**Methods and Tools in SW Development**

**Unit Testing with Python**

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**Function Name:** openFile

**Number of tests:** 1

**Items to test:**

* Testing if filename is a file

**Inputs used for testing:**

* N/A

**Corrections made:**

This code needs an option for an invalid input type as well as a FileNotFoundError exception.

**Failed tests:**

Any input file that is not a string would output an invalid input type error message, and any input file that is not found in the directory will output a file not found error message.

**Tests passed before corrections: N/A**

**Tests failed before corrections:** N/A

**Tests passed after corrections:** N/A

**Tests failed after corrections:** N/A

**Function Name:** numbers

**Number of tests:** 2

**Items to test:**

* Testing what num1 and num2 are
* Testing that num1 can be divided by num2

**Inputs used for testing:**

* N/A

**Corrections made:**

The code would need to check if the inputs for num1 and num2 are integers or floats and would result in a type error. It would also require a ZeroDivisionError exception.

**Failed tests:**

Any input that is not an integer or float will result in a type error message, and any time num2’s input is 0, a zero division error message will occur.

**Tests passed before corrections:** N/A

**Tests failed before corrections:** N/A

**Tests passed after corrections:** N/A

**Tests failed after corrections:** N/A

**Function Name:** dist

**Number of tests:** 2

**Items to test:**

* Testing for two points
* Testing what the distance is

**Inputs used for testing:**

* N/A

**Corrections made:**

The code would first test if the points are integers or floats and would result in a type error if not.

**Failed tests:**

If an incorrect input type is entered it will result in a type error or invalid input error message.

**Tests passed before corrections:** N/A

**Tests failed before corrections:** N/A

**Tests passed after corrections:** N/A

**Tests failed after corrections:** N/A

**Function Name:** isPalindrome

**Number of tests:** 3

**Items to test:**

* Testing a string
* Testing its reverse
* Testing the comparison

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**Inputs used for testing:**

* N/A

**Corrections made:**

The code would check if the input is a string and if so it will reverse and compare it.

**Failed tests:**

If temp is not a string a type error message will appear.

**Tests passed before corrections:** N/A

**Tests failed before corrections:** N/A

**Tests passed after corrections:** N/A

**Tests failed after corrections:** N/A

**Function Name:** divide

**Number of tests:** 2

**Items to test:**

* Testing numbers
* Testing divisibility

**Inputs used for testing:**

* N/A

**Corrections made:**

The code determine if the input is an integer or float and will output a type error if not. It will also have an exception for if the second input is 0.

**Failed tests:**

Any input that is not an integer or float will result in a type error message, and anytime the second input is 0 a ZeroDivisionError exception will occur.

**Tests passed before corrections:** N/A

**Tests failed before corrections:** N/A

**Tests passed after corrections:** N/A

**Tests failed after corrections:** N/A

**Function Name:** sq

**Number of tests:** 1

**Items to test:**

* Testing numbers

**Inputs used for testing:**

* N/A

**Corrections made:**

The code should check if the input is a string or float.

**Failed tests:**

If the input is not a string or float, a type error message will occur.

**Tests passed before corrections:** N/A

**Tests failed before corrections:** N/A

**Tests passed after corrections:** N/A

**Tests failed after corrections:** N/A

**Function Name:** greetUser

**Number of tests:** 1

**Items to test:**

* Tests user’s name

**Inputs used for testing:**

* N/A

**Corrections made:**

Code would check if each input is a string.

**Failed tests:**

If one of the inputs is not a string, a type error message would occur.

**Tests passed before corrections:** N/A

**Tests failed before corrections:** N/A

**Tests passed after corrections:** N/A

**Tests failed after corrections:** N/A

**Function Name:** displayItem

**Number of tests:**

**Items to test:**

* Tests index
* Tests numbers

**Inputs used for testing:**

* N/A

**Corrections made:**

The code should check if the index is a string and if the numbers are integers or floats.

**Failed tests:**

If the index is not a string, a type error message will appear. If numbers is not an integer or float, a type error message will appear as well.

**Tests passed before corrections:** N/A

**Tests failed before corrections:** N/A

**Tests passed after corrections:** N/A

**Tests failed after corrections:** N/A

**Reflection**

1. Who was assigned what testing functions to work on?

 We both worked on them.

  2. Is there anything testing wise you feel was lacking? Is it due to lack of tools, etc?

Unfamiliarity with the program.

 3. After the assignment, do you feel that unit testing is important? Why or why not?

Yes, because code would constantly crash and be harder to fix without it.