**CSC 1500**

**Home Assignment 5:**

* **Instructions**: The program you will analyze is shown below. The program listing contains a class definition followed by a main program. Your task is to ***find and write the missing code lines*** to make the program work correctly. Use the output statements from the print() statements to reveal this mystery :-) Please ***write the missing code lines clearly in the empty boxes*.**

################# start of Rectangle class

class Rectangle:

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

self.length = length

self.width = width

def GetLength(self):

return self.length

def GetWidth(self):

return self.width

def GetArea(self):

return self.length \* self.width

def SetScale(self, scale):

self.length = self.length \* scale

self.width = self.width \* scale

########### start of main program

rec = Rectangle(3,5)

|  |
| --- |
| rectangleArea = rec.GetArea() |

print ('Rectangle Area: ', rectangleArea)

for rs in range (2,5) :

width = rec.GetWidth()

print (' Current rectangle width:', width)

rec.SetScale ( rs )

print (' Scale factor applied:', rs)

|  |
| --- |
| width = rec.GetWidth() |

print (' New rectangle width:', width)

########### end of program

* Update the class Rectangle in problem 1 to add the following methods:
* **GetPerimeter**: this method will calculate and return the perimeter of the rectangle.
* **IsSquare**: this method will check whether the rectangle is a square, i.e. the length equals the width.