Homework for Week 4

UCSD Extension CSE-41273 Section 133050, Summer 2018.

Included with this instruction file is the file `HW4.py`, containing the skeleton code for the homework.

Please read and follow all the directions carefully! I'm going for brevity on this homework assignment instructions. Be sure to email me with any questions you have.

Put your name in the appropriate comment at the top of the program file `HW4.py`. Turn in a zipped file as described in the *About Homework* document.

Part 1. Person class

Make a `Person` class containing `first_name` and `last_name` attributes that are passed into the `__init__` method as shown.

- Add a property called `full_name` that returns the first and last names together with a space between them.
- Add a property called `name` that returns the names together in the format of last name, followed by a comma and a space, followed by the first name.

It should work like this when you test it in the REPL:

```
>>> from HW4 import Person
>>> teacher = Person("Diane", "Chen")
>>> teacher.last_name
'Chen'
>>> teacher.full_name
'Diane Chen'
>>> teacher.name
'Chen, Diane'
>>> teacher.first_name = "D. D."
>>> teacher.full_name
'D. D. Chen'
>>> teacher.name
'Chen, D. D.'
>>> friend = Person(last_name='McMaster', first_name='Sonia')
>>> friend.name
'McMaster, Sonia'
>>> friend.full_name
'Sonia McMaster'
```

Part 2. Point class

In the file `HW4.py`, there is a Point class defined as we saw in the lecture. It contains the method `get_magnitude` to return the magnitude value.

- Implement `__str__` and `__repr__` for the Point class:

```
>>> from HW4 import Point
>>> point = Point(x=3, y=4)
>>> repr(point)
'Point(x=3, y=4)'
>>> str(point)
```



```
'Point at (3, 4)'
>>> point
Point(x=3, y=4)
>>> print(point)
Point at (3, 4)
```

- Implement a default Point of (0,0):

```
>>> point2 = Point()
>>> point2
Point(x=0, y=0)
>>> point3 = Point(y=9)
>>> point3
Point(x=0, y=9)
```

- Change the `get_magnitude` method into a property method named `magnitude`:

```
>>> point = Point(3, 4)
>>> point
Point(x=3, y=4)
>>> point.magnitude
5.0
>>> point3 = Point(y=9)
>>> point3.magnitude
9.0
```

Grading

- Person class: 20 points
- Point class: 30 points