

## Submission

### Timeliness (10 available points)

#### Requirements

Must be submitted by date and time indicated in the weekly schedule.

Percent Credit	Description
100	On Time
0	Late
0	Not submitted or submitted too late

## File Submitted (10 available points)

### Requirements

Project submission must be in a gradable state upon first submission. Deduction will be made for students who must resubmit their work due to an ungradable prior submission.

Submit only 1 file.

File type must be .ZIP.

File name must conform to all requirements stated in assignment instructions (surname\_givename\_final\_project.zip).

Contents of .ZIP file must be a properly named directory that represents a PyCharm project.

Pycharm project name must conform to all requirements stated in the assignment instructions (surname\_givename\_final\_project).

Directory contents must be properly named PyCharm project files.

Percent Credit	Description
100	Meets all expectations.
50	Meets nearly all expectations.
0	Does not meet expectations.
0	Not submitted or submitted too late.

## Exercise 1

### Completeness (10 available content points)

#### Requirements

Must produce the expected quantity of results.

Must produce the exact values expected.

Results must be formatted as expected.

Percent Credit	Description
100	Meets all expectations.
90	Meets nearly all expectations.
75	Meets most expectations.
50	Meets some expectations.
25	Meets few expectations.
10	Meets nearly no expectations.
0	Meets no expectations.
0	Not submitted or submitted too late.

## Technique (10 available content points)

Requirements
The python module must be properly named.
Include a single-line comment with name of program file.
Include a single-line comment that describes the intent of the program.
Place your highest-level code in a function named main.
Your code should be factored such that there is a function in your program for each part of the problem.
Each function should contain code relating to the same thing – it should have high cohesion.
Functions should know as little as possible about the workings of other functions – they should have low coupling.
If the Python file that you are creating is a regular executable program, include a final line of code in the program that calls the main() function.
Follow all PEP-8 Python coding style guidelines enforced by the PyCharm Editor. For example, place two blank lines between the code making up a function (or class) and the code that surrounds that function (or class).
Output printed by the program (both prompts and results) should be polite and descriptive.
Choose names for your variables that are properly descriptive.
Choose names for your functions that are properly descriptive.
Choose names for your classes that are properly descriptive
Follow PEP-8 Python coding style guidelines for forming names of variables, functions, and classes.
Close all files before the conclusion of the program.
Model your solution after the code that I demonstrate in the tutorial videos.
Remember to test your program thoroughly before submitting your work.
Your code must pass all relevant test cases. Make sure that it passes tests at the boundaries created by if, else, and elif conditions in your program (boundary value tests).

Percent Credit	Description
100	Meets all expectations.
90	Meets nearly all expectations.
75	Meets most expectations.
50	Meets some expectations.
25	Meets few expectations.
10	Meets nearly no expectations.

0	Meets no expectations.
0	Not submitted or submitted too late.

## Exercise 2

### Completeness (10 available content points)

Requirements
Must produce the expected quantity of results.
Must produce the exact values expected.
Results must be formatted as expected.

Percent Credit	Description
100	Meets all expectations.
90	Meets nearly all expectations.
75	Meets most expectations.
50	Meets some expectations.
25	Meets few expectations.
10	Meets nearly no expectations.
0	Meets no expectations.
0	Not submitted or submitted too late.

## Technique (10 available content points)

Requirements
The python module must be properly named.
Include a single-line comment with name of program file.
Include a single-line comment that describes the intent of the program.
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If the Python file that you are creating is a regular executable program, include a final line of code in the program that calls the main() function.
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Choose names for your classes that are properly descriptive
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Your code must pass all relevant test cases. Make sure that it passes tests at the boundaries created by if, else, and elif conditions in your program (boundary value tests).

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100	Meets all expectations.
90	Meets nearly all expectations.
75	Meets most expectations.
50	Meets some expectations.
25	Meets few expectations.
10	Meets nearly no expectations.

0	Meets no expectations.
0	Not submitted or submitted too late.

### Exercise 3

#### Completeness (10 available content points)

Requirements
Must produce the expected quantity of results.
Must produce the exact values expected.
Results must be formatted as expected.

Percent Credit	Description
100	Meets all expectations.
90	Meets nearly all expectations.
75	Meets most expectations.
50	Meets some expectations.
25	Meets few expectations.
10	Meets nearly no expectations.
0	Meets no expectations.
0	Not submitted or submitted too late.

## Technique (10 available content points)

### Requirements

The python module must be properly named.

Include a single-line comment with name of program file.

Include a single-line comment that describes the intent of the program.

Place your highest-level code in a function named main.

Your code should be factored such that there is a function in your program for each part of the problem.

Each function should contain code relating to the same thing – it should have high cohesion.

Functions should know as little as possible about the workings of other functions – they should have low coupling.

Follow all PEP-8 Python coding style guidelines enforced by the PyCharm Editor. For example, place two blank lines between the code making up a function (or class) and the code that surrounds that function (or class).

Output printed by the program (both prompts and results) should be polite and descriptive.

Choose names for your variables that are properly descriptive.

Choose names for your functions that are properly descriptive.

The names of instance variables, methods, and the class itself must match those provided in the instructions.

Follow PEP-8 Python coding style guidelines for forming names of variables, functions, and classes.

Close all files before the conclusion of the program.

Model your solution after the code that I demonstrate in the tutorial videos.

Remember to test your program thoroughly before submitting your work.

Your code must pass all relevant test cases. Make sure that it passes tests at the boundaries created by if, else, and elif conditions in your program (boundary value tests).

Place your unit testing code for the class in the main() function.

Include statements at the end of your module file that cause the main() function to be called only when the module is run directly.

Make sure that the code in main() is not called when the module is imported into another program.

Make sure that all client code can access instance variables using Pythonic field access (instance.fieldname).

When typical getter/setter features are needed for an instance variable, implement Pythonic getter/setter features using the @property decorators. DO NOT create Non-Pythonic getter/setter methods with names like get\_fieldname() and set\_fieldname().

Never store values as instance variables that may be derived from other instance variables. Instead, provide methods in the class with names like calculate\_derived\_value().



Always provide an `__init__()` constructor.

Always provide a `__str__()` method.

Always provide a `__repr__()` method.

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## Exercise 4

### Completeness (10 available content points)

Requirements
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Must produce the exact values expected.
Results must be formatted as expected.

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90	Meets nearly all expectations.
75	Meets most expectations.
50	Meets some expectations.
25	Meets few expectations.
10	Meets nearly no expectations.
0	Meets no expectations.
0	Not submitted or submitted too late.

## Technique (10 available content points)

Requirements
The python module must be properly named.
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**Total Available Points = 100**