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Module 7.2

City Function

The screenshot shows the PyCharm IDE interface. The project is named "PythonProject7". The current file is "Crockett_Module7.2.py". The code defines a function "city_country" that takes "city" and "country" parameters and returns a string in the format "City, Country". It then calls this function three times with specific arguments. The "Run" tool window shows the output of the script's execution:

```
C:\Users\...\\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
```

The "Python Console" tab shows the same output. The status bar at the bottom indicates the file is saved, encoding is CRLF, and the Python version is 3.13.

Test(PASS)

The screenshot shows the PyCharm IDE interface. The project is named "PythonProject7". The current file is "test_cities.py", which contains unit tests for the "city_functions.py" module. The "Run" tool window shows the output of the test run:

```
C:\\Users\\...\\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
```

The "Python Console" tab shows the same output. The status bar at the bottom indicates the file is saved, encoding is CRLF, and the Python version is 3.13.

Test (FAIL)

The screenshot shows the PyCharm IDE interface with the following details:

- Project:** PythonProject7
- File:** test_cities.py
- Code:** A Python script containing a unit test for a city country function. The test fails because it expects a tuple but gets a string.
- Run Output:**

```
↑ Santiago, Chile
↓ Houston, Usa
↳ Tokyo, Japan
Santiago, Chile - population 5000000
Houston, Usa - population 2310000
Tokyo, Japan - population 13960000
E
=====
ERROR: test_city_country (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
```
- Status Bar:** C: > csd > csd-325 > module-7 > test_cities.py | 10:27 | CRLF | UTF-8 | 4 spaces | Python 3.13 (PythonProject7)

Test (Pass)

The screenshot shows the PyCharm IDE interface with the following details:

- Project:** PythonProject7
- File:** test_cities.py
- Code:** The same Python script as the previous screenshot, but the test passes now.
- Run Output:**

```
↑ C:\Users\DrawM\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
```
- Status Bar:** C: > csd > csd-325 > module-7 > test_cities.py | 10:27 | CRLF | UTF-8 | 4 spaces | Python 3.13 (PythonProject7)

Test (Fail)

The screenshot shows the PyCharm IDE interface with the following details:

- Project:** PythonProject7
- File:** test_cities.py
- Code:** A test case for a city function. The test fails because the city_country function requires two arguments ('population' and 'language').
- Run:** The test_cities run configuration is selected.
- Output:**

```
E
=====
ERROR: test_city_country (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
```
- Status Bar:** C:\ > csd > csd-325 > module-7 > test_cities.py
- Bottom Status:** 10:27 CRLF UTF-8 4 spaces Python 3.13 (PythonProject7)

Test (PASS)

The screenshot shows the PyCharm IDE interface with the following details:

- Project:** PythonProject7
- File:** test_cities.py
- Code:** The same test case as before, but now it passes because the city_country function is correctly implemented to accept 'population' and 'language' arguments.
- Run:** The test_cities run configuration is selected.
- Output:**

```
C:\Users\DrawM\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
```
- Status Bar:** C:\ > csd > csd-325 > module-7 > test_cities.py
- Bottom Status:** 21:1 CRLF UTF-8 4 spaces Python 3.13 (PythonProject7)

City Function (3 CALLS)

```
city_functions.py  test_cities.py  Module8.2.py
Project
Structure
...
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
Run
city_functions
C:\Users\...\.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
Python
Console
Python
Package
Services
Terminal
Problems
Version
Control
Current File  Version control  Run  Search  Help  Minimize  Maximize  Close
C: > csd > csd-325 > module-7 > city_functions.py  3:55  CRLF  UTF-8  4 spaces  Python 3.13 (PythonProject7)  Junie
```