Garrett Dozier - GEOG 392 - Section: 501 - LAB 3

- Answers:

```
...
Rectangle Area: 5.0
Circle Area: 7.068583470577034 5
Triangle Area: 4.0
Triangle Area: 13.5
Triangle Area: 20.0
Circle Area: 7.068583470577034 5
Rectangle Area: 8.0
Rectangle Area: 30.0
Triangle Area: 10.0
Circle Area: 63.617251235193315
>>>
```

- Code:

Users > garrettdozier > Desktop > Classes > Fall 21 > GEOG 392 > Lab3_dozier.py

```python
import os, sys, math
# creating the initial classes
class shape:
  def __init__(self):
      pass
  def bring_area(self):
      pass

class Rectangle(shape):
    def __init__(self, l, w):
        self.l = l
        self.w = w
    def bring_area(self):
        return self.l * self.w

class Triangle(shape):
  def __init__(self, b, h):
        self.b = b
        self.h = h
  def bring_area(self):
      return 0.5 * self.b * self.h

class Circle(shape):
  def __init__(self,d):
      self.radius_squared = (0.5 * d)**2
  def bring_area(self):
      return math.pi * self.radius_squared

# opens and reads path - path name does not include c: because I am running visual studio code on mac as opposed to windows
i_handle = open('/Users/garrettdozier/Desktop/Classes/Fall 21/GEOG 392/shapes.txt')
# creating variable of lines read from text file
data_lines_overall = i_handle.readlines()
print(data_lines_overall)
# seeking the 0
i_handle.seek(0)
# stripping then splitting first value
data_text_initial = i_handle.read().strip().split("\n")
print(data_text_initial)
# closing file
i_handle.close()
# creating for and else if statements to return value of shape calculations
```

```
41  # creating for and else if statements to return value of shape calculations
42  for line in data_text_initial:
43      data_items_part = line.split(",")
44      if data_items_part[0] == "Rectangle":
45          r = Rectangle(float(data_items_part[1]),float(data_items_part[2]))
46          print("Rectangle Area:",r.bring_area())
47      elif data_items_part[0] == "Triangle":
48          t = Triangle(float(data_items_part[1]),float(data_items_part[2]))
49          print("Triangle Area:",t.bring_area())
50      else:
51          c = Circle(float(data_items_part[1]))
52          print("Circle Area:", c.bring_area())
53
54
55
56
```