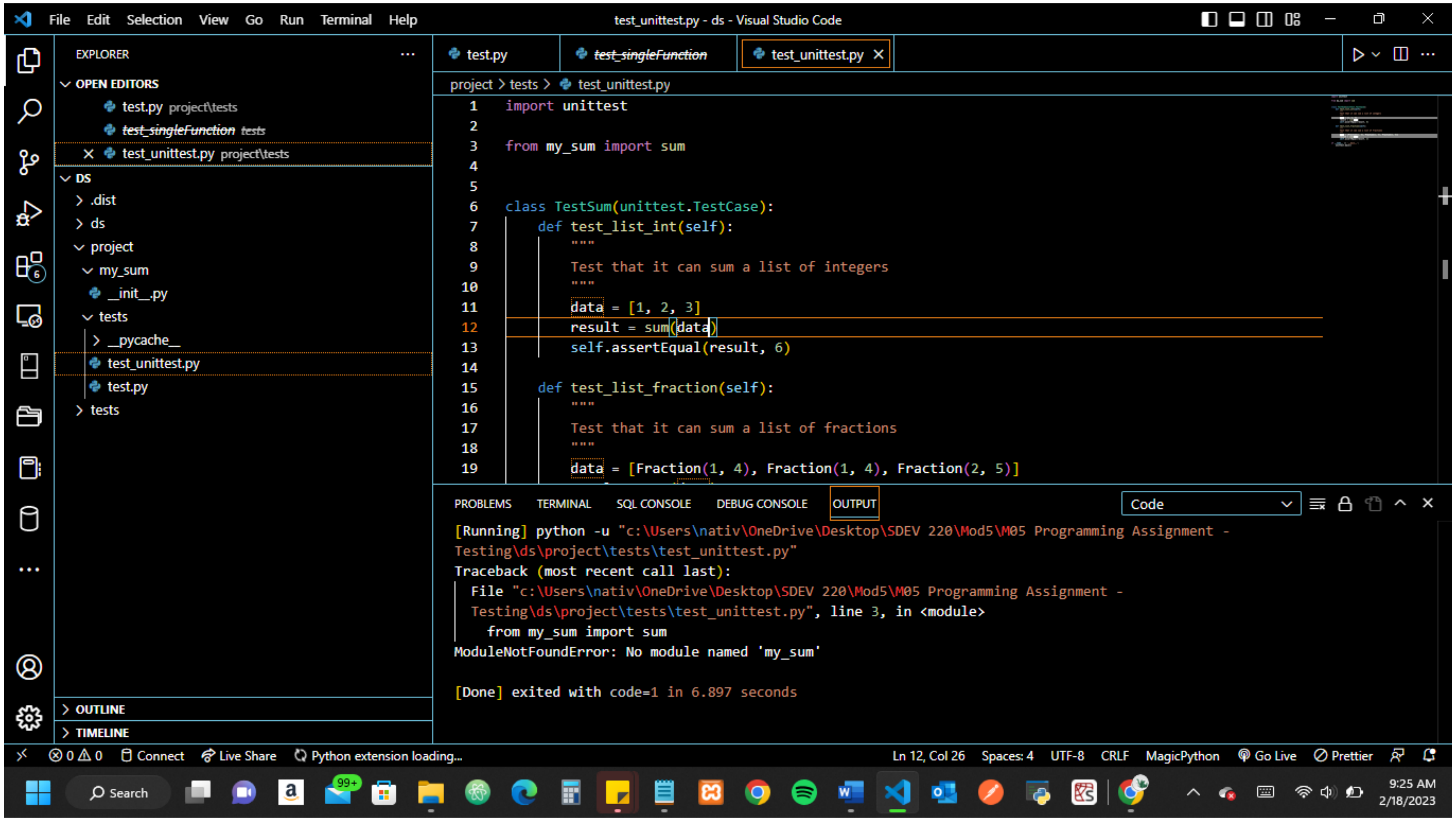
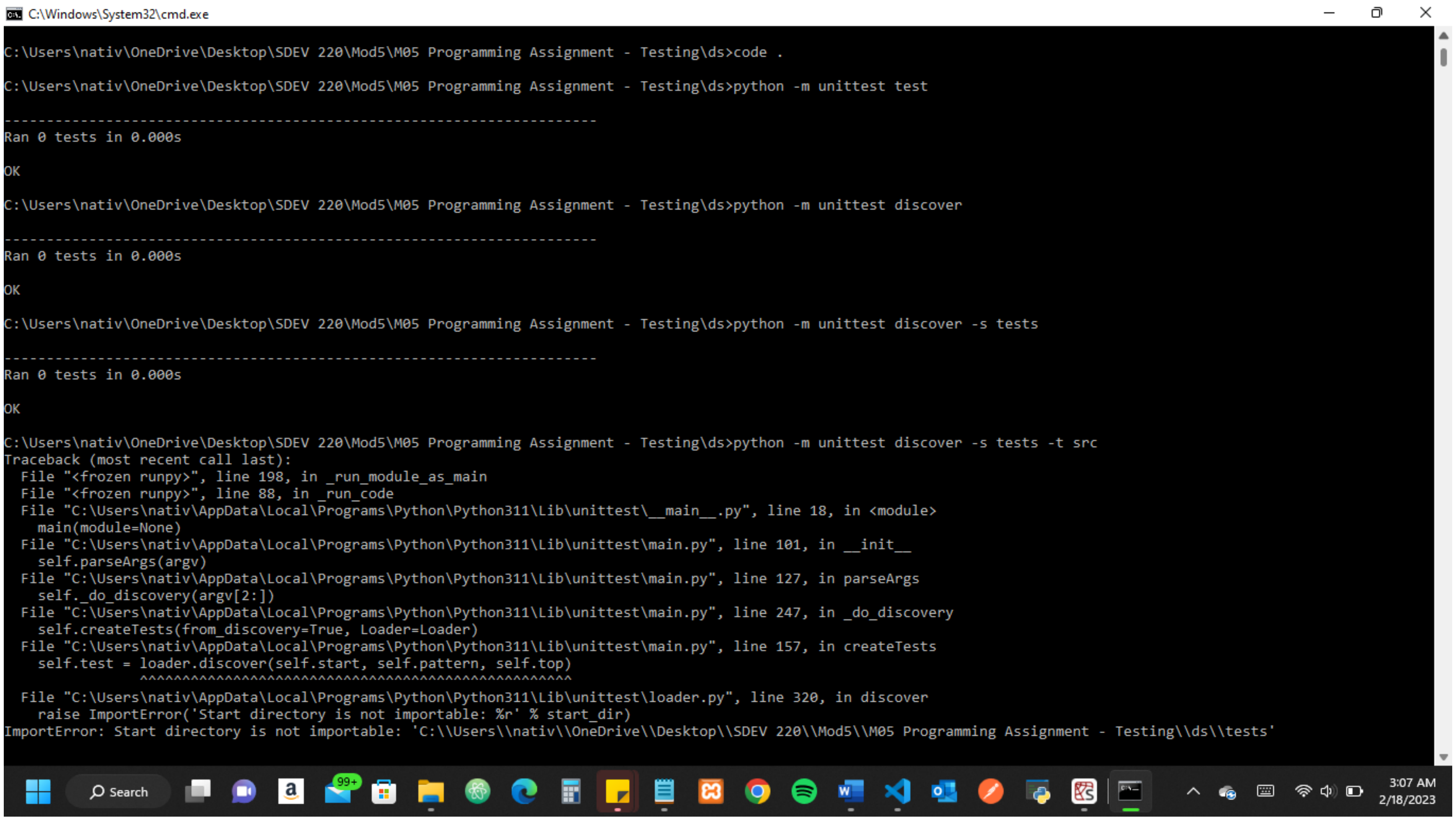

test_unittest.py - ds - Visual Studio Code
EXPLORER
OPEN EDITORS
test.py project\tests
test_singleFunction tests
test_unittest.py project\tests
DS
.dist
ds
project
my_sum
__init__.py
tests
__pycache__
test_unittest.py
test.py
tests
OUTLINE
TIMELINE
PROBLEMS TERMINAL SQL CONSOLE DEBUG CONSOLE OUTPUT
Ln 12, Col 26 Spaces: 4 UTF-8 CRLF MagicPython

```python
import unittest

from my_sum import sum


class TestSum(unittest.TestCase):
    def test_list_int(self):
        """
        Test that it can sum a list of integers
        """
        data = [1, 2, 3]
        result = sum(data)
        self.assertEqual(result, 6)

    def test_list_fraction(self):
        """
        Test that it can sum a list of fractions
        """
        data = [Fraction(1, 4), Fraction(1, 4), Fraction(2, 5)]
```

```
[Running] python -u "c:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds\project\tests\test_unittest.py"
Traceback (most recent call last):
  File "c:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds\project\tests\test_unittest.py", line 3, in <module>
    from my_sum import sum
ModuleNotFoundError: No module named 'my_sum'

[Done] exited with code=1 in 6.897 seconds
```

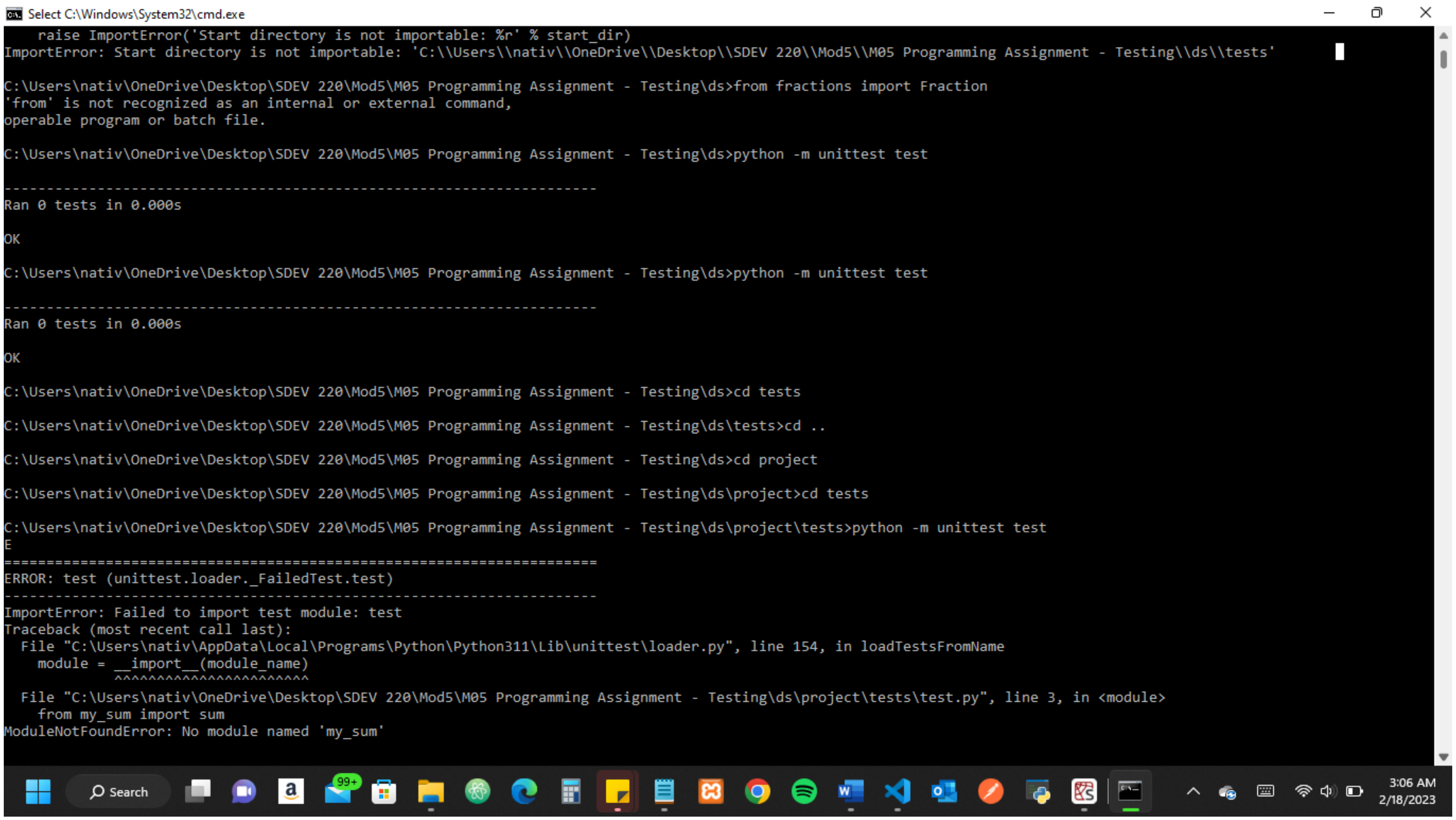
After writing the Python code in VS Code, I was able to run the code with within VS Code and get those test results within VS Code in the console window. The test results above show that particular module, '**my_sum**', ran with no errors. The results in the console window also show how long it took to get the results once the program began to run. This was a very simple process, and I believe is a great tool. Being able to see the results of how a program runs, along with how long it takes to run, is data that provides information to the programmer that can aid in de-bugging and production of code. **In code IDE Test run statement:** **if __name__ == '__main__':**
unittest.main()



C:\Windows\System32\cmd.exe

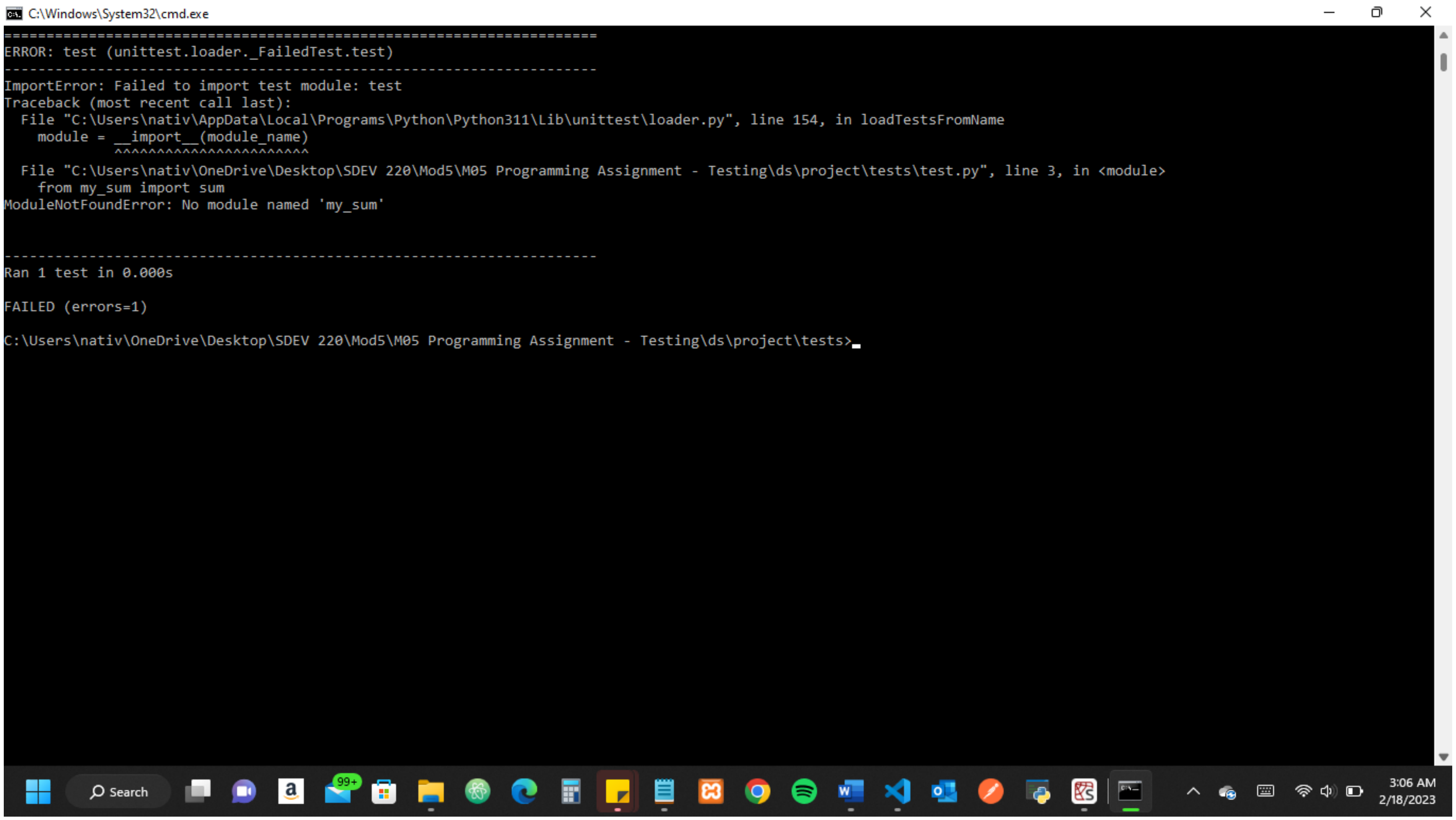
```
C:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds>code .

C:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds>python -m unittest test

----------------------------------------------------------------------
Ran 0 tests in 0.000s

OK

C:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds>python -m unittest discover

----------------------------------------------------------------------
Ran 0 tests in 0.000s

OK

C:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds>python -m unittest discover -s tests

----------------------------------------------------------------------
Ran 0 tests in 0.000s

OK

C:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds>python -m unittest discover -s tests -t src
Traceback (most recent call last):
  File "<frozen runpy>", line 198, in _run_module_as_main
  File "<frozen runpy>", line 88, in _run_code
  File "C:\Users\nativ\AppData\Local\Programs\Python\Python311\Lib\unittest\__main__.py", line 18, in <module>
    main(module=None)
  File "C:\Users\nativ\AppData\Local\Programs\Python\Python311\Lib\unittest\main.py", line 101, in __init__
    self.parseArgs(argv)
  File "C:\Users\nativ\AppData\Local\Programs\Python\Python311\Lib\unittest\main.py", line 127, in parseArgs
    self._do_discovery(argv[2:])
  File "C:\Users\nativ\AppData\Local\Programs\Python\Python311\Lib\unittest\main.py", line 247, in _do_discovery
    self.createTests(from_discovery=True, Loader=Loader)
  File "C:\Users\nativ\AppData\Local\Programs\Python\Python311\Lib\unittest\main.py", line 157, in createTests
    self.test = loader.discover(self.start, self.pattern, self.top)
                ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
  File "C:\Users\nativ\AppData\Local\Programs\Python\Python311\Lib\unittest\loader.py", line 320, in discover
    raise ImportError('Start directory is not importable: %r' % start_dir)
ImportError: Start directory is not importable: 'C:\\Users\\nativ\\OneDrive\\Desktop\\SDEV 220\\Mod5\\M05 Programming Assignment - Testing\\ds\\tests'
```

In addition to being able to test code within a given IDE, it is also possible to test the code at the Command Line level. In the screenshot above, there are several different ways to test the code. Running "**python -m unittest**" tests the code the same way the testing in the IDE above did. However, depending on if you want to have different options, i.e., being able to change the output, you can at -v to the same command before running the test. Both of those options run one test file at a time. However, if running multiple file tests at one time, running "**python -m unittest discover -s tests**" should be the prompt to use at the command line. Finally, if your file is NOT in the directory, running "**python -m unittest discover -s tests -t src**" at the command line will do that.


Select C:\Windows\System32\cmd.exe

```
    raise ImportError('Start directory is not importable: %r' % start_dir)
ImportError: Start directory is not importable: 'C:\\Users\\nativ\\OneDrive\\Desktop\\SDEV 220\\Mod5\\M05 Programming Assignment - Testing\\ds\\tests'

C:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds>from fractions import Fraction
'from' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds>python -m unittest test

----------------------------------------------------------------------
Ran 0 tests in 0.000s

OK

C:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds>python -m unittest test

----------------------------------------------------------------------
Ran 0 tests in 0.000s

OK

C:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds>cd tests

C:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds\tests>cd ..

C:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds>cd project

C:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds\project>cd tests

C:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds\project\tests>python -m unittest test
E
======================================================================
ERROR: test (unittest.loader._FailedTest.test)
----------------------------------------------------------------------
ImportError: Failed to import test module: test
Traceback (most recent call last):
  File "C:\Users\nativ\AppData\Local\Programs\Python\Python311\Lib\unittest\loader.py", line 154, in loadTestsFromName
    module = __import__(module_name)
             ^^^^^^^^^^^^^^^^^^^^^^^
  File "C:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds\project\tests\test.py", line 3, in <module>
    from my_sum import sum
ModuleNotFoundError: No module named 'my_sum'
```

The above screenshot shows the results of a failed code using "**python -m unittest test**". The results display that the test failed to import the test module, explaining that there was no module named "**my_sum**". This is interesting, because the module was in the same code when the test ran in within the IDE. This shows that test results can be different based on the prompt used.


C:\Windows\System32\cmd.exe

```
======================================================================
ERROR: test (unittest.loader._FailedTest.test)
----------------------------------------------------------------------
ImportError: Failed to import test module: test
Traceback (most recent call last):
  File "C:\Users\nativ\AppData\Local\Programs\Python\Python311\Lib\unittest\loader.py", line 154, in loadTestsFromName
    module = __import__(module_name)
             ^^^^^^^^^^^^^^^^^^^^^^^
  File "C:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds\project\tests\test.py", line 3, in <module>
    from my_sum import sum
ModuleNotFoundError: No module named 'my_sum'


----------------------------------------------------------------------
Ran 1 test in 0.000s

FAILED (errors=1)

C:\Users\nativ\OneDrive\Desktop\SDEV 220\Mod5\M05 Programming Assignment - Testing\ds\project\tests>_
```

This is the final test result for the failed code test initiated above.