**CO4 PROGRAMS**

1. **Create Rectangle class with attributes length and breadth and methods to find area and perimeter. Compare two Rectangle objects by their area.**

class rectangle:

def \_\_init\_\_(self,length,breadth):

self.length=length

self.breadth=breadth

def area(self):

return(self.length\*self.breadth)

def perimeter(self):

return(2\*(self.length+self.breadth))

print("Enter the details of Rectangle 1:")

l1=int(input("Length:"))

b1=int(input("Breadth:"))

print("Enter the details of Rectangle 2:")

l2=int(input("Length:"))

b2=int(input("Breadth:"))

r1=rectangle(l1,b2)

r2=rectangle(l2,b2)

print("Rectangle 1: Area: ",r1.area()," , Perimeter: ",r1.perimeter())

print("Rectangle 2: Area: ",r2.area()," , Perimeter: ",r2.perimeter())

print("-------------------------")

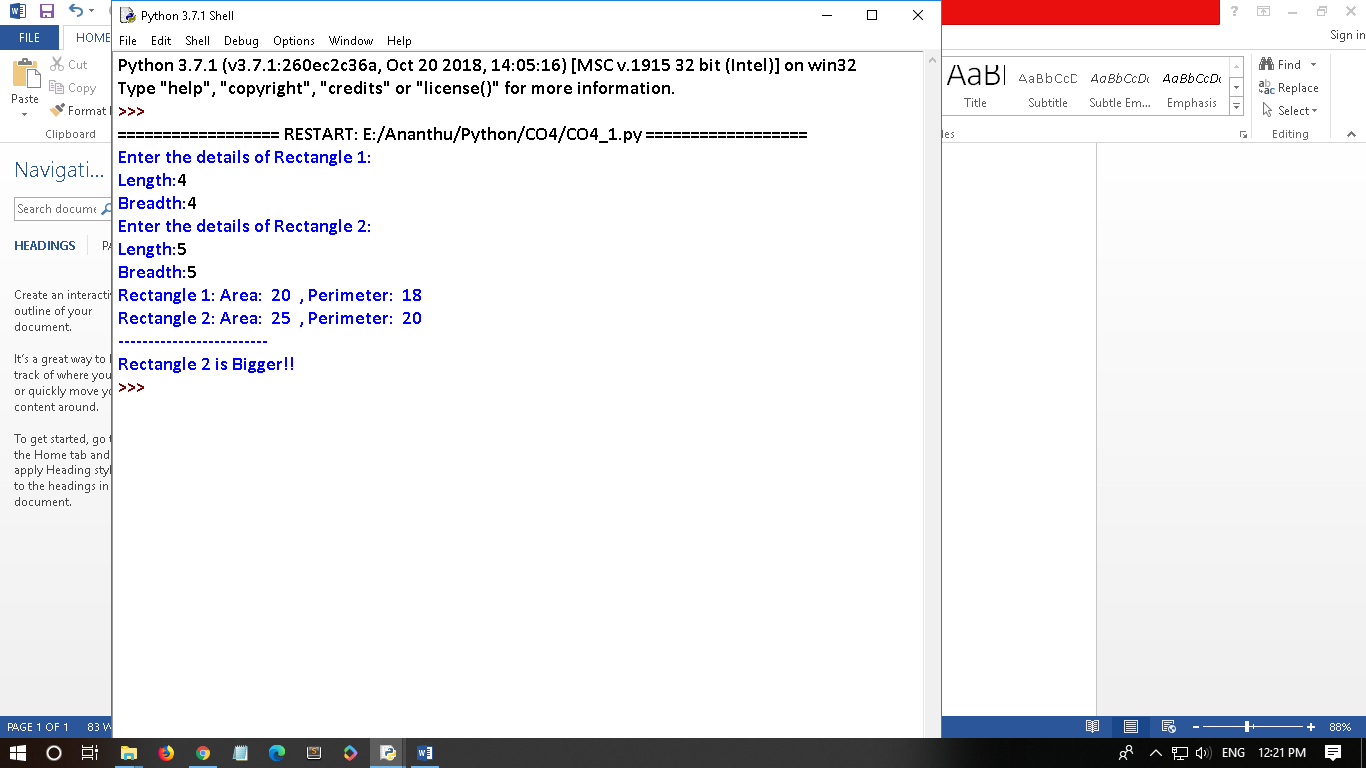
if(r1.area()>r2.area()):

print("Rectangle 1 is Bigger!!")

else:

print("Rectangle 2 is Bigger!!")

**output:**



1. Create a Bank account with members account number, name, type of account and balance. Write constructor and methods to deposit at the bank and withdraw an amount from the bank.

class bank:

def \_\_init\_\_(self,ac,name,atype,bal=0):

self.ac=ac

self.name=name

self.atype=atype

self.bal=bal

def deposit(self,bal):

self.bal+=bal

def withdraw(self,bal):

if(self.bal==0):

print("Insufficient Balance!!")

else:

self.bal-=bal

def display(self):

print("Account Number:",self.ac)

print("Name:",self.name)

print("Account Type:",self.atype)

print("Account Balance:",self.bal)

ac=int(input("Enter Your Account Number:"))

name=input("Enter Your Name:")

atype=input("Enter Your Account Type:(s/c)")

b1=bank(ac,name,atype)

while(True):

print("Enter your Choice:")

print("1:Deposit")

print("2:Withdraw")

print("3:View Details")

print("4:Exit")

c=int(input())

if(c==1):

amount=int(input("Enter the Amount to Deposit:"))

b1.deposit(amount)

if(c==2):

amount1=int(input("Enter the Amount to Withdraw:"))

b1.withdraw(amount1)

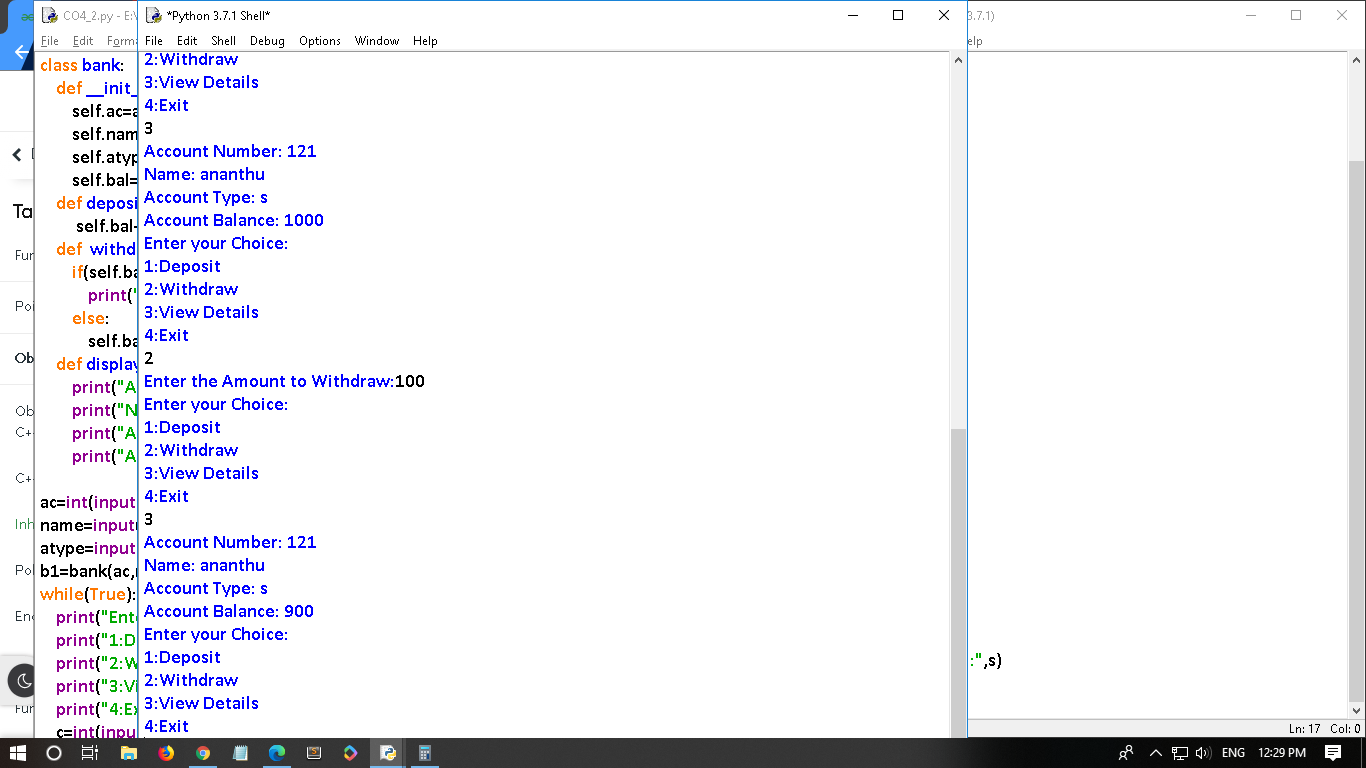
if(c==3):

b1.display()

if(c>=4):

break

output:



1. Create a class Rectangle with private attributes length and width. Overload “ >”operator to compare the area of 2 rectangles.

class rectangle:

def \_\_init\_\_(self,length,width):

self.\_\_length=length

self.\_\_width=width

def \_\_lt\_\_(self,a2):

area1=self.\_\_length\*self.\_\_width

area2=a2.\_\_length\*a2.\_\_width

if(area1<area2):

return(True)

else:

return(False)

print("Enter the Details of Rectangle:1")

l1=int(input("Lenght:"))

w1=int(input("width:"))

r1=rectangle(l1,w1)

print("Enter the Details of Rectangle:2")

l2=int(input("Lenght:"))

w2=int(input("width:"))

r2=rectangle(l2,w2)

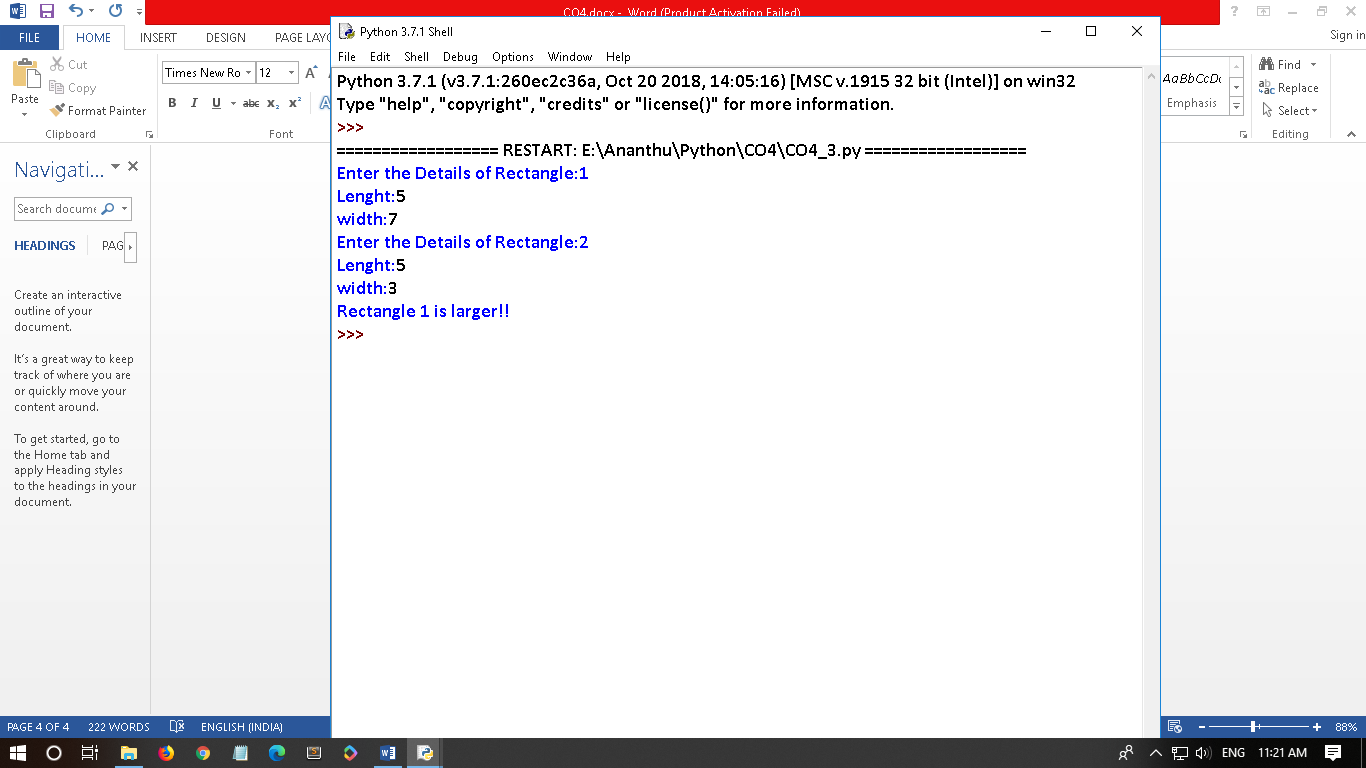
if(r1<r2):

print("Rectangle 2 is larger!!")

else:

print("Rectangle 1 is larger!!")

output:



1. Create a class Time with private attributes hour, minute and second. Overload ‘+’ operator to find sum of 2 time.

class time:

def \_\_init\_\_(self,hour,minute,second):

self.\_\_hour=hour

self.\_\_minute=minute

self.\_\_second=second

def \_\_add\_\_(self,t2):

h=self.\_\_hour+t2.\_\_hour

m=self.\_\_minute+t2.\_\_minute

if(m>60):

q=int(m/60)

r=m%60

h=h+q

m=r

s=self.\_\_second+t2.\_\_second

if(s>60):

q1=int(s/60)

r1=s%60

m=m+q1

s=r1

return(h,m,s)

print("Enter Time 1:")

h1=int(input("Hour:"))

m1=int(input("Minute:"))

s1=int(input("Second:"))

t1=time(h1,m1,s1)

print("Enter Time 2:")

h2=int(input("Hour:"))

m2=int(input("Minute:"))

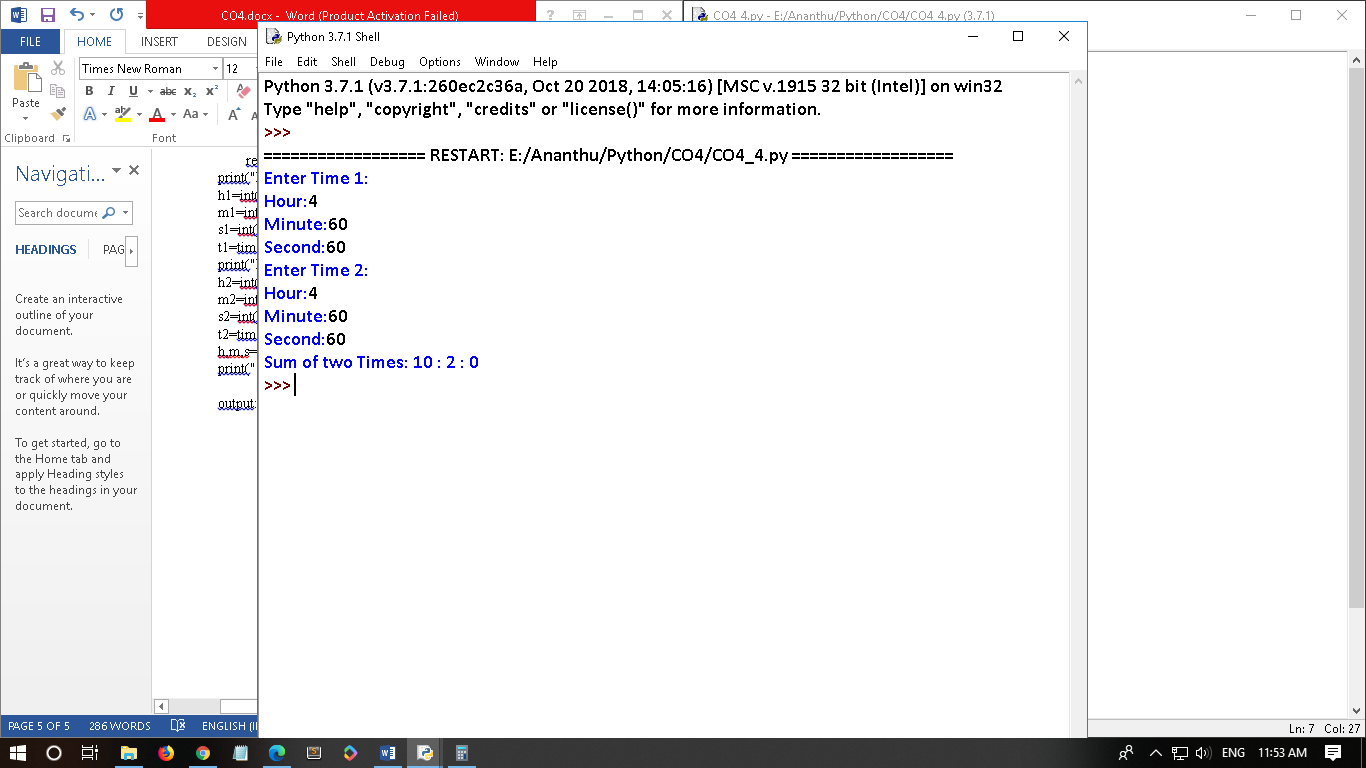
s2=int(input("Second:"))

t2=time(h2,m2,s2)

h,m,s=t1+t2

print("Sum of two Times:",h,":",m,":",s)

output:



1. Create a class Publisher (name). Derive class Book from Publisher with attributes title and author. Derive class Python from Book with attributes price and no\_of\_pages. Write a program that displays information about a Python book. Use base class constructor invocation and method overriding.

class publisher:

def \_\_init\_\_(self,title,author):

self.title=title

self.author=author

def display(self):

print("Title:",self.title)

print("Author:",self.author)

class book(publisher):

def \_\_init\_\_(self,price,no\_of\_page):

self.price=price

self.no\_of\_page=no\_of\_page

def display(self):

print("Price:",self.price)

print("No. of Pages:",self.no\_of\_page)

class python(book):

def \_\_init\_\_(self,title,author,price,no\_of\_page):

publisher.\_\_init\_\_(self,title,author)

book.\_\_init\_\_(self,price,no\_of\_page)

def display(self):

print("Title:",self.title)

print("Author:",self.author)

print("Price:",self.price)

print("No. of Pages:",self.no\_of\_page)

p=python("Python Programming","AnilKumar",1000,120)

p.display()

output:

