In this exercise, you are to implement a class based on the client code provided. This exercise should also get you familiar with PythonTA.

To start, download `ex1.py` and `ex1_pyta.txt` and read through the code provided in the `if __name__ == '__main__'` block.

You are to define a class that fulfills the requirements of the client code provided. The attributes and internal workings of the class are up to you, as long as the code can run without raising any `AssertionErrors` and works how we'd expect. We will test your code with other examples, so your code should work in general.

Any assumptions you can make about the client code is specified in `ex1.py` as comments.

Please document your code properly (type annotations, writing docstrings and docstring examples, etc.).

This exercise will require you to have PythonTA installed. If you haven't done so already, go through `lab1` and the instructions on the [Software page] to install and set up PyCharm with PythonTA.

**Submission**

Exercises are to be submitted through [MarkUs] in the `ex1` folder. Submit only `ex1.py`.

To log in to MarkUs, use your UTORid as the log-in name. The password is your teaching labs password. If you have not set this up or have forgotten your password, go to the [Teaching Lab's Account Management Page] and (re)set your password.

**Grading Scheme**

This exercise will be graded out of 4 marks, broken down as follows:

- 2 marks for being able to run the client code without issue (no assertion errors raised)
- 1 mark for passing PythonTA
- 1 mark for passing hidden test cases (which use your client code in other ways)

All of these marks are 'all-or-nothing' (i.e. you'll either get 0 on that criteria, or full marks).