Week 5: Assignment

Submit Assignment

Due Sunday by 11:59pm **Points** 100 **Submitting** a file upload

Instructions

Please make a python module called week_5_homework.py and put the answers to the problems below in it. All the problems below ask you to write functions or classes. Put ***only*** the functions in the file "week_5_homework.py" do not put any testing code in that file. To test your functions, create another python file week_5_homework_test.py. In this file you can import that functions from your homework file as follows:

```
import week_5_homework as w5h

# then we can test the functions/classes like so:

result = w5h.my_function()
print(result)

object_instance = w5h.My_class()
```

Please write the following functions. ***Make sure you name the functions exactly as typed below.***

Problem 1

Write a decorator, called mylogging, that can be used to add a logging entry to a log file everytime the decorated function is called. The log entry should include the function name and the values of the arguments (both positional and keyword) that are passed to the function.

Test the code by using the decorator an a function and looking at the entries it creates in the log file.

Problem 2

Create a class called Person. This class will define a person object with the following properties: name, height, weight. It will also have a property called bmi that will be dynamically calculated via getter method (use the property decorator). The formula for bmi is weight / height squared. The weight needs to be weight in kilograms and height needs to be in meters. Add that specification to the docstring, but don't worry about trying to check for it in the code.

```
import week_5_homework as w5h


person = w5h.Person(name='Joe', height=2, weight=80)
print(person.BMI)
# this should print out 20
```

Problem 3

Create a class called "LinearModel". This class will allow you to create an object that can make predictions according to the model y=mx+b. Where y is the output, x is the input and m and b are constants. You will want to set the m and b constants using the _init__ method. Then add a method called 'predict' that will take x as an input and produce y as an output.

You can test the class with the following code

```
import week_5_homework as w5h

my_model = w5h.LinearModel(m=1, b=0)
y = my_model.predict(2)
assert y == 2
# y should be 2
```

Submission

Submit the file with the functions, week_5_homework.py, to the Week 5: Assignment page. Each problem is worth 30 points, and you get 10 points for turning something in (that is completely blank). Click on the blue button in the top right corner to submit your assignment.

Click Next (below) to progress through the course.