**LAB 9**

**TASK 1**

**﻿**class GeometricShape:

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

self.\_\_color = color

def get\_color(self):

return self.\_\_color

class Rectangle(GeometricShape):

def \_\_init\_\_(self, width, height, color):

super().\_\_init\_\_(color)

self.\_\_width = width

self.\_\_height = height

def get\_width(self):

return self.\_\_width

def get\_height(self):

return self.\_\_height

def get\_Area(self):

print(self.\_\_width \* self.\_\_height)

def get\_perimeter(self):

print(2 \* (self.\_\_width + self.\_\_height))

def main():

R1 = Rectangle(a, b, c)

R2 = Rectangle(x, y, z)

R3 = Rectangle(r, s, t)

print()

R1.get\_color(),R1.get\_Area(),R1.get\_perimeter()

R2.get\_color(),R2.get\_Area(),R2.get\_perimeter()

R3.get\_color(),R3.get\_Area(),R3.get\_perimeter()

a = int(input("Enter width for R1 : "))

b = int(input("Enter height for R1 : "))

c = str(input("Enter color for R1 : "))

x = int(input("Enter width for R2 : "))

y = int(input("Enter height for R2 : "))

z = str(input("Enter color for R2 : "))

r = int(input("Enter width for R3 : "))

s = int(input("Enter height for R3 : "))

t = str(input("Enter color for R3 : "))

main()

**TASK 2**

**﻿**class Student:

def \_\_init\_\_(self, name, test\_score=0, grade=""):

self.\_name = name

self.\_test\_score = test\_score

self.\_grade = grade

def get\_name(self):

return self.\_name

def set\_test\_score(self, new\_test\_score):

self.\_test\_score = new\_test\_score

def compute\_grade(self):

pass

def get\_grade(self):

return self.\_grade

class UndergraduateStudent(Student):

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

super().\_\_init\_\_(name)

def compute\_grade(self):

if self.\_test\_score >=60:

self.\_grade = "pass"

else:

self.\_grade = "fail"

class GraduateStudent(Student):

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

super().\_\_init\_\_(name)

def compute\_grade(self):

if self.\_test\_score >=70:

self.\_grade = "pass"

else:

self.\_grade = "fail"

def main():

S1 = UndergraduateStudent(a)

S1.set\_test\_score(b)

S1.compute\_grade()

print(S1.get\_name(), S1.\_test\_score, S1.get\_grade())

S2 = GraduateStudent(x)

S2.set\_test\_score(y)

S2.compute\_grade()

print(S2.get\_name(), S2.\_test\_score, S2.get\_grade())

S3 = UndergraduateStudent(r)

S3.set\_test\_score(s)

S3.compute\_grade()

print(S3.get\_name(), S3.\_test\_score, S3.get\_grade())

a = str(input("Enter name : "))

b = int(input("Enter test score : "))

x = str(input("Enter name : "))

y = int(input("Enter test score : "))

r = str(input("Enter name : "))

s = int(input("Enter test score : "))

main()