**LAB 12**

**TASK 1**

**﻿**class Point:

def \_\_init\_\_(self, x, y):

self.\_\_x = x

self.\_\_y = y

def getX(self):

return self.\_\_x

def getY(self):

return self.\_\_y

def distance(self, point):

return (((point.getX() - self.getX()))\*\*2 + (point.getY() - self.getY())\*\*2)\*\*(1/2)

class Quadrilateral:

def \_\_init\_\_(self,a, b, c, d):

self.\_\_vertex1 = a

self.\_\_vertex2 = b

self.\_\_vertex3 = c

self.\_\_vertex4 = d

def \_\_str\_\_(self):

V1 = ("V1: {},{}".format(self.\_\_vertex1.getX(),self.\_\_vertex1.getY()))

V2 = ("V2: {},{}".format(self.\_\_vertex2.getX(),self.\_\_vertex2.getY()))

V3 = ("V3: {},{}".format(self.\_\_vertex3.getX(),self.\_\_vertex3.getY()))

V4 = ("V4: {},{}".format(self.\_\_vertex4.getX(),self.\_\_vertex4.getY()))

return [V1, V2,V3,V4]

def getPerimeter(self):

d1 = (self.\_\_vertex1.distance(self.\_\_vertex2))

d2 = (self.\_\_vertex2.distance(self.\_\_vertex3))

d3 = (self.\_\_vertex3.distance(self.\_\_vertex4))

d4 = (self.\_\_vertex4.distance(self.\_\_vertex1))

p = d1 + d2 + d3 + d4

return ("Perimeter: {}".format(p))

def isSquare(self):

d1 = (self.\_\_vertex1.distance(self.\_\_vertex2))

d2 = (self.\_\_vertex2.distance(self.\_\_vertex3))

d3 = (self.\_\_vertex3.distance(self.\_\_vertex4))

d4 = (self.\_\_vertex4.distance(self.\_\_vertex1))

if d1 == d2 == d3 ==d4:

return True

else:

return False

def main():

a = int(input("value of X: "))

b = int(input("value of Y: "))

c = int(input("value of X: "))

d = int(input("value of Y: "))

e = int(input("value of X: "))

f = int(input("value of Y: "))

g = int(input("value of X: "))

h = int(input("value of Y: "))

point1 = Point(a,b)

point2 = Point(c,d)

point3 = Point(e,f)

point4 = Point(g,h)

quad = Quadrilateral(point1,point2, point3, point4)

i = quad.\_\_str\_\_()

j = quad.getPerimeter()

k = quad.isSquare()

print(i,j,k)

main()

**TASK 2**

**﻿**class Book:

class Author:

def \_\_init\_\_(self,name, email):

self.\_\_name = name

self.\_\_email = email

def \_\_str\_\_(self):

return ("Name: {}, Email: {}".format(self.\_\_name,self.\_\_email))

def \_\_init\_\_(self,tittle):

self.\_\_tittle = tittle

self.\_\_price = 14.5

def \_\_str\_\_(self):

a = input("name")

b = input("email")

r = self.Author(a,b)

return ("Tittle: {}, Author: {}, Price:{}".format(self.\_\_tittle,r,self.\_\_price))

def main():

my\_book = Book("xyz")

print(my\_book)

main()