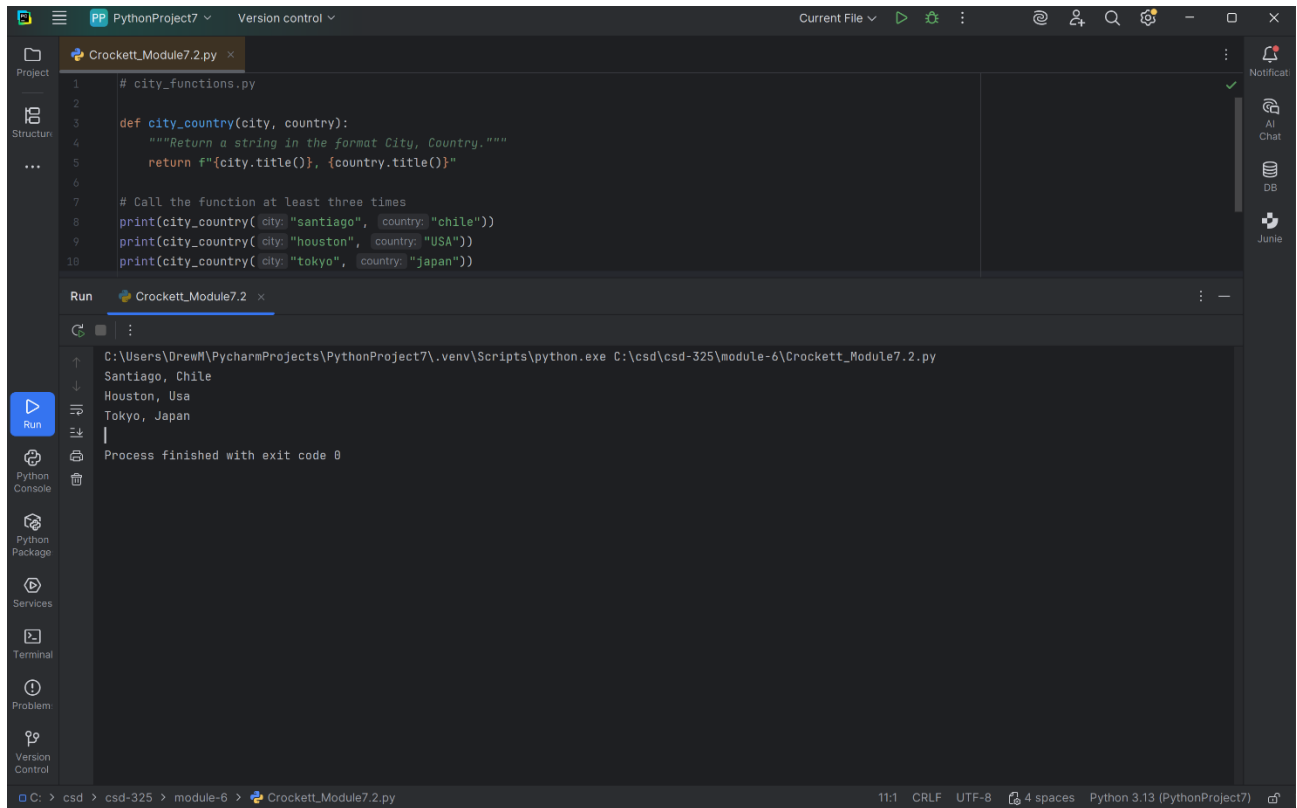


Drew Crockett

11/20/25

Module 7.2

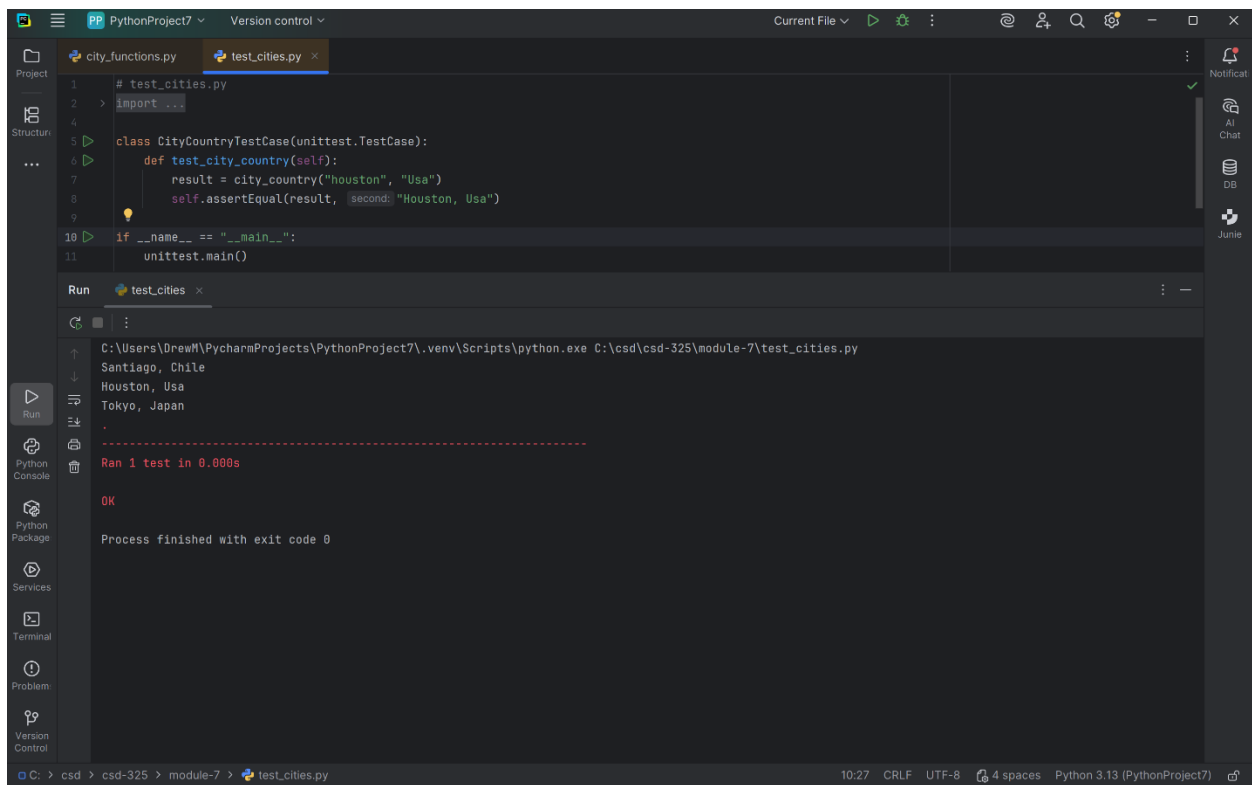
City Function



The screenshot shows the PyCharm IDE with the file `Crockett_Module7.2.py` open. The code defines a function `city_country` that takes `city` and `country` as arguments and returns a string in the format `City, Country`. The function is called three times with the following inputs: `(santiago, chile)`, `(houston, USA)`, and `(tokyo, japan)`. The output of the program is displayed in the Run console:

```
C:\Users\DrewM\PycharmProjects\PythonProject7\.venv\Scripts\python.exe C:\csd\csd-325\module-6\Crockett_Module7.2.py
Santiago, Chile
Houston, Usa
Tokyo, Japan
Process finished with exit code 0
```

Test(PASS)

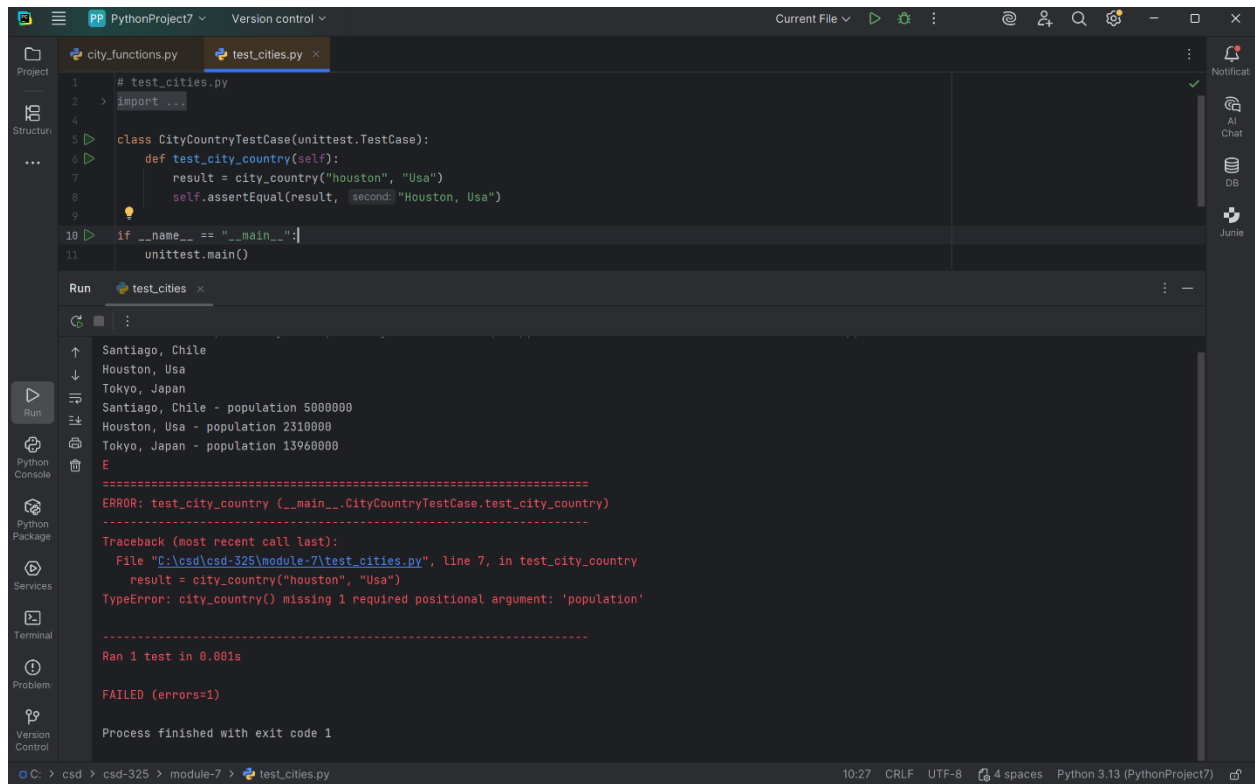


The screenshot shows the PyCharm IDE with the file `test_cities.py` open. The code defines a test class `CityCountryTestCase` that inherits from `unittest.TestCase`. The test method `test_city_country` calls the `city_country` function with the inputs `(houston, Usa)` and asserts that the result is `"Houston, Usa"`. The output of the program is displayed in the Run console:

```
C:\Users\DrewM\PycharmProjects\PythonProject7\.venv\Scripts\python.exe C:\csd\csd-325\module-7\test_cities.py
Santiago, Chile
Houston, Usa
Tokyo, Japan
.
-----
Ran 1 test in 0.000s

OK
Process finished with exit code 0
```

Test (FAIL)



The screenshot shows the PyCharm IDE with a Python project named 'PythonProject7'. The file 'test_cities.py' is open, showing a test case for the 'city_country' function. The test is failing due to a 'TypeError: city_country() missing 1 required positional argument: 'population''. The error message is displayed in the Run console, along with the test output and the command used to run the test.

```
1 # test_cities.py
2 > import ...
4
5 class CityCountryTestCase(unittest.TestCase):
6     def test_city_country(self):
7         result = city_country("houston", "Usa")
8         self.assertEqual(result, second="Houston, Usa")
9
10 if __name__ == "__main__":
11     unittest.main()

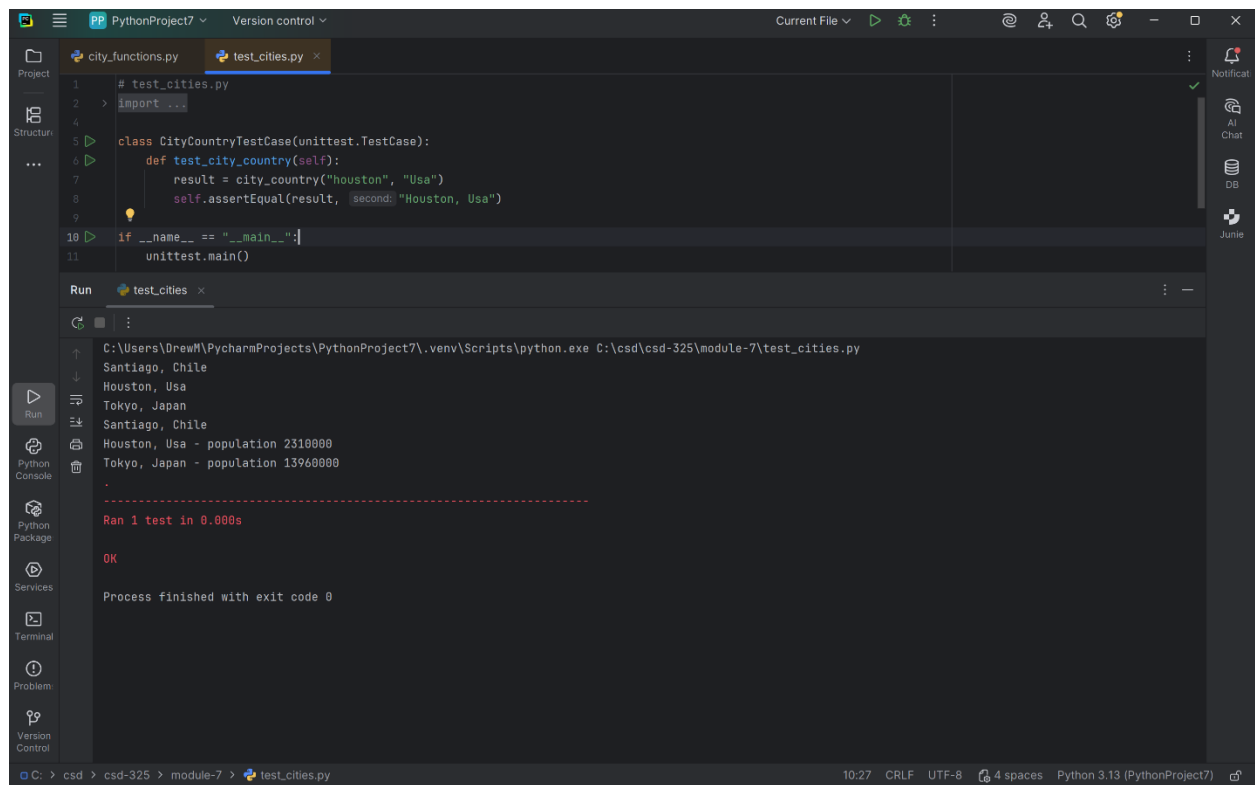
Run test_cities x

Santiago, Chile
Houston, Usa
Tokyo, Japan
Santiago, Chile - population 5000000
Houston, Usa - population 2310000
Tokyo, Japan - population 13960000
E
=====
ERROR: test_city_country (__main__.CityCountryTestCase.test_city_country)
=====
Traceback (most recent call last):
  File "C:\csd\csd-325\module-7\test_cities.py", line 7, in test_city_country
    result = city_country("houston", "Usa")
TypeError: city_country() missing 1 required positional argument: 'population'
=====
Ran 1 test in 0.001s

FAILED (errors=1)

Process finished with exit code 1
```

Test (Pass)



The screenshot shows the PyCharm IDE with the same Python project and file. The test is now passing. The output in the Run console shows the test results, including the command used to run the test and the exit code 0.

```
1 # test_cities.py
2 > import ...
4
5 class CityCountryTestCase(unittest.TestCase):
6     def test_city_country(self):
7         result = city_country("houston", "Usa")
8         self.assertEqual(result, second="Houston, Usa")
9
10 if __name__ == "__main__":
11     unittest.main()

Run test_cities x

C:\Users\DrewM\PycharmProjects\PythonProject7\.venv\Scripts\python.exe C:\csd\csd-325\module-7\test_cities.py
Santiago, Chile
Houston, Usa
Tokyo, Japan
Santiago, Chile
Houston, Usa - population 2310000
Tokyo, Japan - population 13960000
.
=====
Ran 1 test in 0.000s

OK

Process finished with exit code 0
```

Test (Fail)

The screenshot shows the PyCharm IDE with a Python project named 'PythonProject7'. The file 'test_cities.py' is open, showing a test case for 'city_country'. The test is failing due to a 'TypeError: city_country() missing 2 required positional arguments: 'population' and 'language''. The error message is displayed in the Run console, along with a list of cities and their populations and languages.

```
# test_cities.py
import ...

class CityCountryTestCase(unittest.TestCase):
    def test_city_country(self):
        result = city_country("houston", "Usa")
        self.assertEqual(result, second: "Houston, Usa")

if __name__ == "__main__":
    unittest.main()
```

Run test_cities

```
ERROR: test_city_country (__main__.CityCountryTestCase.test_city_country)
Traceback (most recent call last):
  File "C:\csd\csd-325\module-7\test_cities.py", line 7, in test_city_country
    result = city_country("houston", "Usa")
TypeError: city_country() missing 2 required positional arguments: 'population' and 'language'

Ran 1 test in 0.000s

FAILED (errors=1)
Santiago, Chile
Houston, Usa
Tokyo, Japan
Santiago, Chile - population 5000000, Spanish
Paris, Houston - population 2310000, English
Tokyo, Japan - population 13960000, Japanese

Process finished with exit code 1
```

Test (PASS)

The screenshot shows the PyCharm IDE with the same Python project. The file 'test_cities.py' is open, showing the same test case. The test is now passing, and the output is displayed in the Run console. The output shows the cities and their populations and languages, followed by 'OK' and 'Process finished with exit code 0'.

```
self.assertEqual(result, second: "Tokyo, Japan - population 14250000, Japanese")

if __name__ == "__main__":
    unittest.main()
```

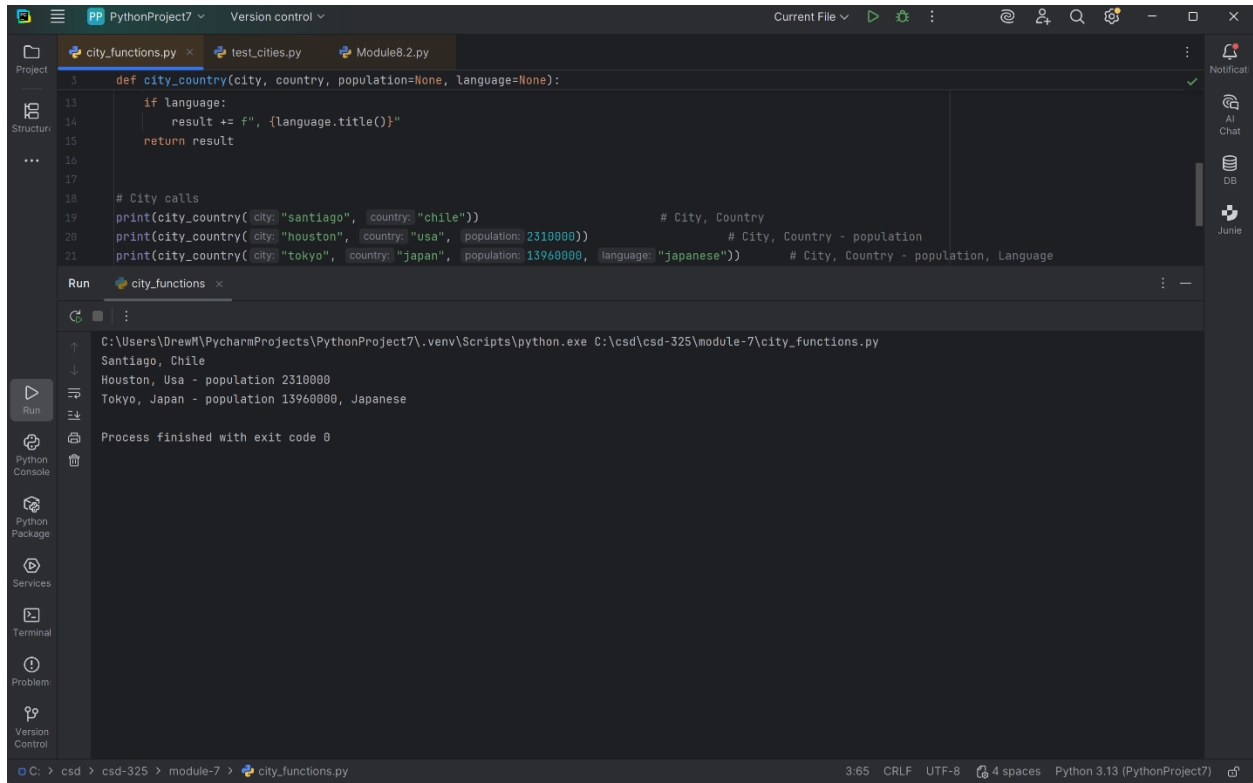
Run test_cities

```
C:\Users\DrewM\PycharmProjects\PythonProject7\.venv\Scripts\python.exe C:\csd\csd-325\module-7\test_cities.py
Santiago, Chile
Houston, Usa - population 2310000
Tokyo, Japan - population 14250000, Japanese
.
Ran 1 test in 0.000s

OK

Process finished with exit code 0
```

City Function (3 CALLS)



The screenshot displays the PyCharm IDE interface for a project named 'PythonProject7'. The editor window shows the file 'city_functions.py' with the following Python code:

```
def city_country(city, country, population=None, language=None):  
    if language:  
        result += f", {language.title()}"  
    return result  
  
# City calls  
print(city_country(city="santiago", country="chile")) # City, Country  
print(city_country(city="houston", country="usa", population=2310000)) # City, Country - population  
print(city_country(city="tokyo", country="japan", population=13960000, language="japanese")) # City, Country - population, Language
```

Below the editor, the 'Run' tool window is active, showing the execution output for 'city_functions.py':

```
C:\Users\DrewM\PycharmProjects\PythonProject7\.venv\Scripts\python.exe C:\csd\csd-325\module-7\city_functions.py  
Santiago, Chile  
Houston, Usa - population 2310000  
Tokyo, Japan - population 13960000, Japanese  
Process finished with exit code 0
```

The status bar at the bottom indicates the file path 'C:\csd\csd-325\module-7\city_functions.py', the line number '3:65', and the encoding 'CRLF UTF-8'.