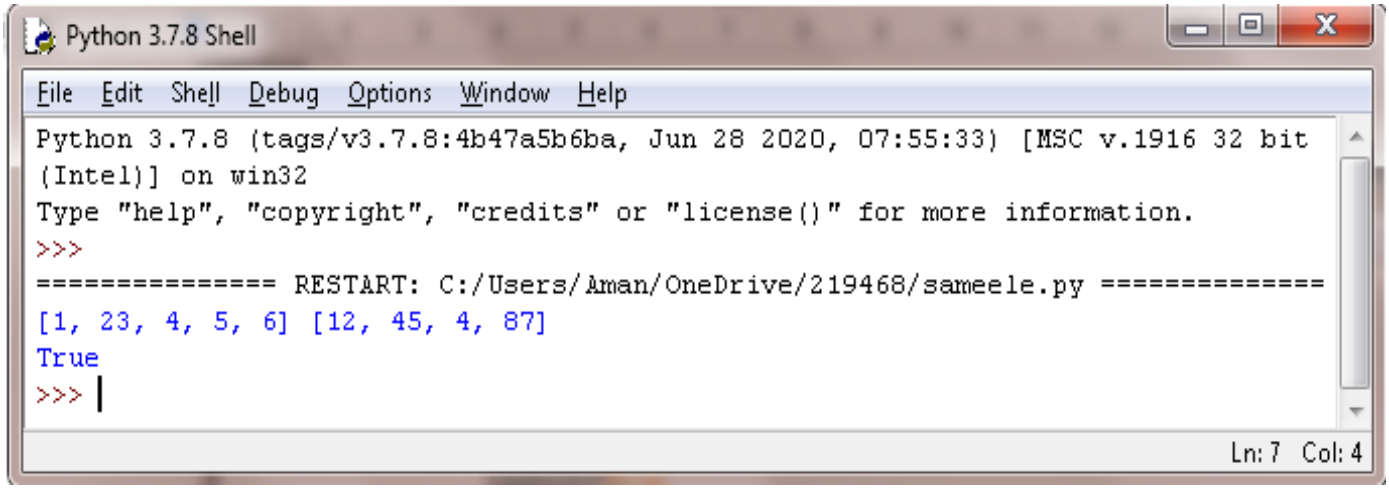
Practical no 3

1.Write a program that takes two lists and returns True if they have at least one common member.

Code:

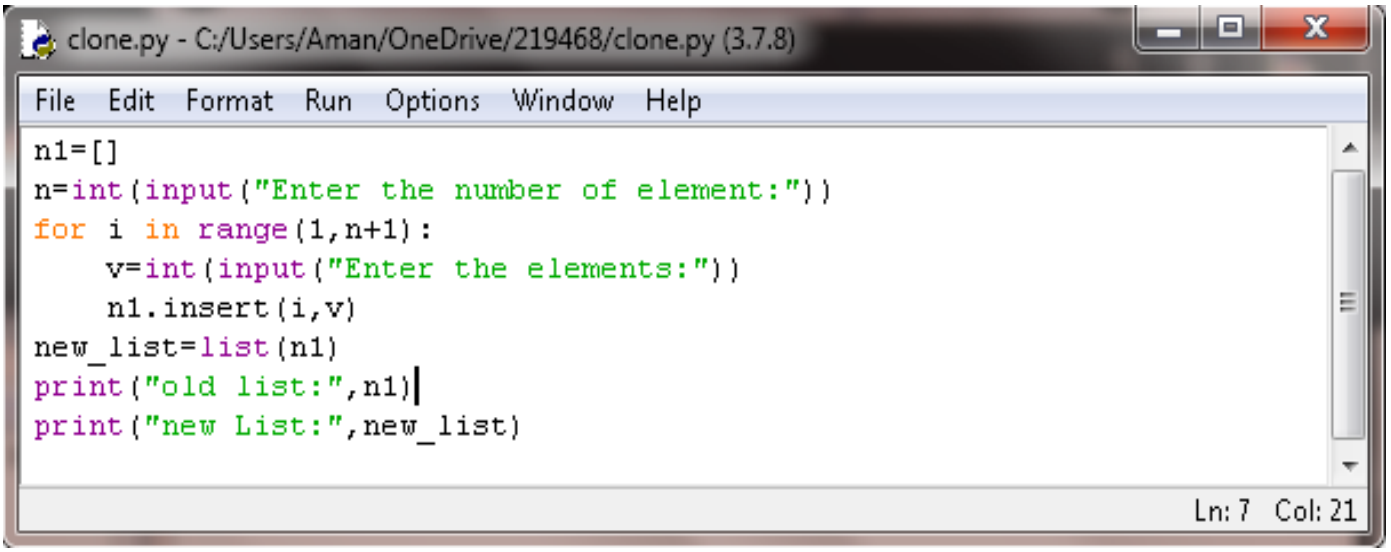


Output:

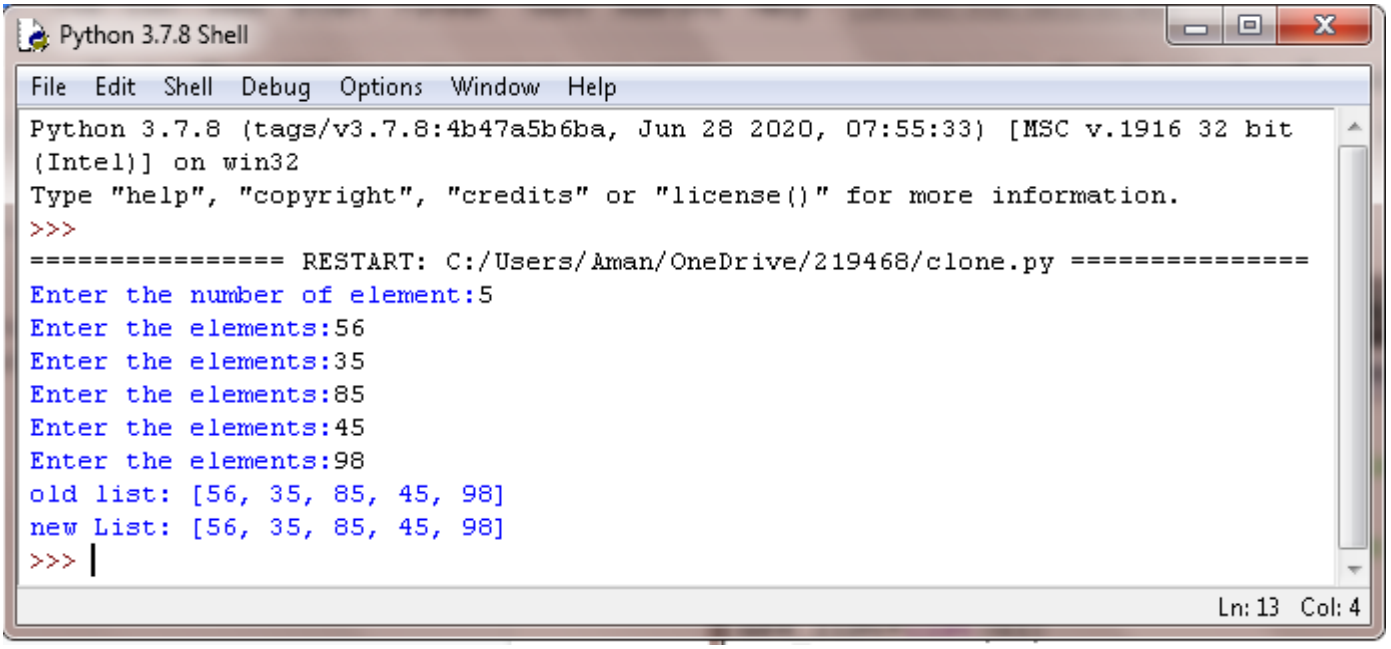


2. Write a Python program to clone or copy a list.

Code:

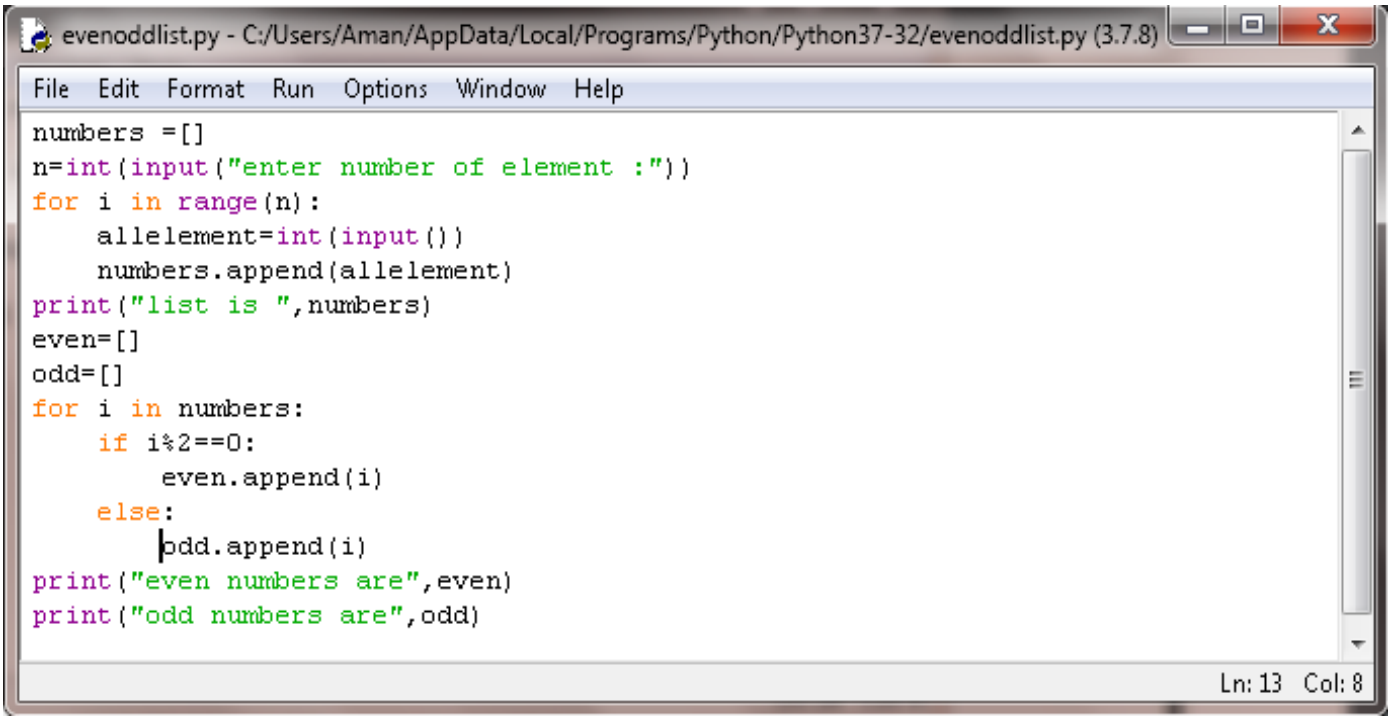


Output:

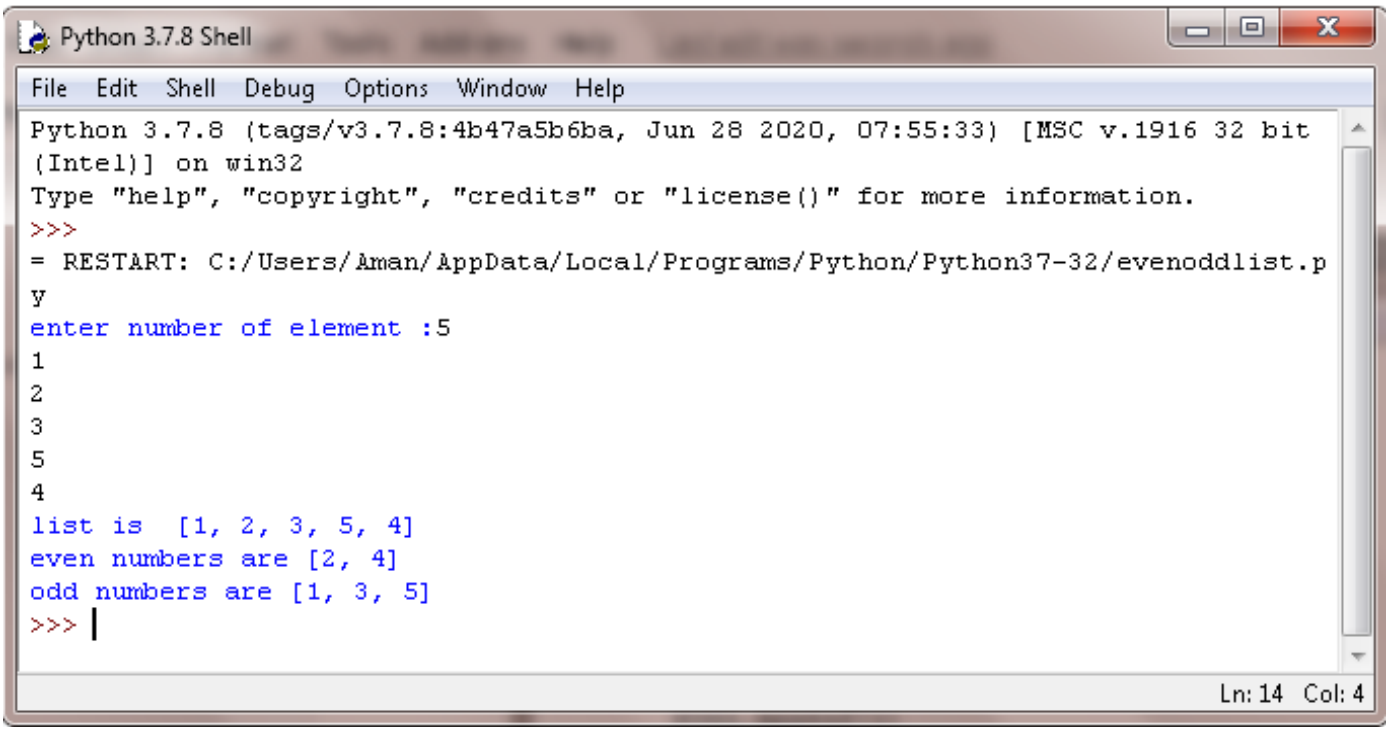


3. Write a python code to display the odd and even numbers separately from a list. (All elements in the list should be taken from user).

Code:

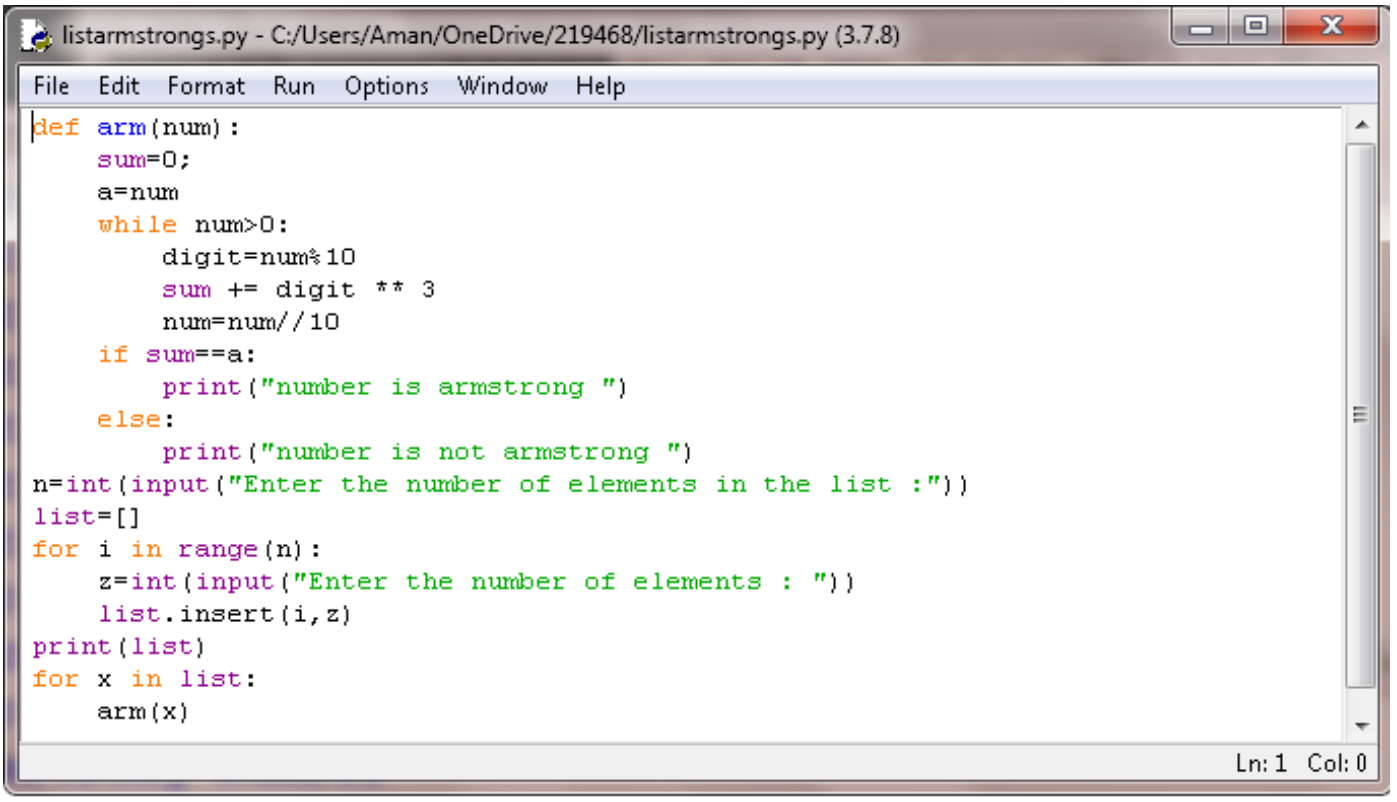


Output:

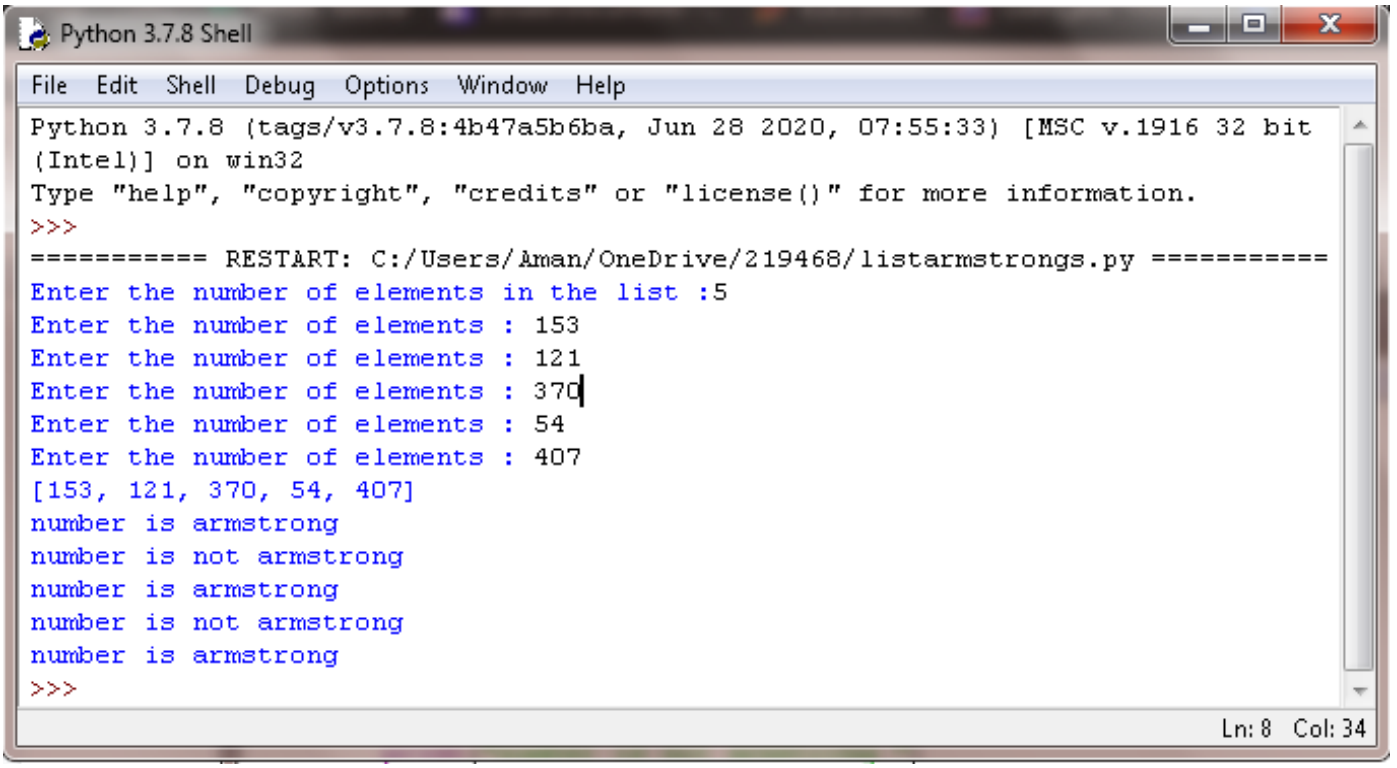


Q4.Write a python program to accept an Integer list from user and print all the Armstrong numbers in that list.

Code:

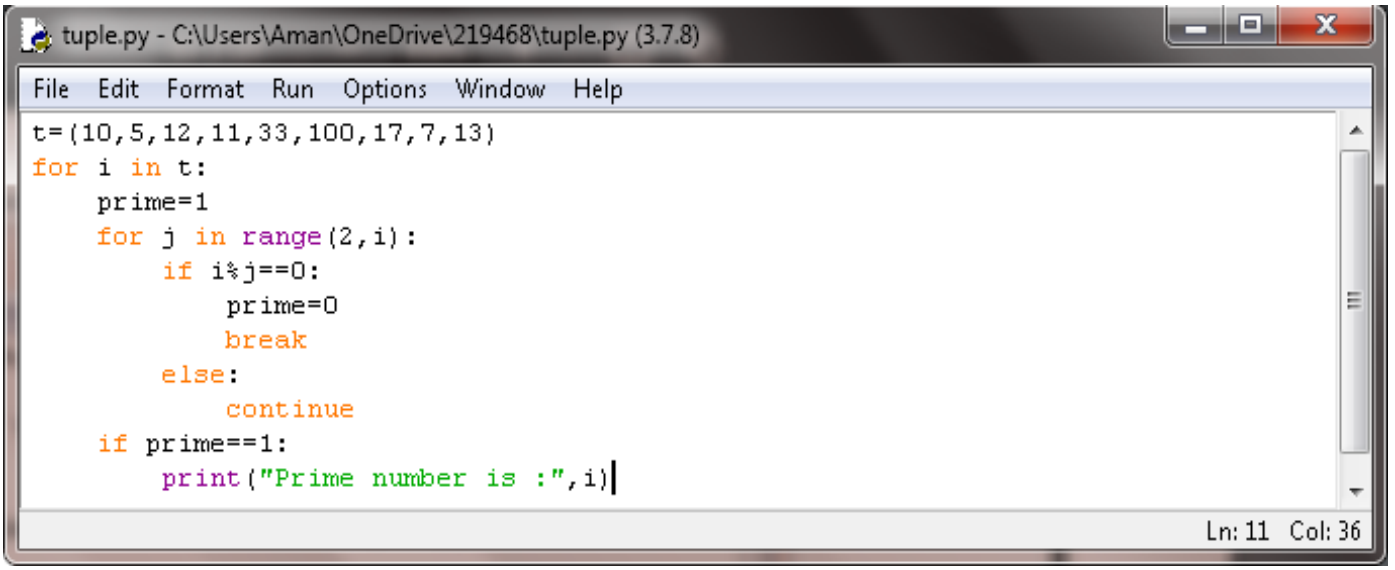


Output:

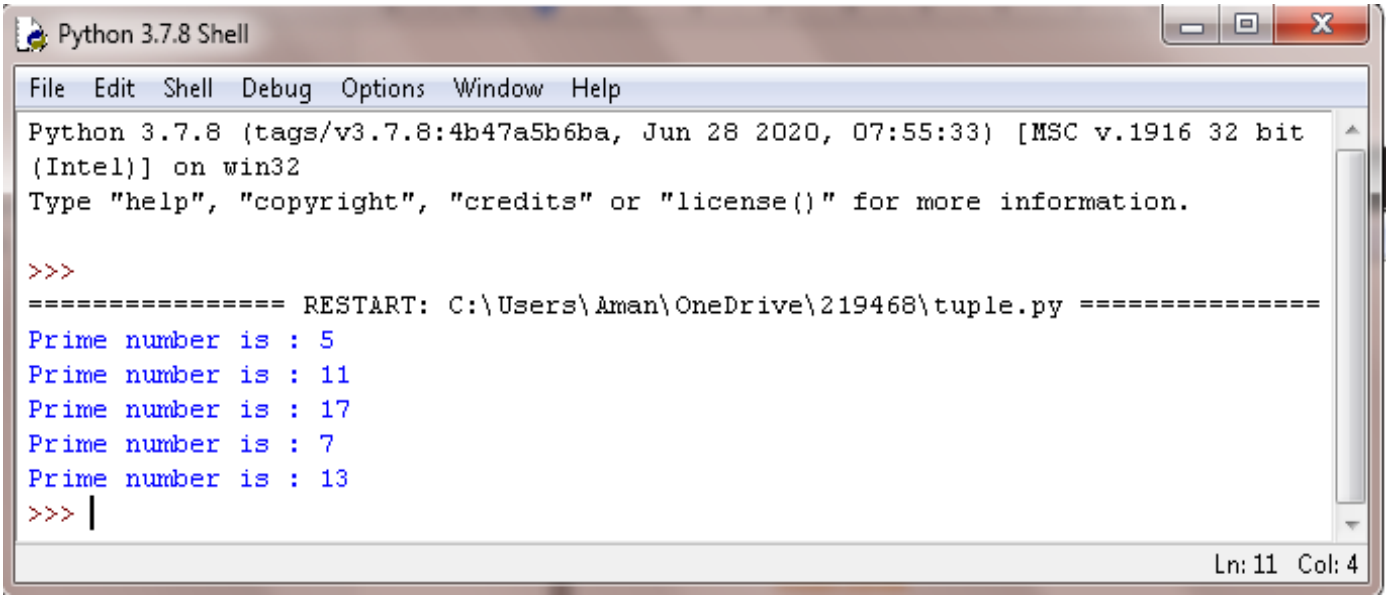


Q.5 Consider the Tuple t=(10,5,12,11,33,100,17,7,13).Write a python code to display all the prime numbers from the tuple t.

Code:



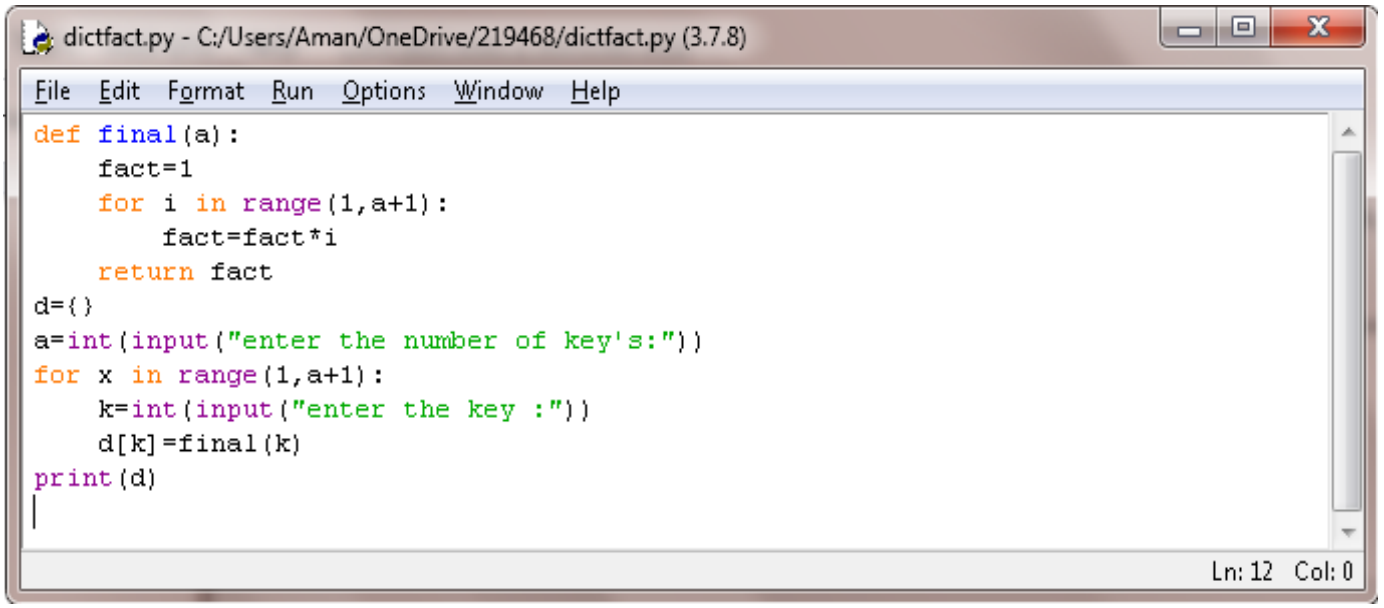
Output:



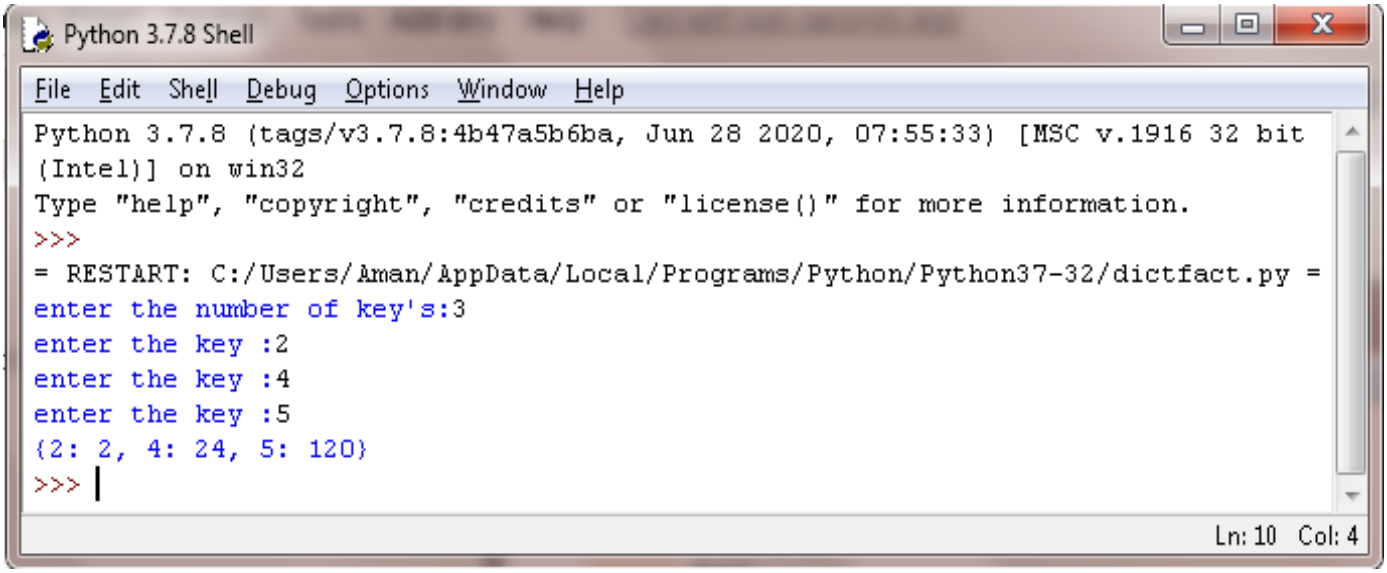
Practical.no. 4

Q.1 Write a python script to create a dictionary where key will be number and the value will be factorial

Code:

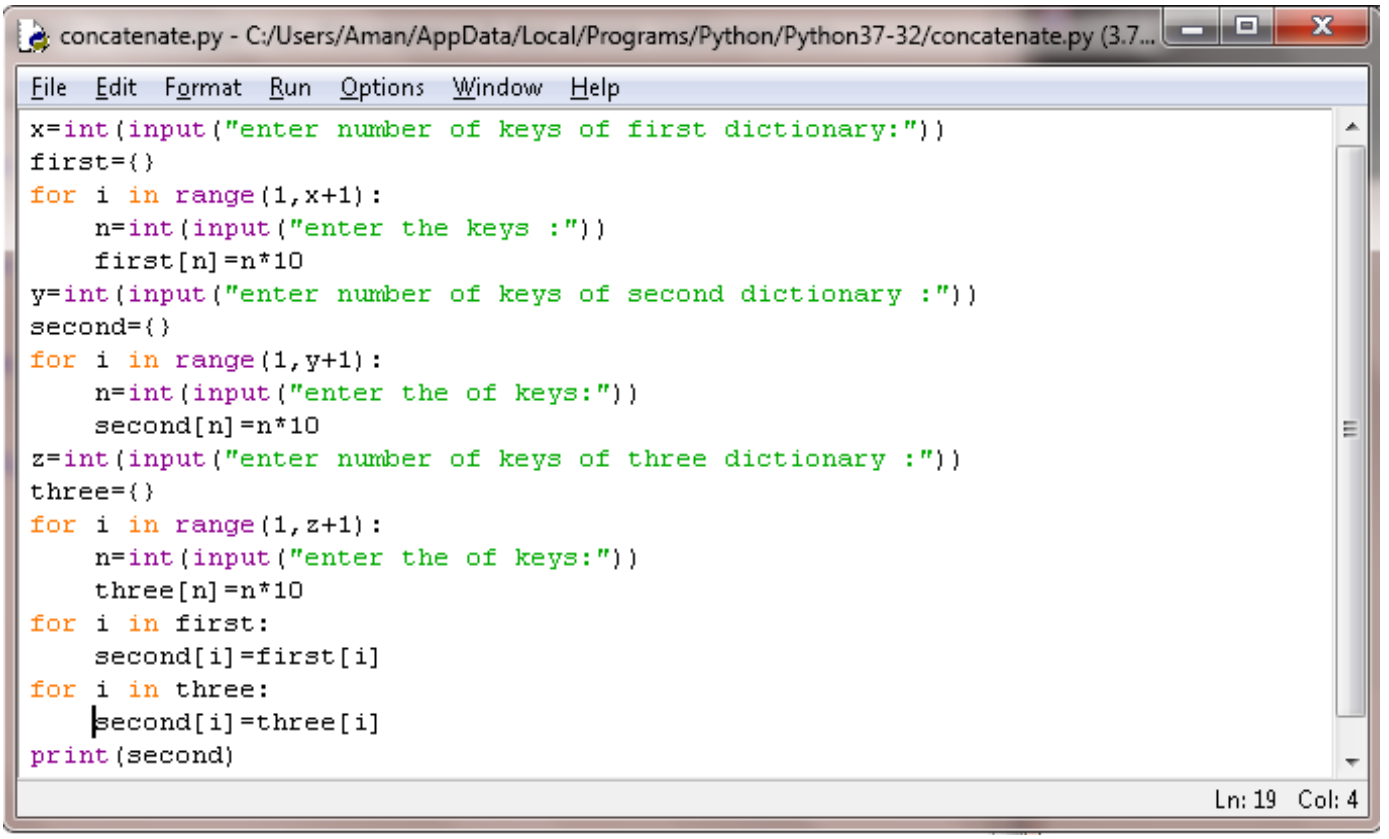


Output:

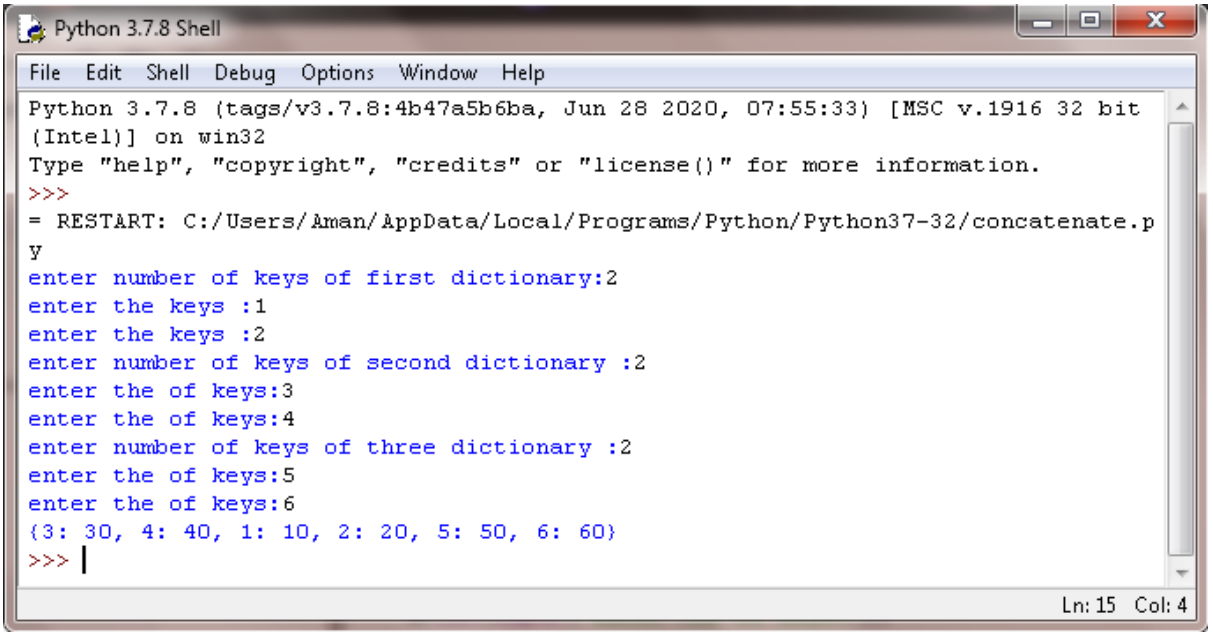


Q.2 Write a Python script to concatenate following dictionaries to create a new one. For Example: dic1={1:10, 2:20} dic2={3:30, 4:40} dic3={5:50,6:60} Expected Result : {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}

Code:

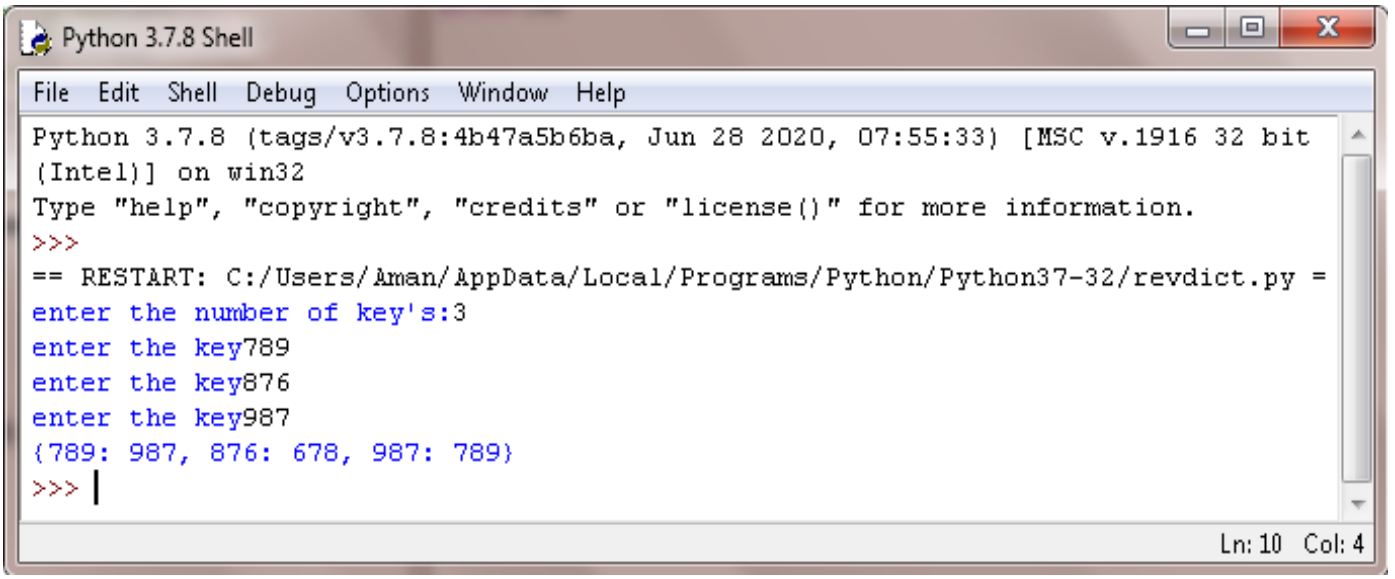


Output:

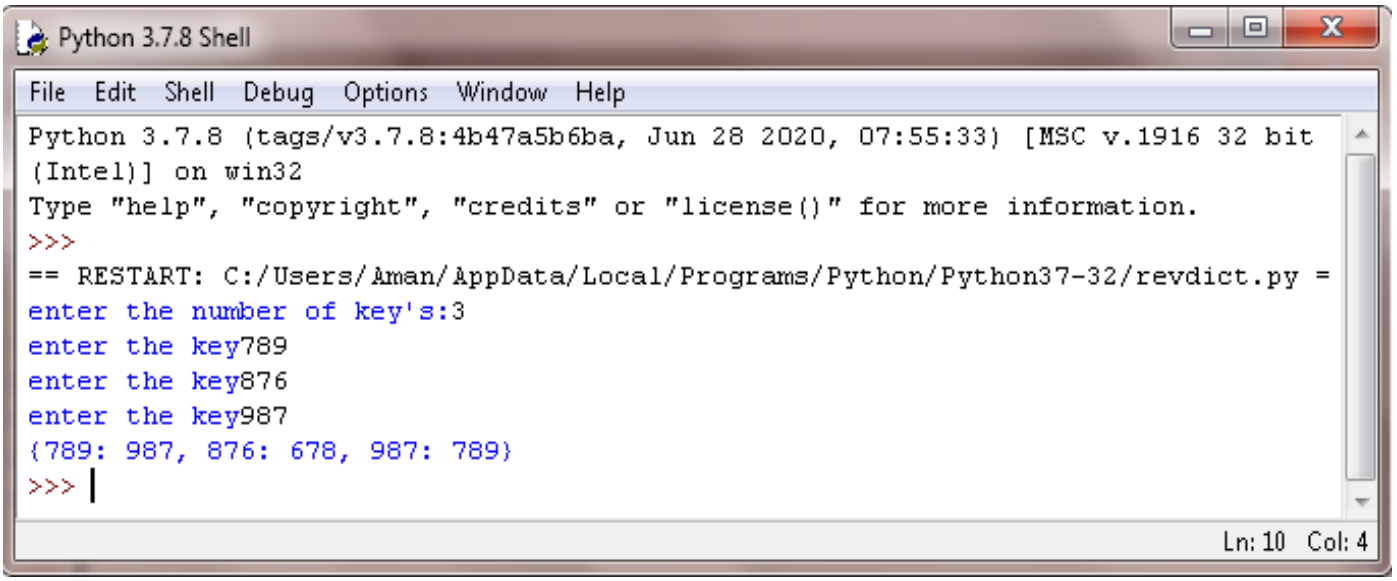


Q.3 Write a python script to create a dictionary where key will be numbers and value will be its reverse of that number. For Example: dic1={123:321,89:98,236:632}

Code:

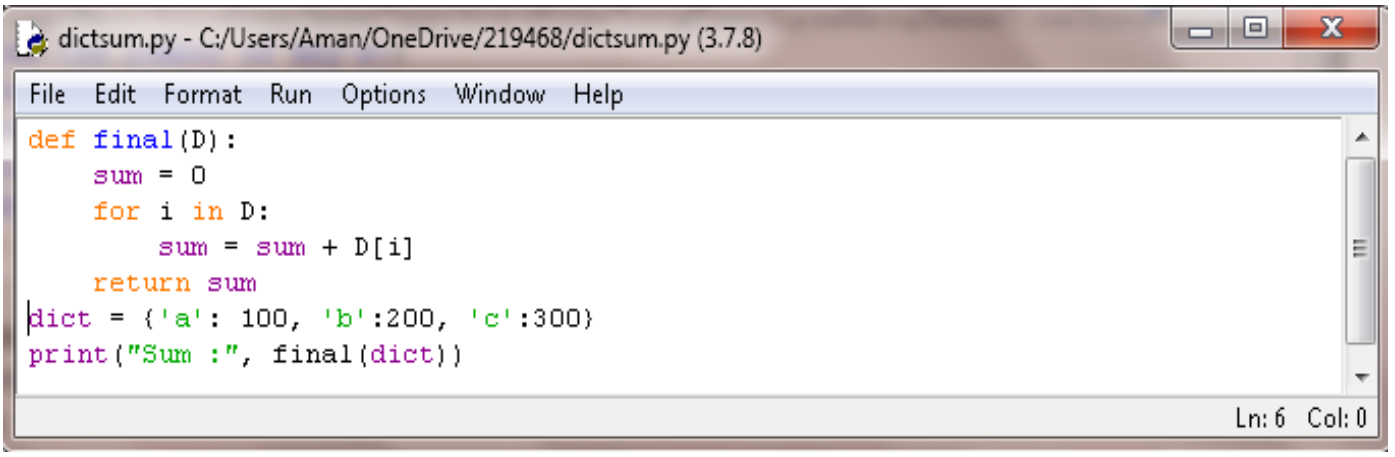


Output:

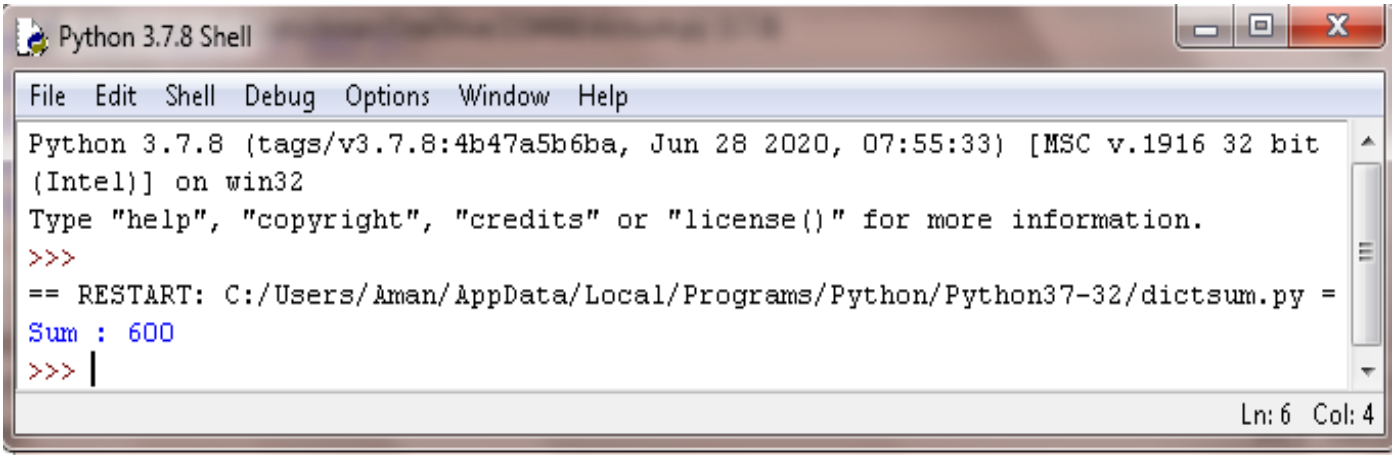


Q4 Write a Python program to sum all the items in a dictionary.

Code:

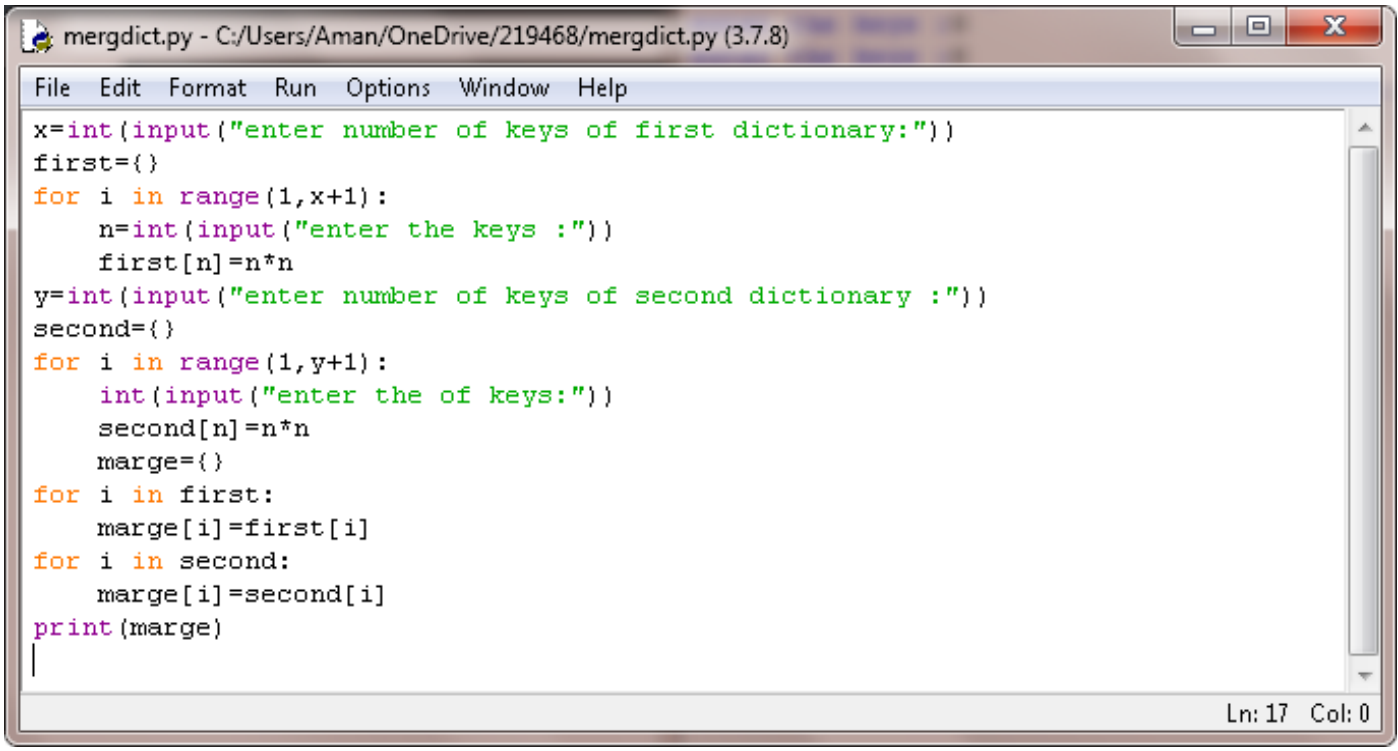


Output:

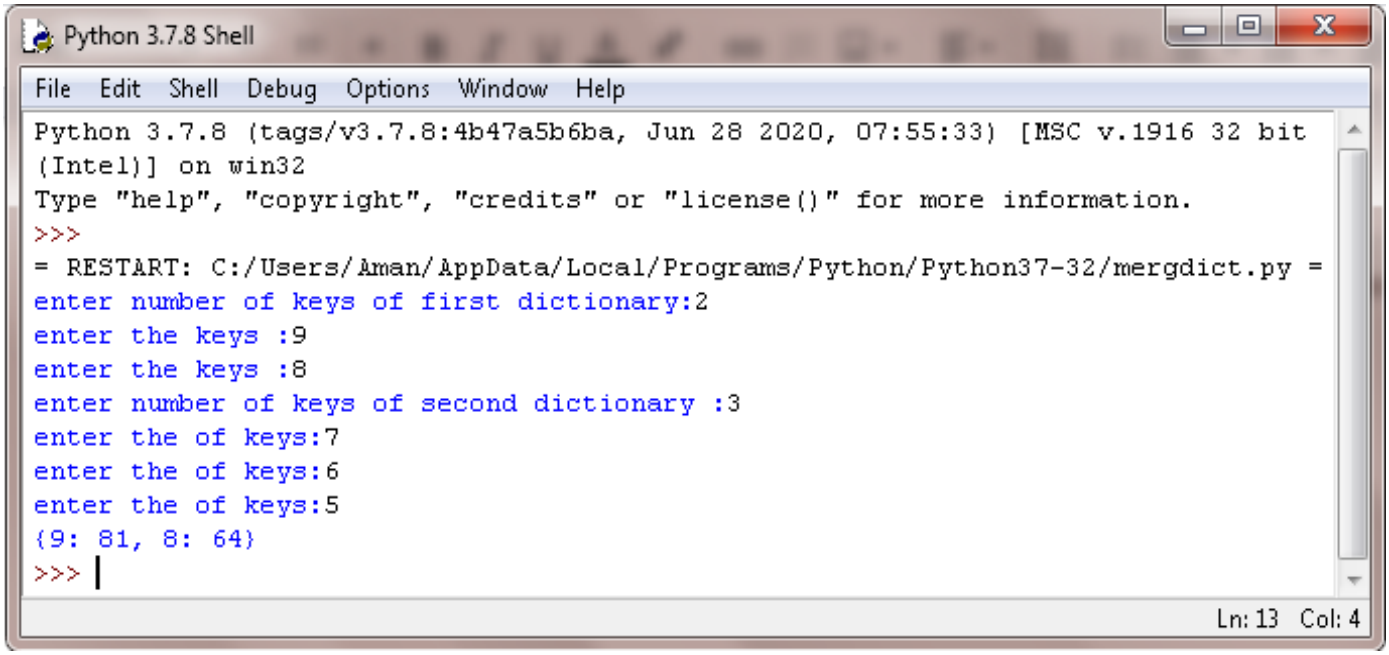


Q.5 Write a Python script to merge two Python dictionaries

Code:



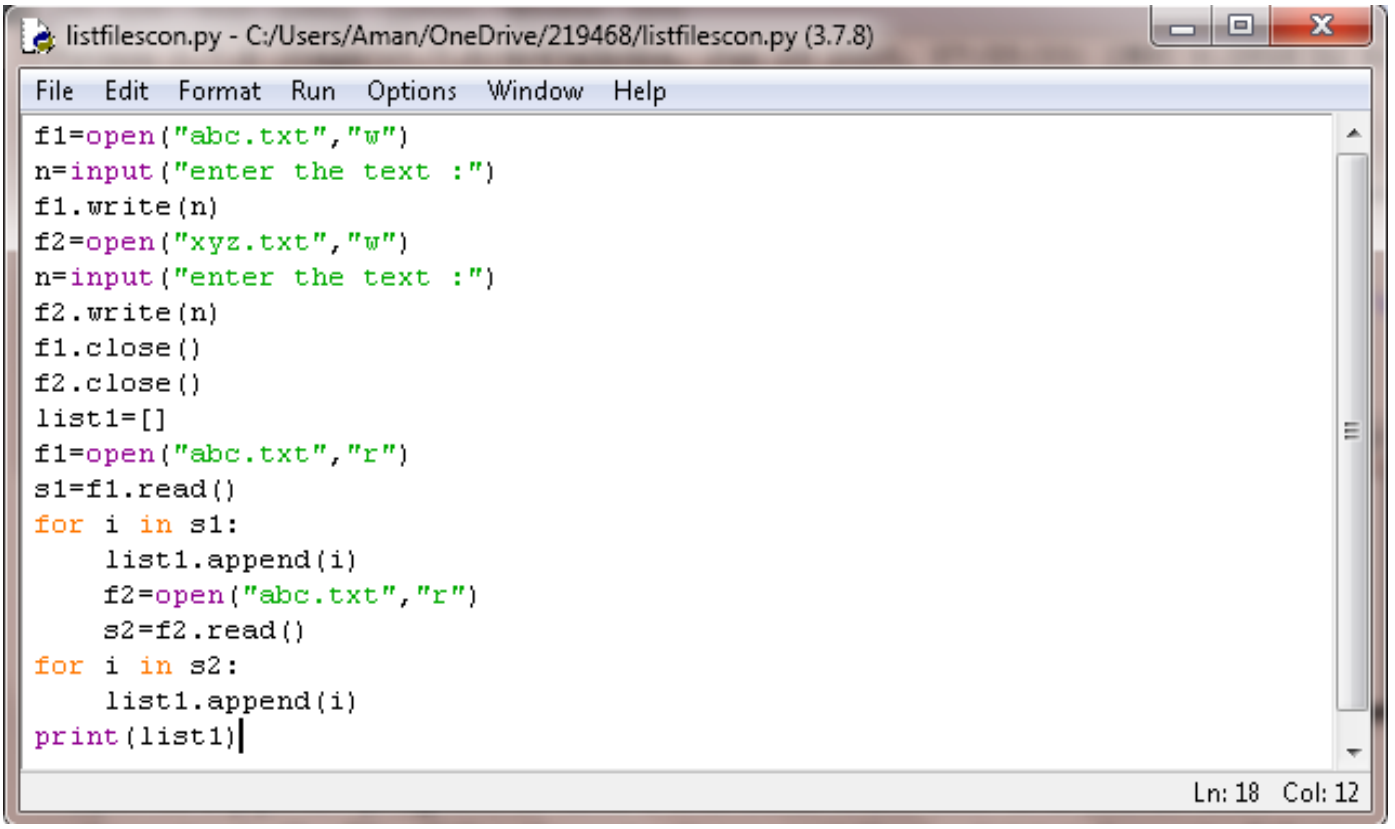
Output:



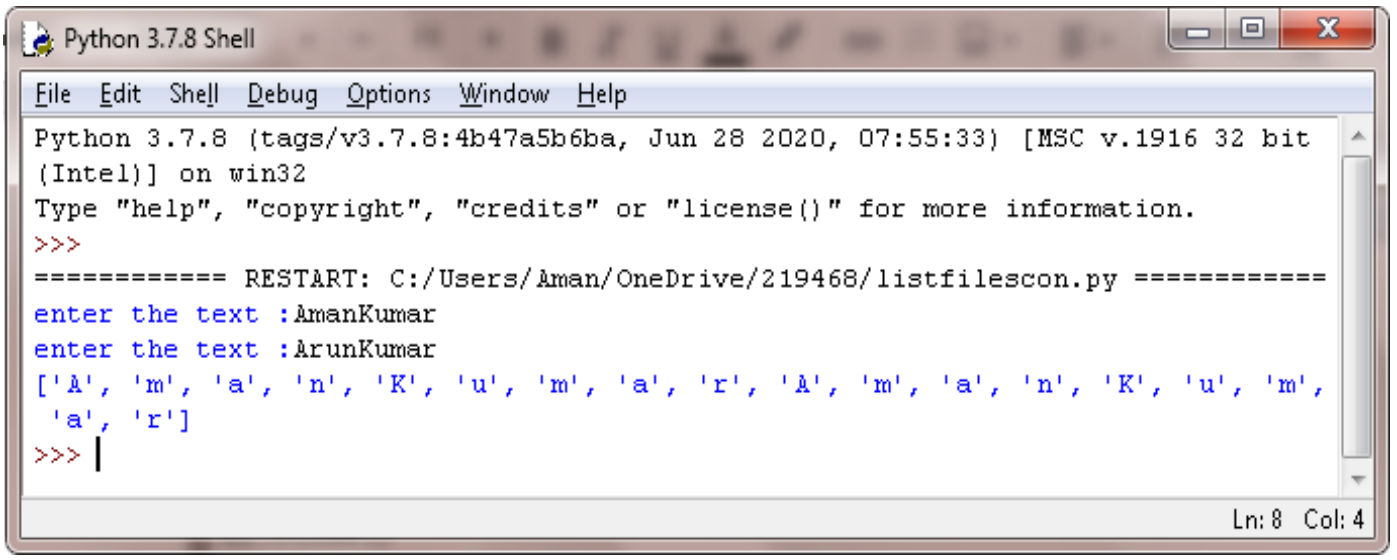
Practical no :5

Q1 Write a python program to combine the content of two file and store it in a single list and display it in that list.

Code:

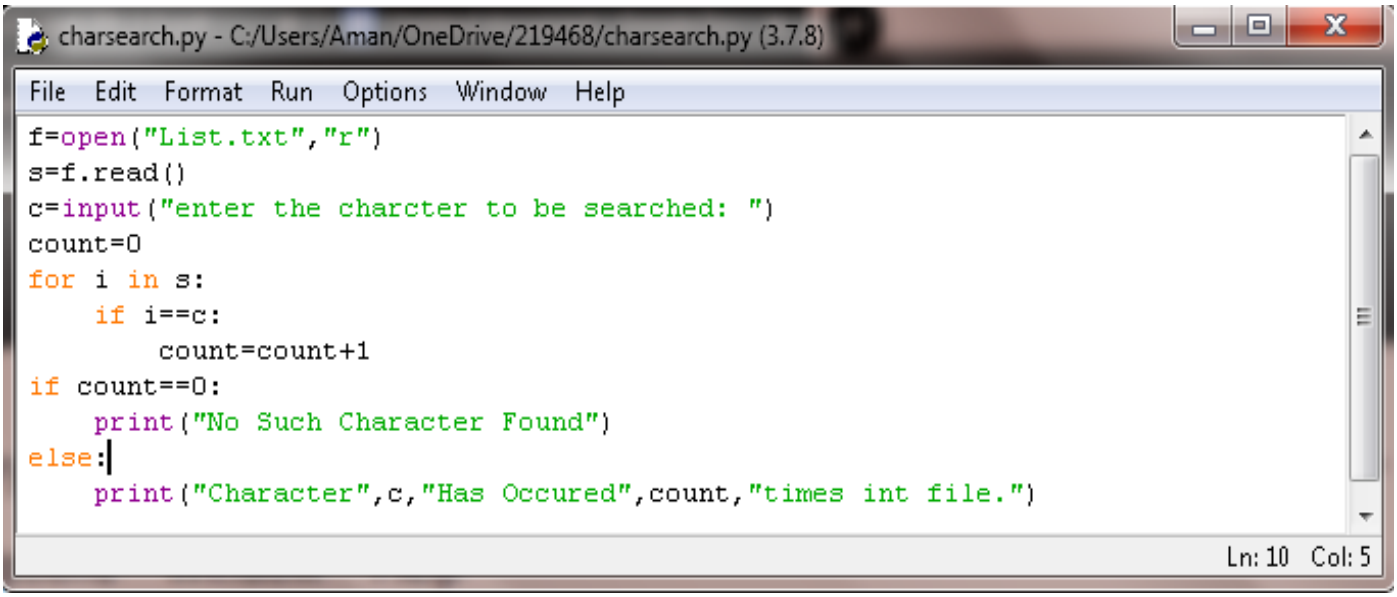


Output:

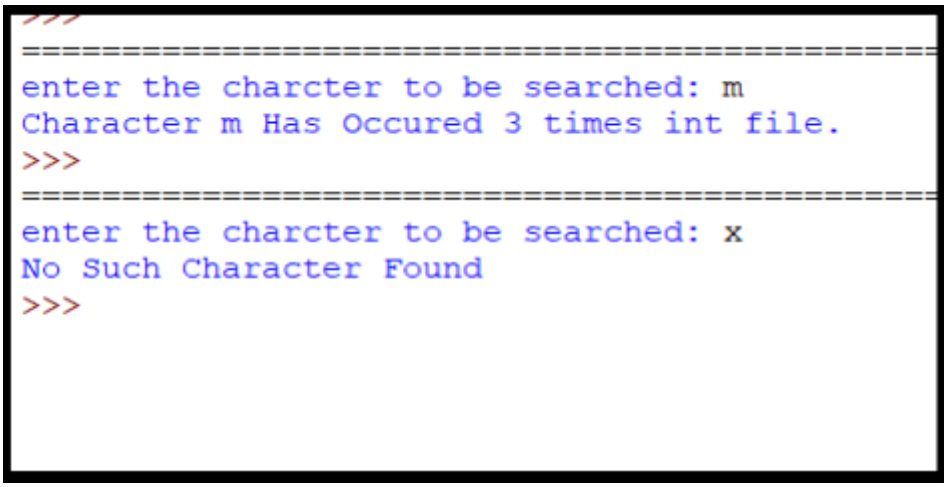


2)write a python program to take a character from user and search that character in the file. If the character is present then print total count of that character in the filr or display the message “no such character”.

Code:

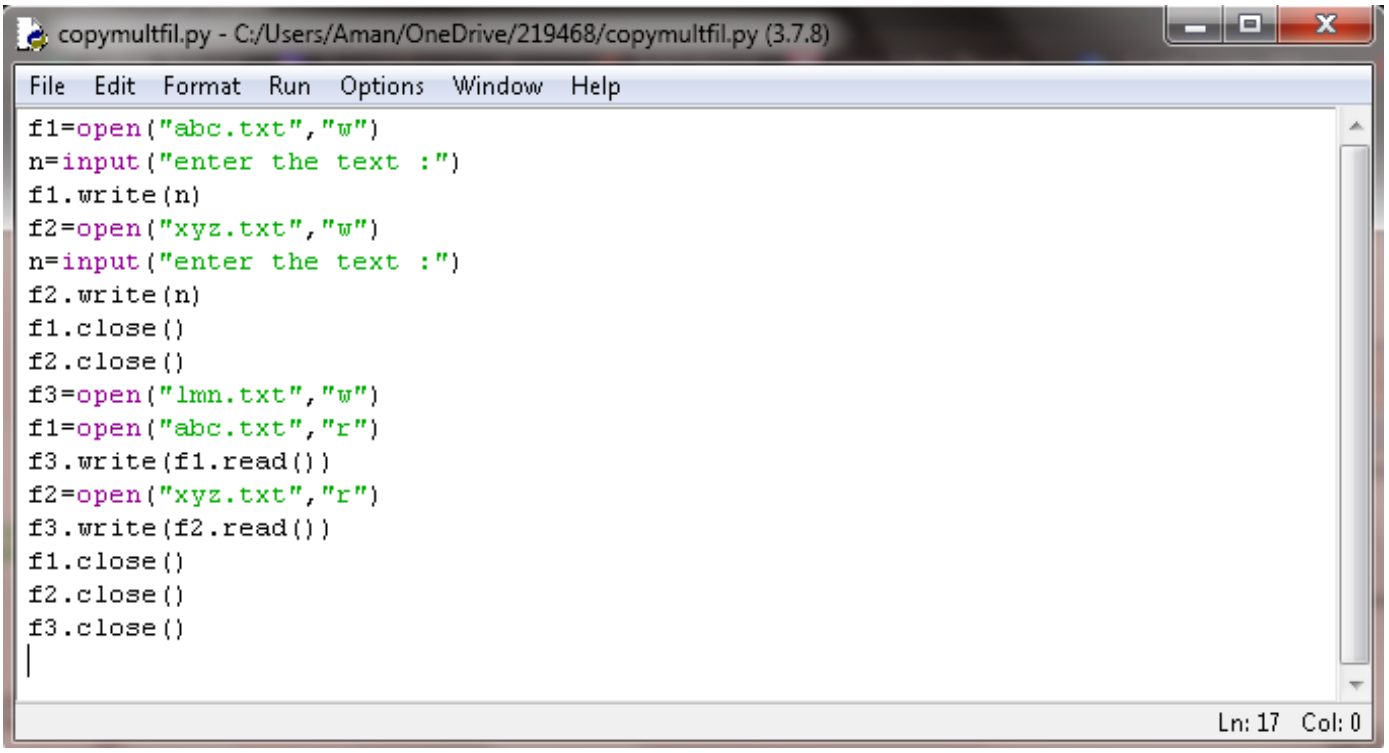


Output:

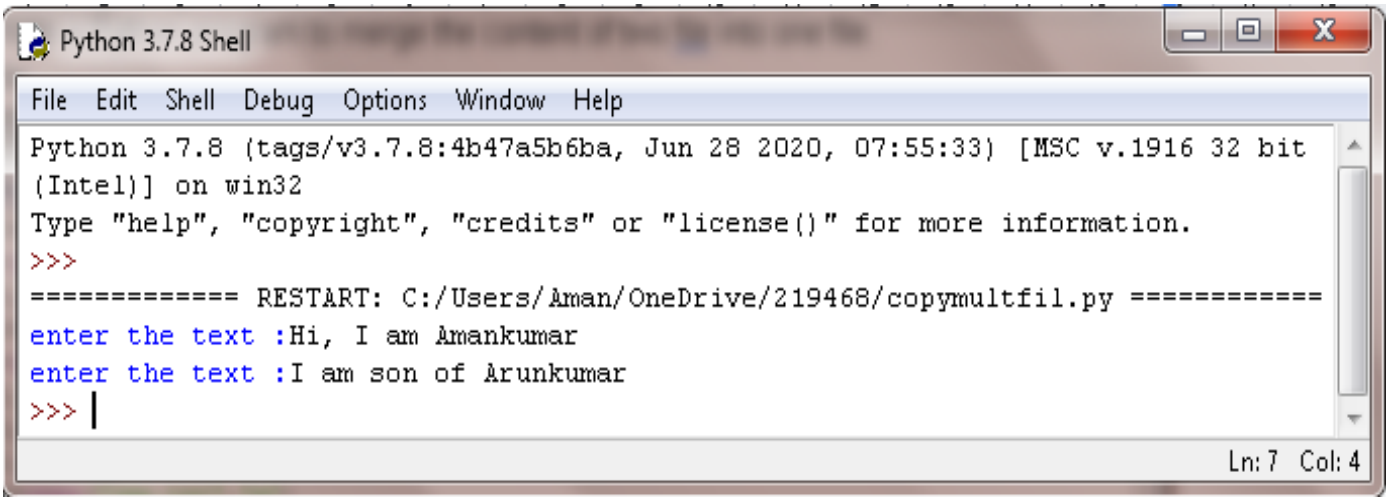


3. Write a Python program to merge the content of two file into one file.

Code:

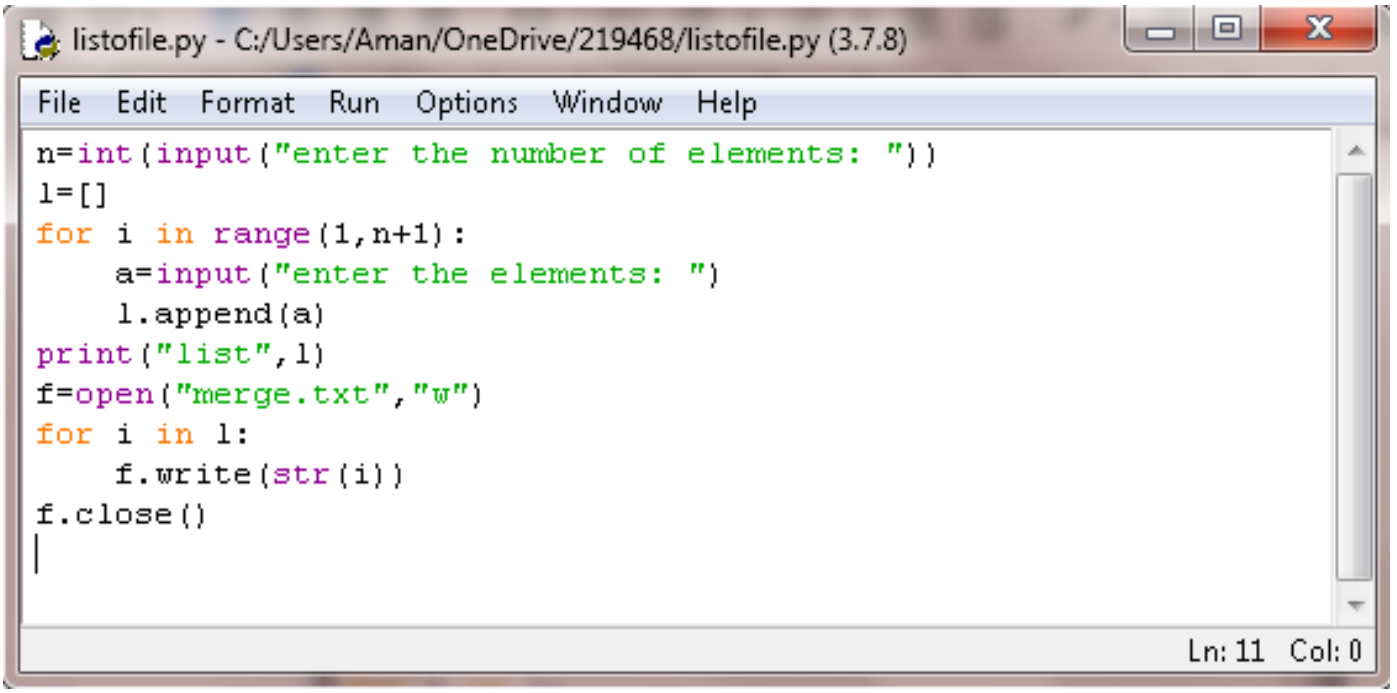


Output:

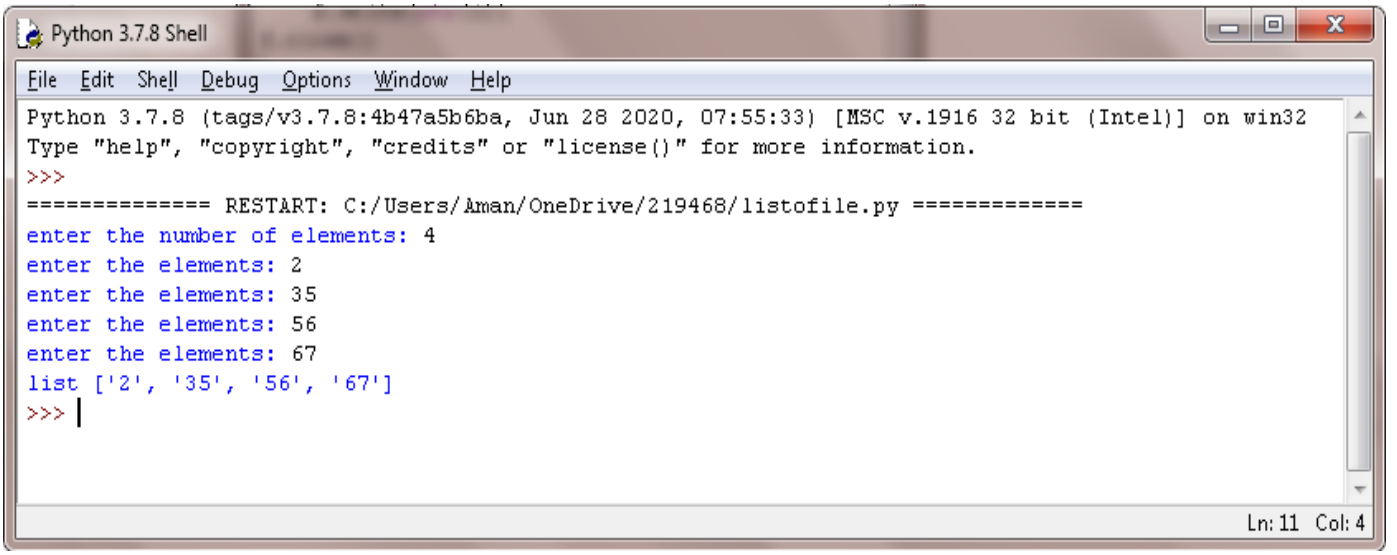


4)write a python program to copy the elements of a list into the file.

Code:



Output:



Practical no 6

1.Implement the concept of multiple inheritance using python.

Code:

inharitance.py - C:/Users/Aman/OneDrive/219468/inharitance.py (3.7.8)

File Edit Format Run Options Window Help

```
class fill():
    def getfill(self,a):
        self.a=a

class fillb():
    def getfillb(self,b):
        self.b=b

class calculation(fill,fillb):
    def cal(self):
        add=self.a+self.b
        sub=self.a-self.b
        mul=self.a*self.b
        div=self.a/self.b
        print("Adition is :",add)
        print("subtraction is :",sub)
        print("multiplication is :",mul)
        print("division is:",div)

a=int(input("enter first number :"))
b=int(input("enter second number :"))

obj=calculation()
obj.getfill(a)
obj.getfillb(b)
obj.cal()
```

Ln: 5 Col: 0

Output:

Python 3.7.8 Shell

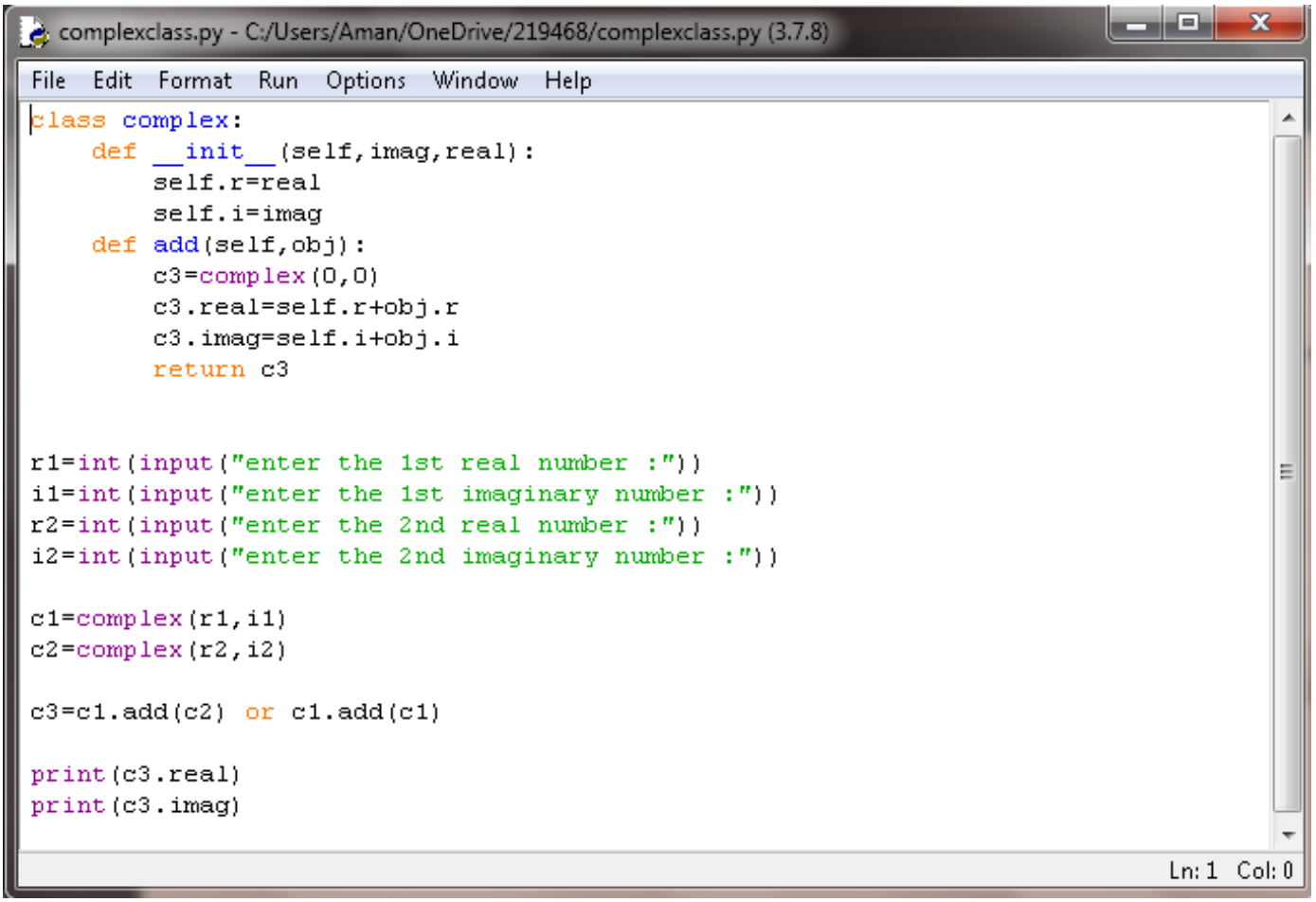
File Edit Shell Debug Options Window Help

```
Python 3.7.8 (tags/v3.7.8:4b47a5b6ba, Jun 28 2020, 07:55:33) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
============= RESTART: C:/Users/Aman/OneDrive/219468/inharitance.py ============
enter first number :343
enter second number :789
Adition is : 1132
subtraction is : -446
multiplication is : 270627
division is: 0.4347275031685678
>>>
```

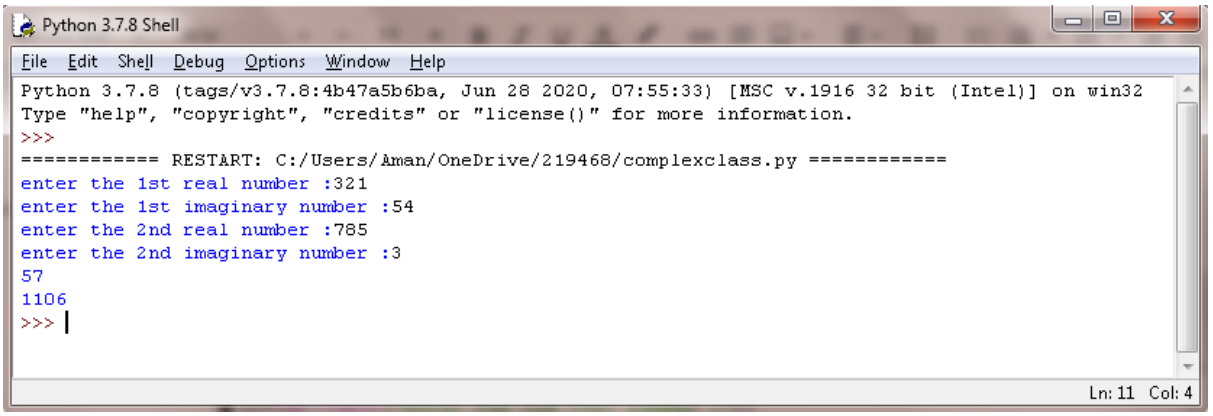
Ln: 11 Col: 4

2.Design a class complex for adding two complex numbers and also show the use of constructors.

Code:

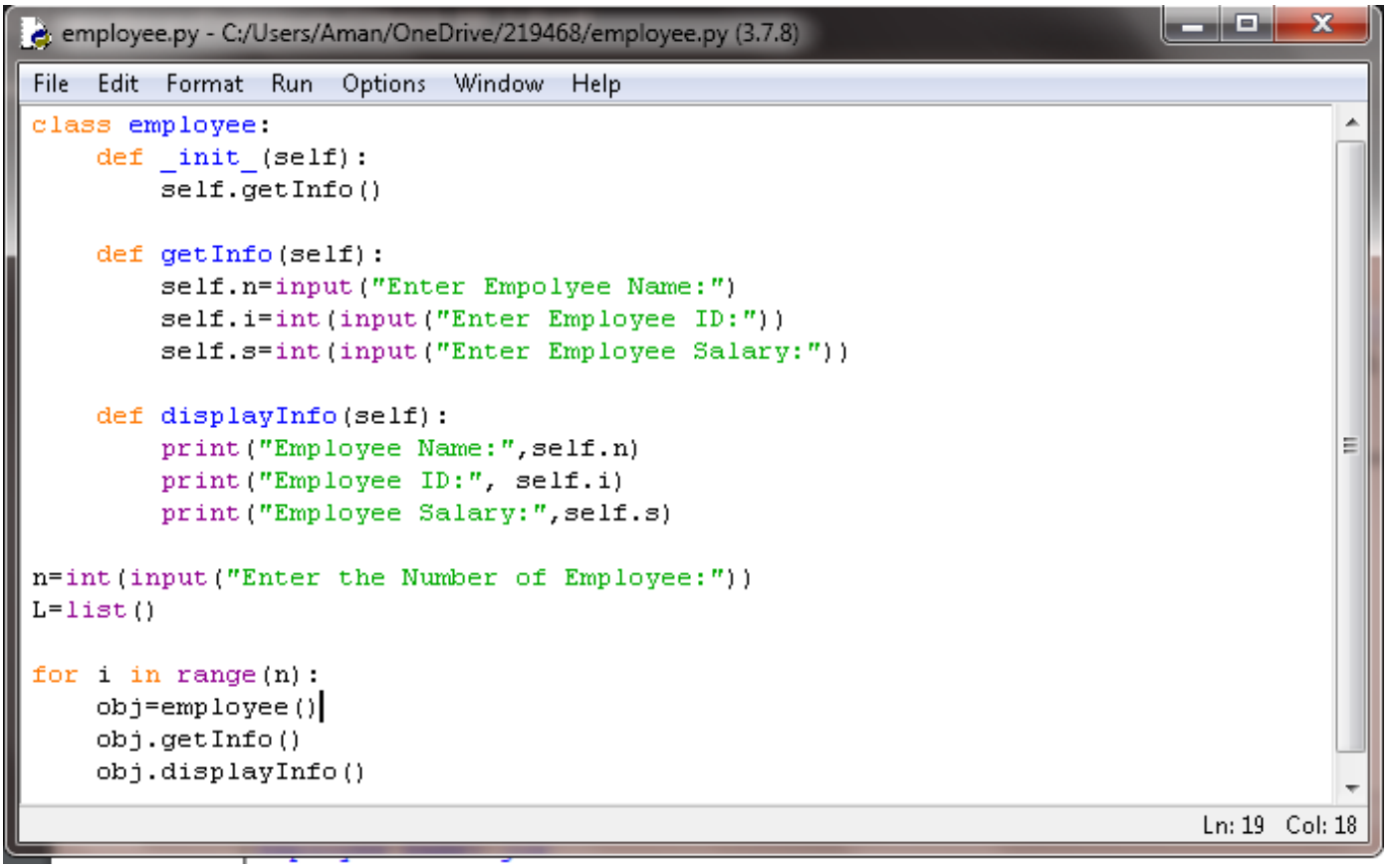


Output:

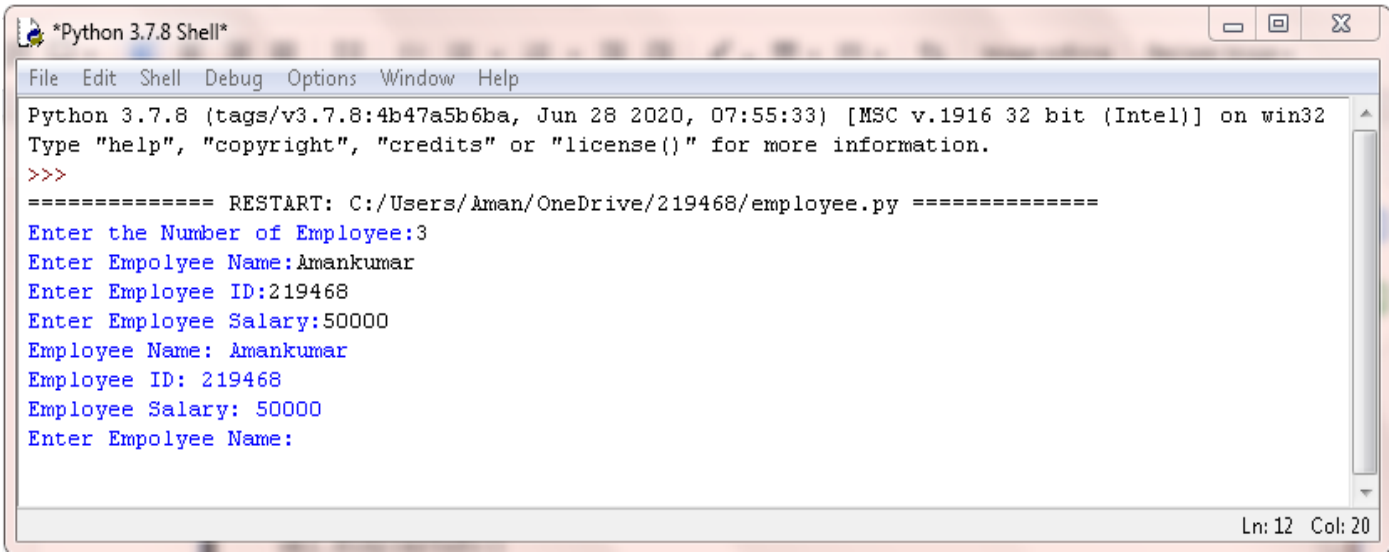


3.Design an employee class using Python for reading and displaying the employee information, The getInfo() and displayInfo() methods will be used respectively(use constructor).

Code:

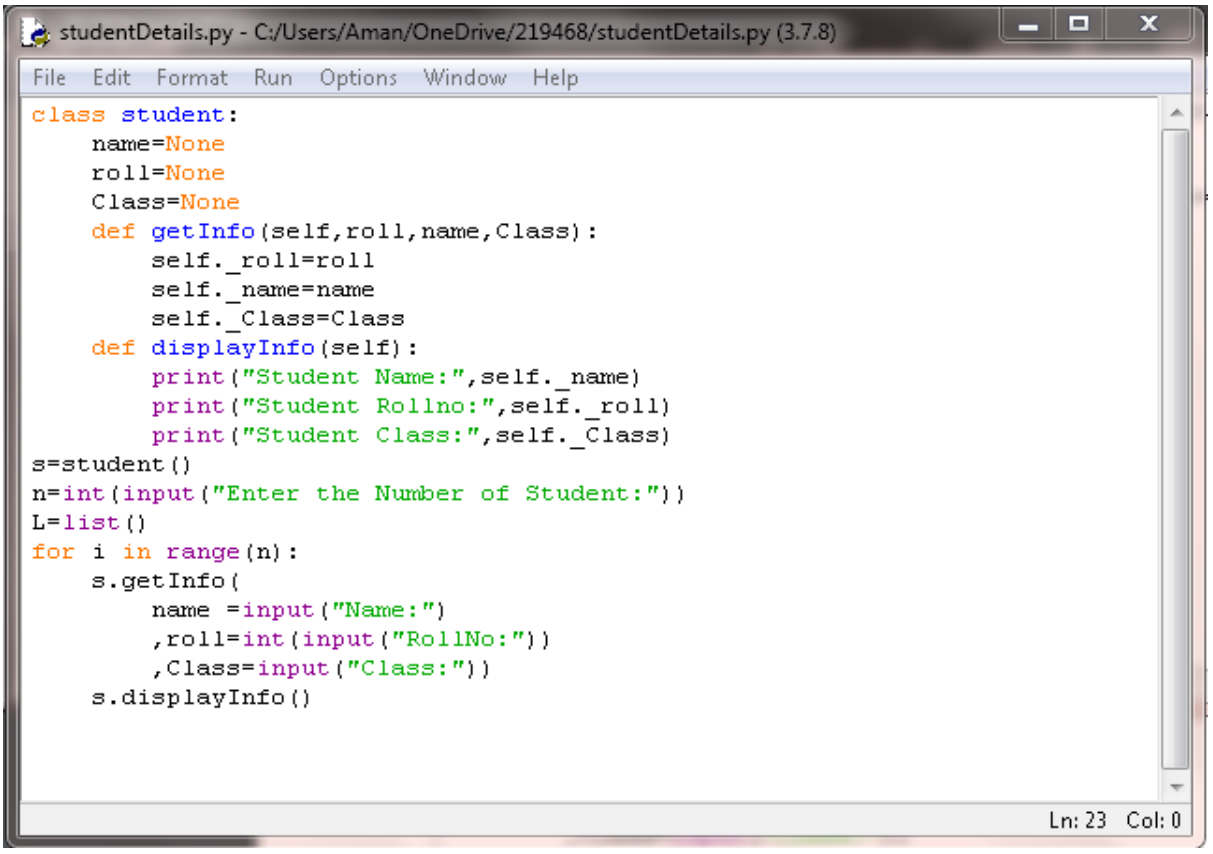


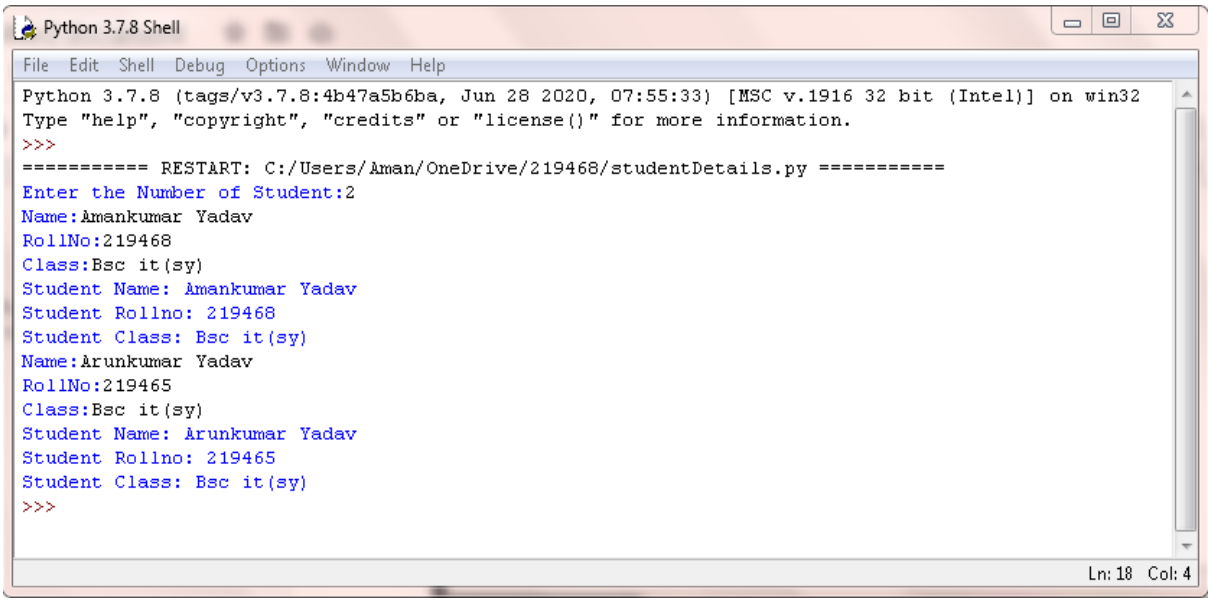
Output:



4.Design a class that store the information of student and display the same.

Code:

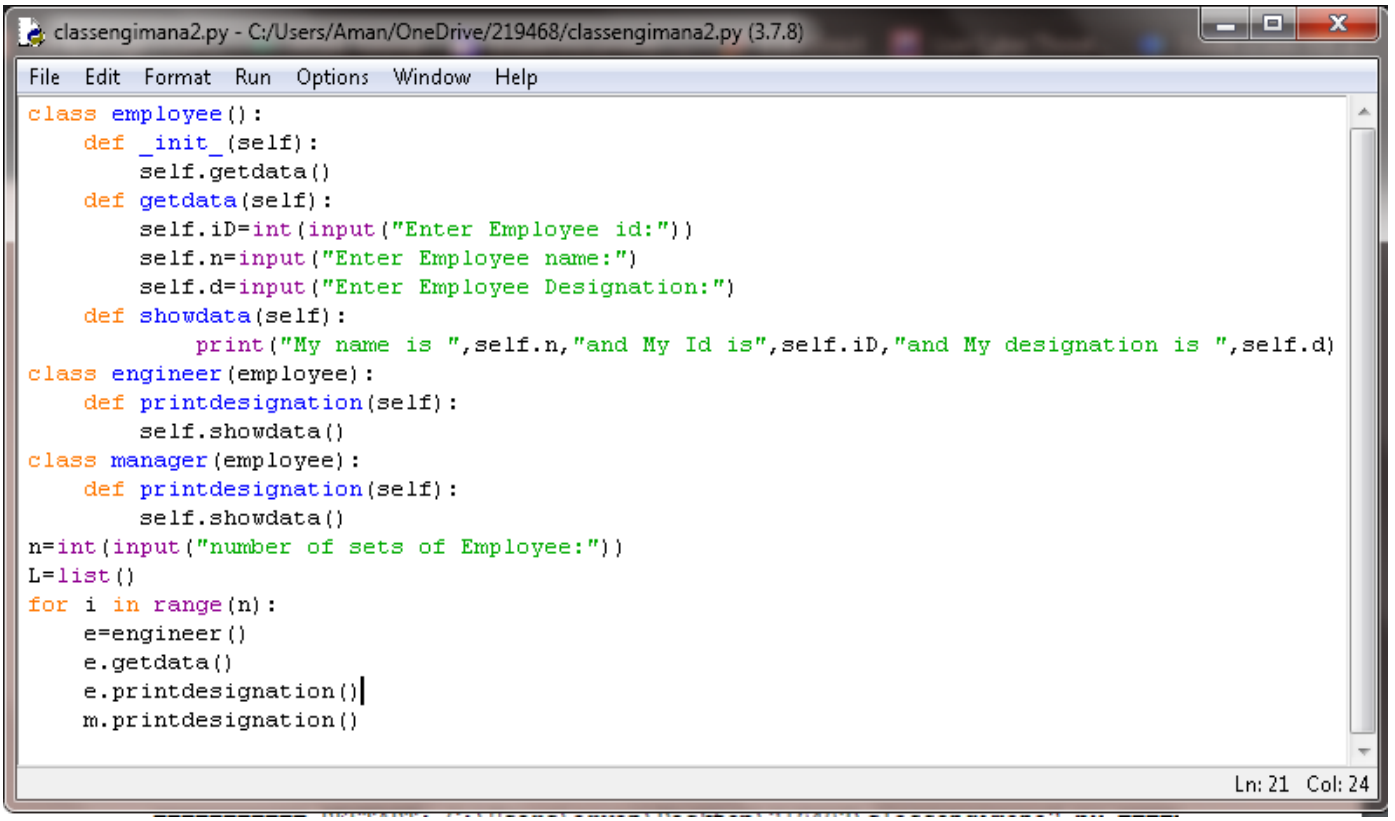




Output:

5.Write a python program that defines a class employee. Define two subclass engineers and manager. Every class should have a method “print designation” that print designation of each employee.

Code:



Practical no 7

1.Create a module “Area.py” with function Area_Circle(), Area_Traingle() And Area_Rect().Create new file use the Area_Circle(), Area_Traingle() and Area_Rect() from the Area module to calculate the areas.

Code:

Area.py - C:/Users/Aman/OneDrive/219468/Area.py (3.7.8)

File Edit Format Run Options Window Help

```
PI=3.14
def Area_circle(r):
    a=PI*r*r
    print("Area of the Cicle is :",a)
def Area_rect(l,b):
    a=l*b
    print("Area of the Rectangle :",a)
def Area_traingle(l,b):
    a=0.5*b*l
    print("Area of Traingle :",a)
```

Ln: 11 Col: 0

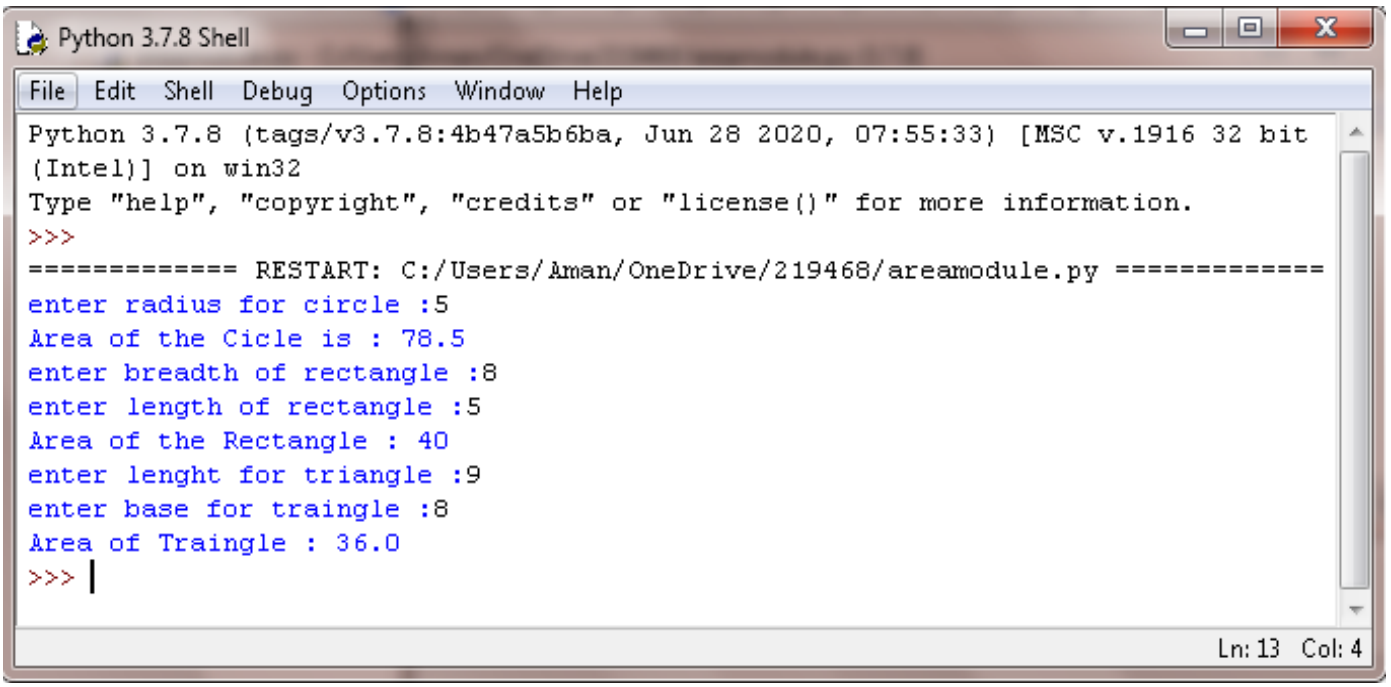
areamodule.py - C:/Users/Aman/OneDrive/219468/areamodule.py (3.7.8)

File Edit Format Run Options Window Help

```
import Area
n=int(input("enter radius for circle :"))
Area.Area_circle(n)
b=int(input("enter breadth of rectangle :"))
l=int(input("enter length of rectangle :"))
Area.Area_rect(l,b)
l=int(input("enter lenght for triangle :"))
b=int(input("enter base for traingle :"))
Area.Area_traingle(l,b)
```

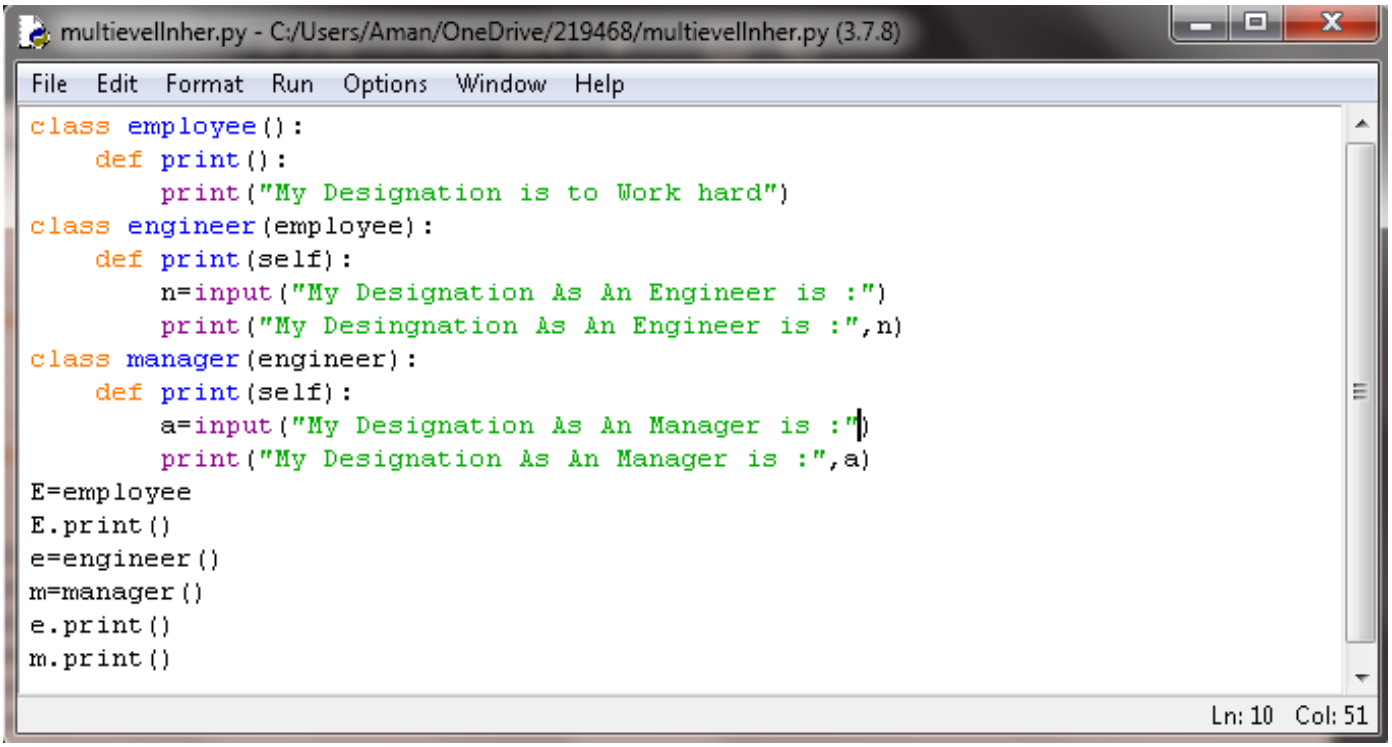
Ln: 10 Col: 0

Output:

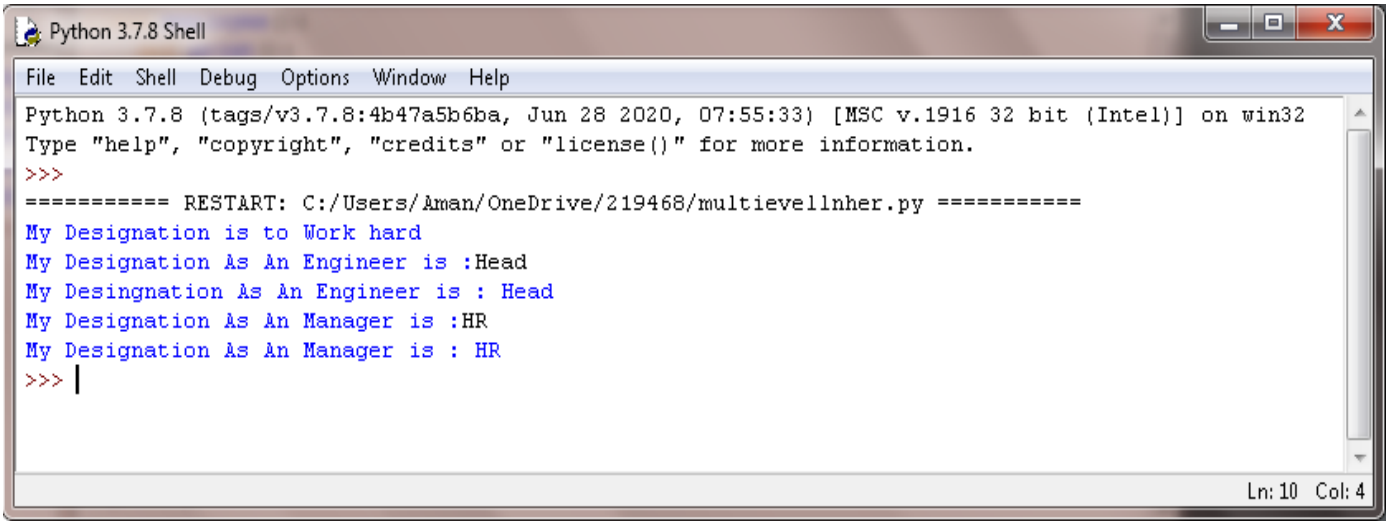

Python 3.7.8 Shell
File Edit Shell Debug Options Window Help
Python 3.7.8 (tags/v3.7.8:4b47a5b6ba, Jun 28 2020, 07:55:33) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:/Users/Aman/OneDrive/219468/areamodule.py ==========
enter radius for circle :5
Area of the Cicle is : 78.5
enter breadth of rectangle :8
enter length of rectangle :5
Area of the Rectangle : 40
enter lenght for triangle :9
enter base for traingle :8
Area of Traingle : 36.0
>>>
Ln: 13 Col: 4

2.Implement the concept of multilevel inheritance using python

Code:



Output:



3.Implement the concept of single inheritance using python.

Code:

singleLEVELINhere.py - C:/Users/Aman/OneDrive/219468/singleLEVELINhere.py (3.7.8)

File Edit Format Run Options Window Help

```
class PC():
    def print1(self):
        print("I Like My Computer")
class type(PC):
    def print2(self):
        self.n=input("My PC type is:")
        print("My PC TYPE:",self.n)
class Specs(PC):
    def print3(self):
        self.a=input("MY PC Specs Are:")
        print("MY PC Specs Are:",self.a)
o=int(input("No. of PC You OWN:"))
L=list()
for i in range(o):
    P=PC
    t=type()
    s=Specs()
    t.print1()
    t.print2()
    s.print3()
```

Ln: 7 Col: 29

Output:

Python 3.7.8 Shell

File Edit Shell Debug Options Window Help

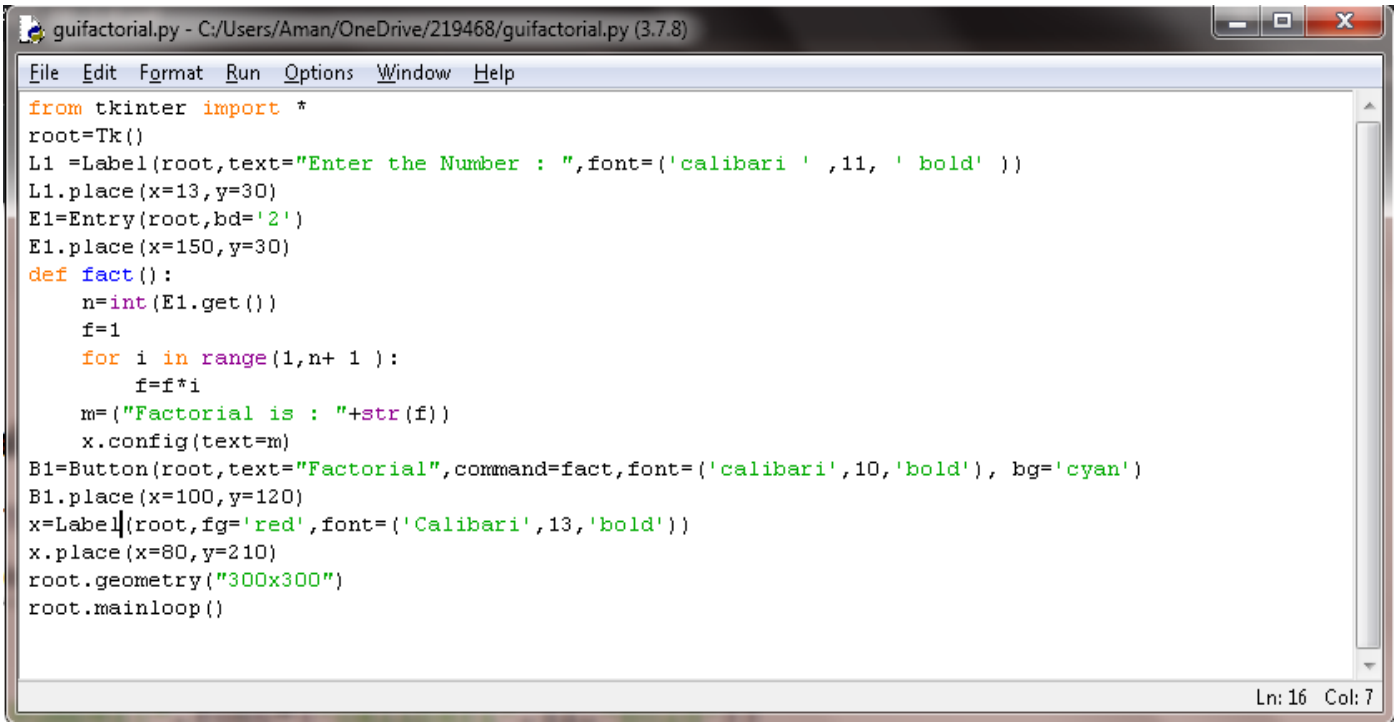
```
Python 3.7.8 (tags/v3.7.8:4b47a5b6ba, Jun 28 2020, 07:55:33) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:/Users/Aman/OneDrive/219468/singleLEVELINhere.py =========
No. of PC You OWN:2
I Like My Computer
My PC type is:Gaming
My PC TYPE: Gaming
MY PC Specs Are:300 gb
MY PC Specs Are: 300 gb
I Like My Computer
My PC type is:Work
My PC TYPE: Work
MY PC Specs Are:1 TB ssd
MY PC Specs Are: 1 TB ssd
>>>
```

Ln: 16 Col: 4

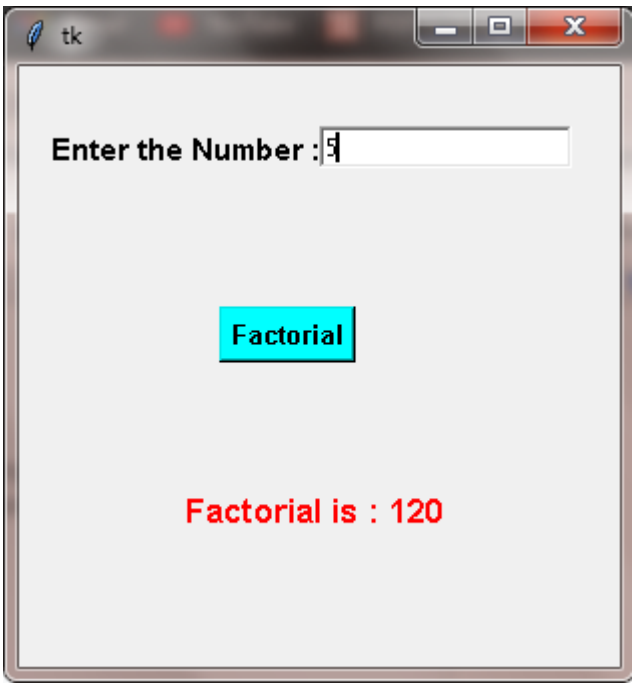
Practical no 8

1. Write a Python GUI code to calculate the factorial of a number.

Code:

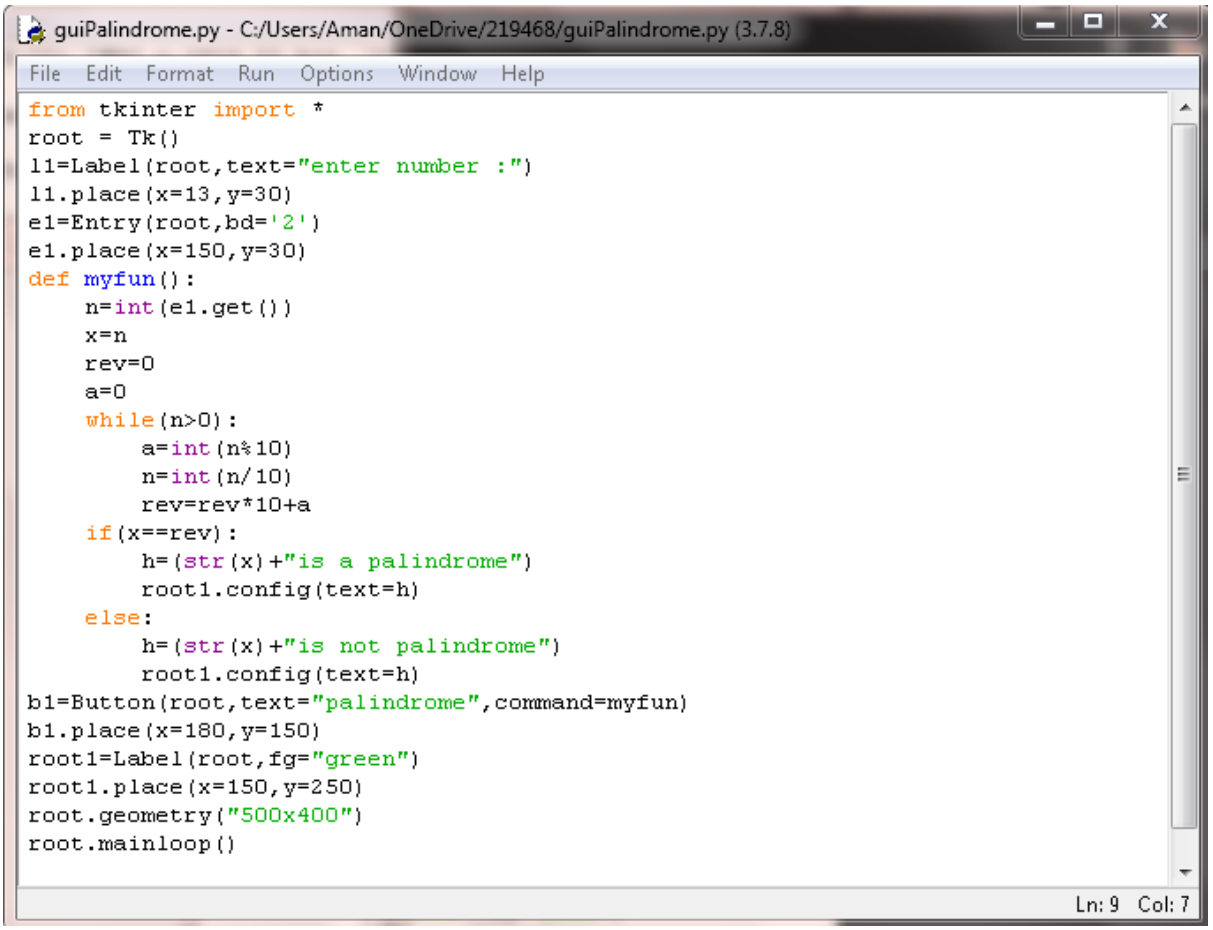


Output:

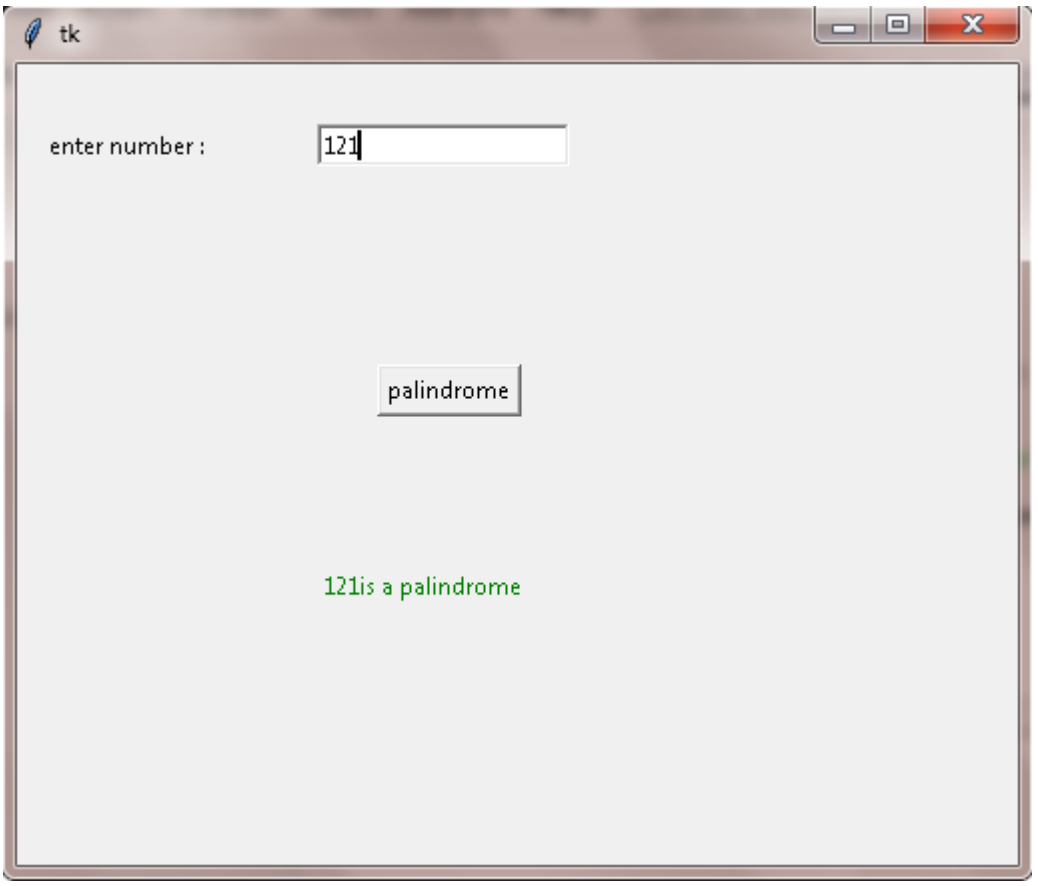

tk
Enter the Number :5
Factorial
Factorial is : 120

2. Write a Python GUI code to check whether the number is palindrome or not.

Code:



Output:


tk
enter number :
121
palindrome
121is a palindrome

3. Design a simple GUI calculator in python.

Code:

guicalculator.py - C:/Users/Aman/OneDrive/219468/guicalculator.py (3.7.8)

File Edit Format Run Options Window Help

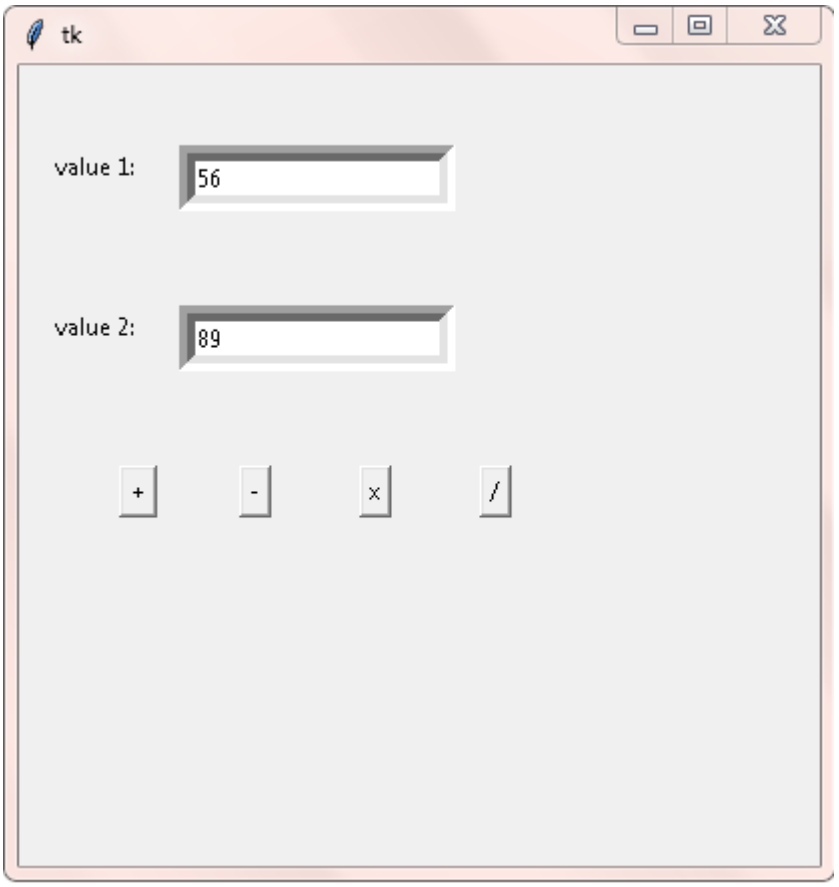
```
import tkinter
top = tkinter.Tk()
l1=tkinter.Label(top,text="value 1:")
l1.pack(side=tkinter.LEFT)
l1.place(x=15,y=40)
e1=tkinter.Entry(top,bd=8)
e1.pack(side=tkinter.RIGHT)
e1.place(x=80,y=40)
l2=tkinter.Label(top,text="value 2:")
l2.pack(side=tkinter.LEFT)
l2.place(x=15,y=120)
e2=tkinter.Entry(top,bd=8)
e2.pack(side=tkinter.RIGHT)
e2.place(x=80,y=120)
top.geometry("400x400")
from tkinter import messagebox
def add():
    c=int(e1.get())+int(e2.get())
    a=("Addition is: ", str(c))
    msg=messagebox.showinfo("Calculator",a)
B=tkinter.Button(top, text="+", command = add )
B.place(x=50, y=200)
def sub():
    c=int(E1.get ())-int (E2.get())
    s=("Subtraction is: ", str (c))
    msg=messagebox.showinfo('Calculator', s)
B=tkinter.Button (top, text="-", command=sub)
B.place (x=110, y=200)
def mul():
    c=int (el.get ()) * int(e2.get())
    a=("multiplication is: ", str (c))
    msg=messagebox.showinfo ("Calculator", a)
B=tkinter.Button(top, text="x", command = mul )
B.place(x=170, y=200)
def div():
    c=int(E1.get ())/int (E2.get())
    s=("division is: ", str (c))
```

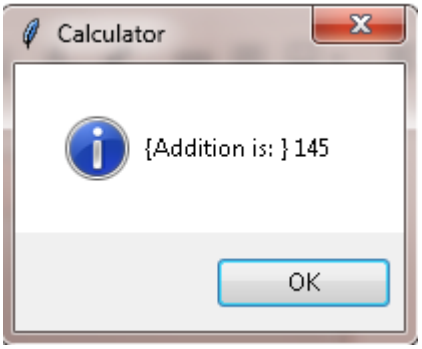
Ln: 7 Col: 27

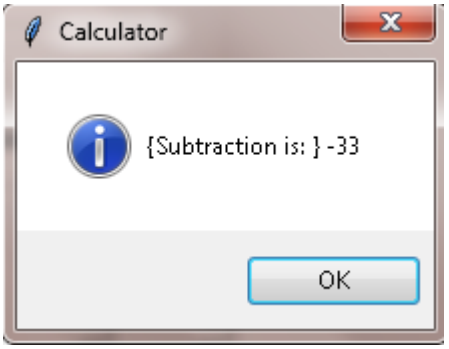
```
    c=int (el.get ()) * int(e2.get())
    a=("multiplication is: ", str (c))
    msg=messagebox.showinfo ("Calculator", a)
B=tkinter.Button(top, text="x", command = mul )
B.place(x=170, y=200)
def div():
    c=int(E1.get ())/int (E2.get())
    s=("division is: ", str (c))
    msg=messagebox.showinfo('Calculator', s)
B=tkinter.Button (top, text="/", command=div)
B.place (x=230, y=200)
top.mainloop()
```

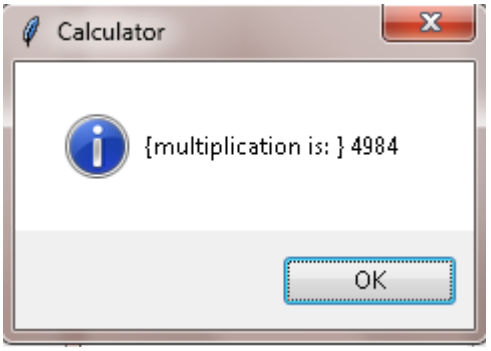
Ln: 16 Col: 30

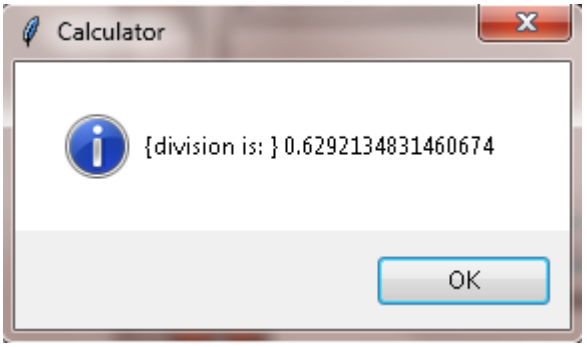
Output:


tk
value 1:
56
value 2:
89
+
-
x
/


Calculator
{Addition is: } 145
OK

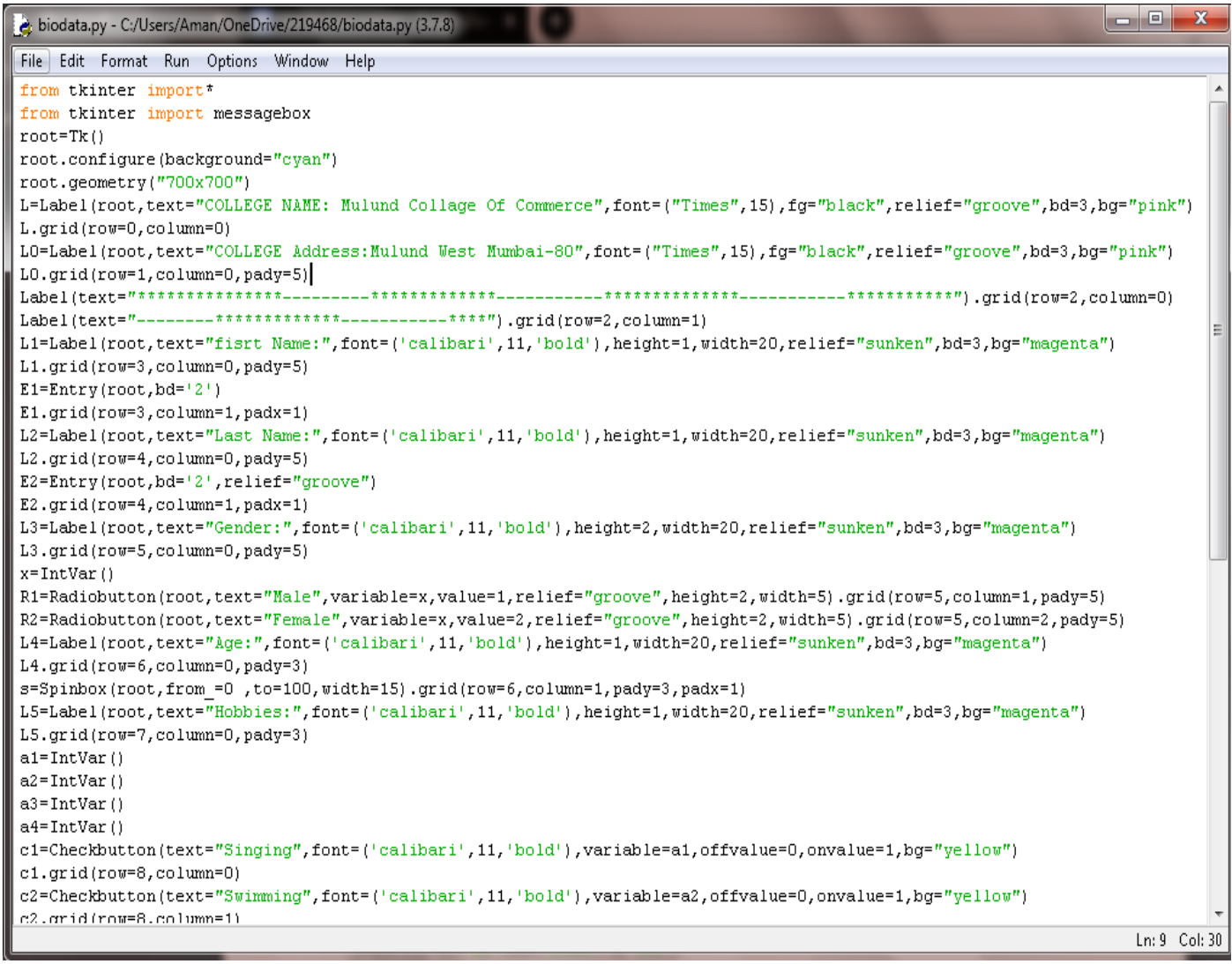

Calculator
{Subtraction is: } -33
OK


Calculator
{multiplication is: } 4984
OK


Calculator
{division is: } 0.6292134831460674
OK

4. Design a biodata form using Python GUI.

Code:


biodata.py - C:/Users/Aman/OneDrive/219468/biodata.py (3.7.8)

File Edit Format Run Options Window Help

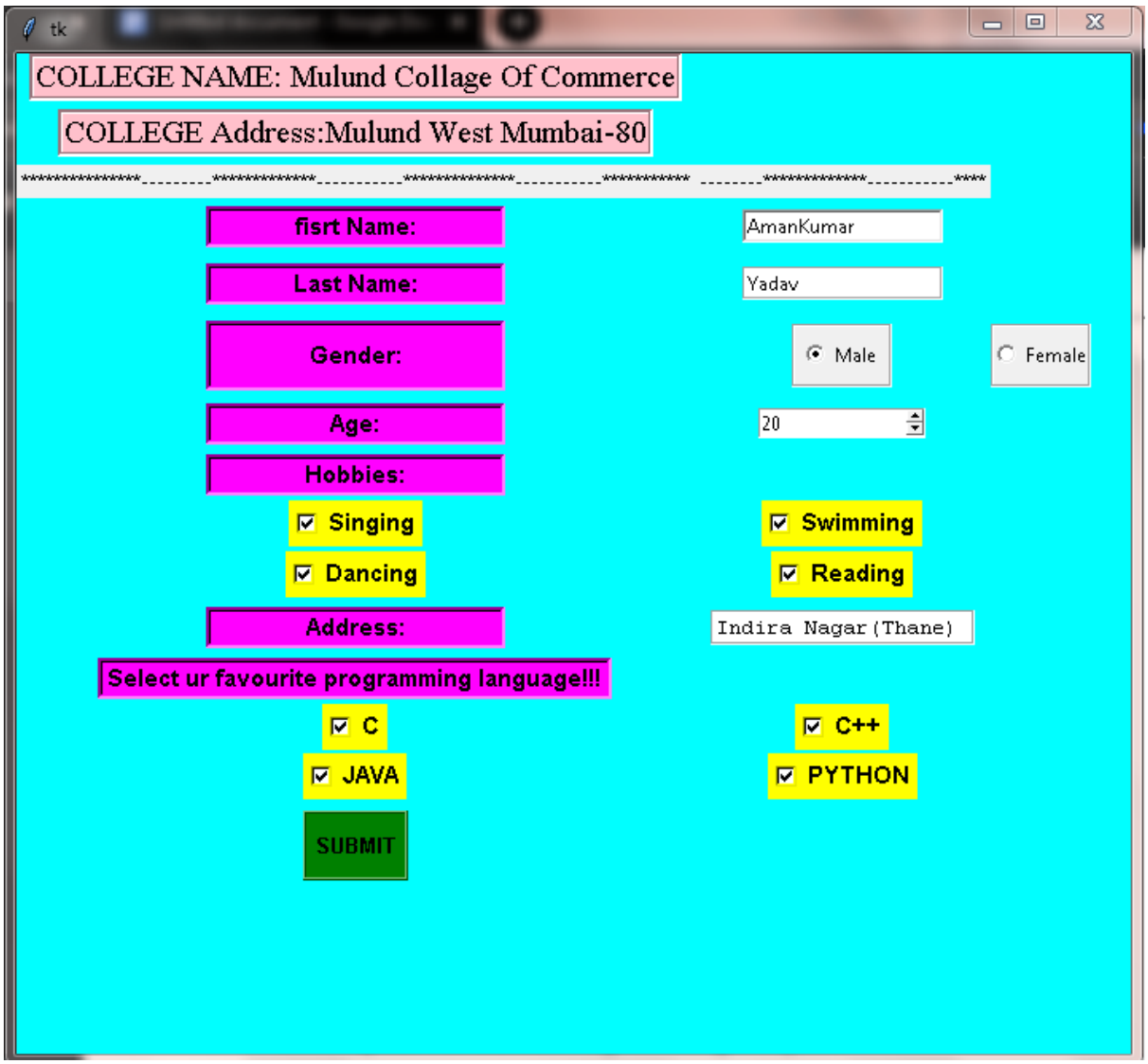
```
from tkinter import*
from tkinter import messagebox
root=Tk()
root.configure(background="cyan")
root.geometry("700x700")
L=Label(root,text="COLLEGE NAME: Mulund Collage Of Commerce",font=("Times",15),fg="black",relief="groove",bd=3,bg="pink")
L.grid(row=0,column=0)
L0=Label(root,text="COLLEGE Address:Mulund West Mumbai-80",font=("Times",15),fg="black",relief="groove",bd=3,bg="pink")
L0.grid(row=1,column=0,pady=5)
Label(text="***************---------***********----------***********----------**********").grid(row=2,column=0)
Label(text="--------***********----------****").grid(row=2,column=1)
L1=Label(root,text="fisrt Name:",font=('calibari',11,'bold'),height=1,width=20,relief="sunken",bd=3,bg="magenta")
L1.grid(row=3,column=0,pady=5)
E1=Entry(root,bd='2')
E1.grid(row=3,column=1,padx=1)
L2=Label(root,text="Last Name:",font=('calibari',11,'bold'),height=1,width=20,relief="sunken",bd=3,bg="magenta")
L2.grid(row=4,column=0,pady=5)
E2=Entry(root,bd='2',relief="groove")
E2.grid(row=4,column=1,padx=1)
L3=Label(root,text="Gender:",font=('calibari',11,'bold'),height=2,width=20,relief="sunken",bd=3,bg="magenta")
L3.grid(row=5,column=0,pady=5)
x=IntVar()
R1=Radiobutton(root,text="Male",variable=x,value=1,relief="groove",height=2,width=5).grid(row=5,column=1,pady=5)
R2=Radiobutton(root,text="Female",variable=x,value=2,relief="groove",height=2,width=5).grid(row=5,column=2,pady=5)
L4=Label(root,text="Age:",font=('calibari',11,'bold'),height=1,width=20,relief="sunken",bd=3,bg="magenta")
L4.grid(row=6,column=0,pady=3)
s=Spinbox(root,from_=0 ,to=100,width=15).grid(row=6,column=1,pady=3,padx=1)
L5=Label(root,text="Hobbies:",font=('calibari',11,'bold'),height=1,width=20,relief="sunken",bd=3,bg="magenta")
L5.grid(row=7,column=0,pady=3)
a1=IntVar()
a2=IntVar()
a3=IntVar()
a4=IntVar()
c1=Checkbutton(text="Singing",font=('calibari',11,'bold'),variable=a1,offvalue=0,onvalue=1,bg="yellow")
c1.grid(row=8,column=0)
c2=Checkbutton(text="Swimming",font=('calibari',11,'bold'),variable=a2,offvalue=0,onvalue=1,bg="yellow")
c2.grid(row=8,column=1)
```

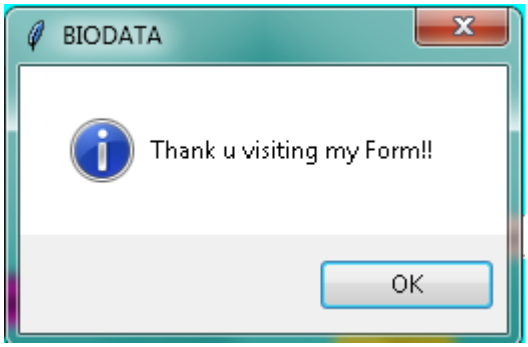
Ln: 9 Col: 30

```
c2=Checkbutton(text="Swimming",font=('calibari',11,'bold'),variable=a2,offvalue=0,onvalue=1,bg="yellow")
c2.grid(row=8,column=1)
c3=Checkbutton(text="Dancing",font=('calibari',11,'bold'),variable=a3,offvalue=0,onvalue=1,bg="yellow")
c3.grid(row=9,column=0,pady=3)
c4=Checkbutton(text="Reading",font=('calibari',11,'bold'),variable=a4,offvalue=0,onvalue=1,bg="yellow")
c4.grid(row=9,column=1,pady=3)
L6=Label(root,text="Address:",font=('calibari',11,'bold'),height=1,width=20,relief="sunken",bd=3,bg="magenta")
L6.grid(row=10,column=0,pady=3)
E3=Text(root,bd='2',relief="groove",height=1,width=20)
E3.grid(row=10,column=1,padx=1)
L7=Label(root,text="Select ur favourite programming language!!!",font=('calibari',11,'bold'),height=1,width=35,relief="su
L7.grid(row=11,column=0,pady=3)
b1=IntVar()
b2=IntVar()
b3=IntVar()
b4=IntVar()
C1=Checkbutton(text="C",font=('calibari',11,'bold'),variable=b1,offvalue=0,onvalue=1,bg="yellow")
C1.grid(row=12,column=0)
C2=Checkbutton(text="C++",font=('calibari',11,'bold'),variable=b2,offvalue=0,onvalue=1,bg="yellow")
C2.grid(row=12,column=1)
C3=Checkbutton(text="JAVA",font=('calibari',11,'bold'),variable=b3,offvalue=0,onvalue=1,bg="yellow")
C3.grid(row=13,column=0,pady=2)
C4=Checkbutton(text="PYTHON",font=('calibari',11,'bold'),variable=b4,offvalue=0,onvalue=1,bg="yellow")
C4.grid(row=13,column=1,pady=2)
def mess():
    m=messagebox.showinfo("BIODATA","Thank u visiting my Form!!")
B2=Button(root,text="SUBMIT",font=('calibari',10,'bold'),bg='green',command=mess,height=2,width=7,relief="ridge")
B2.grid(row=14,column=0,pady=5,padx=3)
root.mainloop()
```

Ln: 9 Col: 30

Output:


tk
COLLEGE NAME: Mulund Collage Of Commerce
COLLEGE Address:Mulund West Mumbai-80
fisrt Name:
AmanKumar
Last Name:
Yadav
Gender:
Male
Female
Age:
20
Hobbies:
Singing
Swimming
Dancing
Reading
Address:
Indira Nagar(Thane)
Select ur favourite programming language!!!
C
C++
JAVA
PYTHON
SUBMIT


BIODATA
Thank u visiting my Form!!
OK

5. Design an advanced calculator using Python GUI.
Code:

guiadvancedcal2.py - C:/Users/Aman/OneDrive/219468/guiadvancedcal2.py (3.7.8)

File Edit Format Run Options Window Help

```
from tkinter import *
from tkinter import messagebox
top = Tk()
top.resizable("false","false")
top.title("Calculator")
n1=0
n2=0
i=0
opr=""
E1 = Entry(top, bd =4,font=("calibari",16,"bold"),bg="powder blue")
E1.pack(side = RIGHT)
E1.place(x=120,y=20)
top.geometry("400x400")
def add():
   global n1
   global opr
   n1=int(E1.get())
   opr="+"
   E1.delete(0,END)
B1=Button(top, text =" + ", relief=RIDGE, bd=2,command =add,padx=20,bg="yellow",font=("calibari",15,"bold") )
B1.place(x=20,y=160)
def sub():
   global n1
   global opr
   n1=int(E1.get())
   opr="-"
   E1.delete(0,END)
B2=Button(top, text =" - ",relief=RIDGE, bd=2, command = sub,padx=22,bg="yellow",font=("calibari",15,"bold") )
B2.place(x=110,y=160)
def mul():
   global n1
   global opr
   n1=int(E1.get())
   opr="*"
   E1.delete(0,END)
B3=Button(top, text =" * ",relief=RIDGE, bd=2, command = mul, padx=22, bg="yellow", font=("calibari",15,"bold") )
B3.place(x=200,y=160)
def div():
   global n1
```

```
def div():
   global n1
   global opr
   n1=int(E1.get())
   opr="/"
   E1.delete(0,END)
B4=Button(top, text =" / ", relief=RIDGE,bd=2, command = div , padx=23,bg="yellow",font=("calibari",15,"bold"))
B4.place(x=290,y=160)
def one(t):
   global i
   E1.insert(i,t)
   i=i+1
def clear():
   E1.delete(0,END)
def equal():
   n2=int(E1.get())
   if opr=="+":
      n=n1+n2
   if opr=="-":
      n=n1-n2
   if opr=="*":
      n=n1*n2
   if opr=="/":
      n=n1/n2
   E1.delete(0,END)
   E1.insert(0,str(n))
B5=Button(top, text =" 1 ", relief=RIDGE,bd=2 , command=lambda t="1":one(t), padx=22, fg="white", bg="grey",font=("calibari",15,"bold"))
B5.place(x=20,y=215)
B6=Button(top, text =" 2 " ,relief=RIDGE, bd=2, command=lambda t="2":one(t) , padx=22, fg="white", bg="grey",font=("calibari",15,"bold"))
B6.place(x=110,y=215)
B7=Button(top, text =" 3 ", relief=RIDGE,bd=2, command=lambda t="3":one(t) , padx=22, fg="white", bg="grey",font=("calibari",15,"bold"))
B7.place(x=200,y=215)
B8=Button(top, text =" 4 ",relief=RIDGE, bd=2, command=lambda t="4":one(t) , padx=21, fg="white", bg="grey",font=("calibari",15,"bold"))
B8.place(x=290,y=215)
B9=Button(top, text =" 5 ",relief=RIDGE, bd=2, command=lambda t="5":one(t) , padx=22, fg="white", bg="grey",font=("calibari",15,"bold"))
B9.place(x=20,y=265)
B10=Button(top, text =" 6 ",relief=RIDGE, command=lambda t="6":one(t), bd=2 , padx=22, fg="white", bg="grey",font=("calibari",15,"bold"))
```

```
B10=Button(top, text =" 6 ",relief=RIDGE, command=lambda t="6":one(t), bd=2 , padx=22, fg="white", bg="grey",font=("calibari",15,"bold"))
B10.place(x=110,y=265)
B11=Button(top, text =" 7 ",relief=RIDGE, command=lambda t="7":one(t), bd=2 , padx=22, fg="white", bg="grey",font=("calibari",15,"bold"))
B11.place(x=200,y=265)
B12=Button(top, text =" 8 ",relief=RIDGE, command=lambda t="8":one(t), bd=2 , padx=22, fg="white", bg="grey",font=("calibari",15,"bold"))
B12.place(x=290,y=265)
B13=Button(top, text =" 9 ",relief=RIDGE, command=lambda t="9":one(t), bd=2 , padx=22, fg="white", bg="grey",font=("calibari",15,"bold"))
B13.place(x=20,y=315)
B14=Button(top, text ="  C ",relief=RIDGE, command=clear, bd=2 , padx=22, fg="white", bg="grey",font=("calibari",15,"bold"))
B14.place(x=110,y=315)
B16=Button(top, text =" 0 ",relief=RIDGE, command=lambda t="0":one(t), bd=2 , padx=22, fg="white", bg="grey",font=("calibari",15,"bold"))
B16.place(x=200,y=315)
B15=Button(top, text =" = ", relief=RIDGE, command=equal,bd=2 , padx=22, fg="black", bg="light green",font=("calibari",15,"bold"))
B15.place(x=290,y=315)
top.mainloop()
```

Output :