

Python Programming

Class Homework 1

Mostafa S. Ibrahim

Teaching, Training and Coaching since more than a decade!

Artificial Intelligence & Computer Vision Researcher

PhD from Simon Fraser University - Canada

Bachelor / Msc from Cairo University - Egypt

Ex-(Software Engineer / ICPC World Finalist)



Rectangle and Circle

- Create these 2 classes and test them
- Assume $\pi = 3.14$

```
2 class Rectangle:
3     def __init__(self, width, height):...
6
7     def get_area(self):...
9
10
11 class Circle:
12     def __init__(self, radius):...
14
15     def get_area(self):...
17
18
19 r = Rectangle(2, 5)
20 print(r.get_area()) ... # 10
21
22 c = Circle(5)
23 print(c.get_area()) ... # 78.5
```

Editor

- Class editor has **2 objects**: rectangle and circle
- Create methods initialize these 2 objects
- Change method add a factor to the data
 - E.g. if Rect = (3, 5)
 - Factor 2 \Rightarrow (3+2, 5+2)
- Print just print
- See the screenshot

```
3 class Rectangle:...
10 class Circle:...
16
17 class Editor:
18     def __init__(self):...
21     def create_rectangle(self, width, height):...
23     def create_circle(self, radius):...
25     def change(self, factor):...
28     def print(self):...
34
35
36 editor = Editor()
37 editor.create_rectangle(3, 5)
38 editor.print()
39 #Rectangle area 15
40 editor.create_circle(5)
41 editor.change(2)
42 editor.print()
43 #Rectangle area 35
44 #Circle area 153.86
45
```

“Acquire knowledge and impart it to the people.”

“Seek knowledge from the Cradle to the Grave.”