

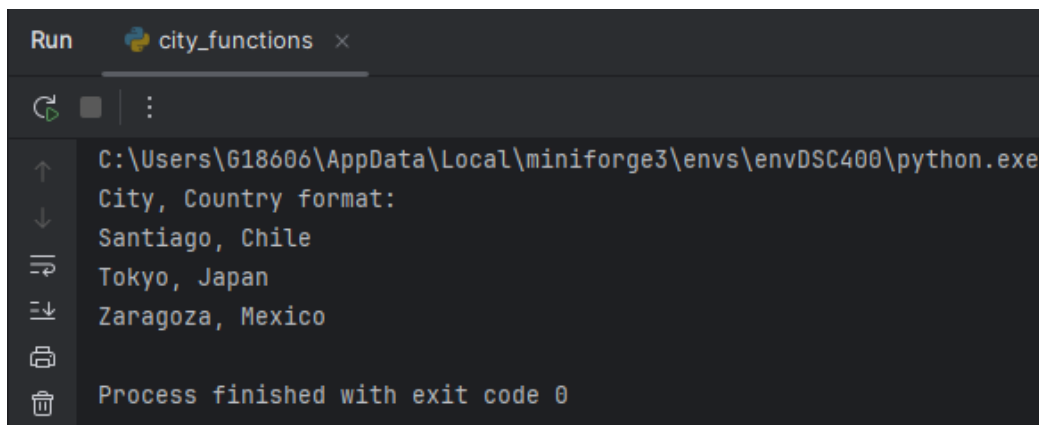
Carlos E. Escamilla

CSD325 Module 7.2 Assignment: Test Cases

github.com/carlose1977/CSD-325

Step 1: Initial city_functions.py Execution

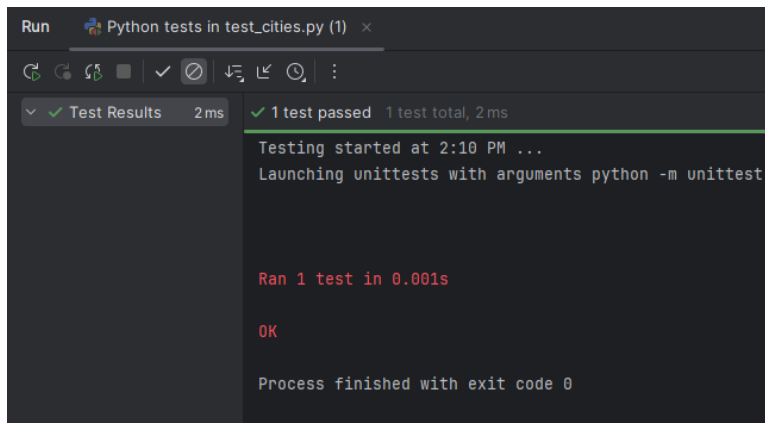
Program output showing city and country:



```
Run city_functions x
C:\Users\G18606\AppData\Local\miniforge3\envs\envDSC400\python.exe
City, Country format:
Santiago, Chile
Tokyo, Japan
Zaragoza, Mexico
Process finished with exit code 0
```

Step 2: Initial test_city_country() Execution

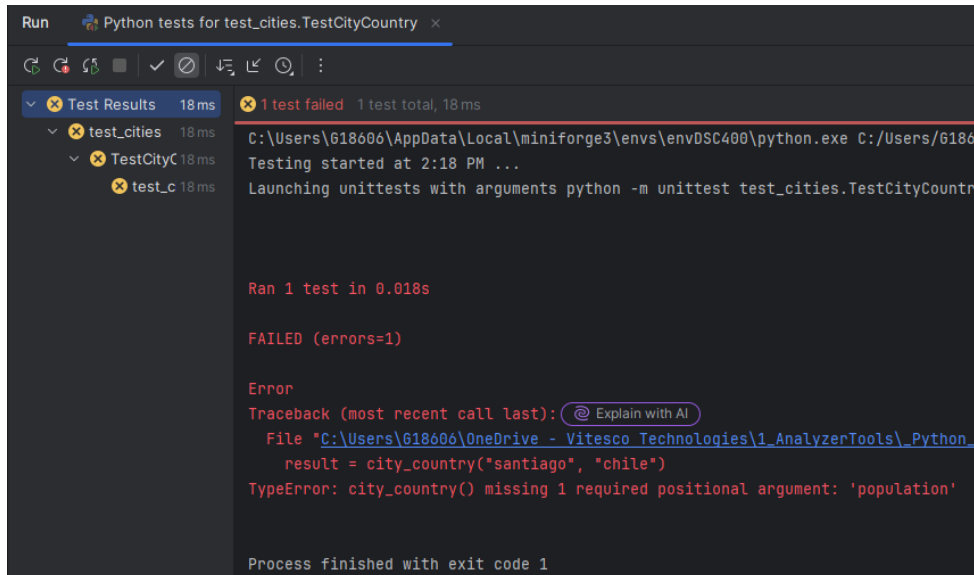
Running test_cities.py with the basic test passing:



```
Run Python tests in test_cities.py (1) x
Test Results 2ms
1 test passed 1 test total, 2ms
Testing started at 2:10 PM ...
Launching unittests with arguments python -m unittest
Ran 1 test in 0.001s
OK
Process finished with exit code 0
```

Step 3: Test Failure - Required Population Parameter

After modifying city_country function to require a population parameter:



```
Run Python tests for test_cities.TestCityCountry x
C:\Users\618606\AppData\Local\miniforge3\envs\envDSC400\python.exe C:/Users/618606/OneDrive - Vitesco Technologies/1_AnalyzerTools/Python...
Testing started at 2:18 PM ...
Launching unittests with arguments python -m unittest test_cities.TestCityCountry

Ran 1 test in 0.018s

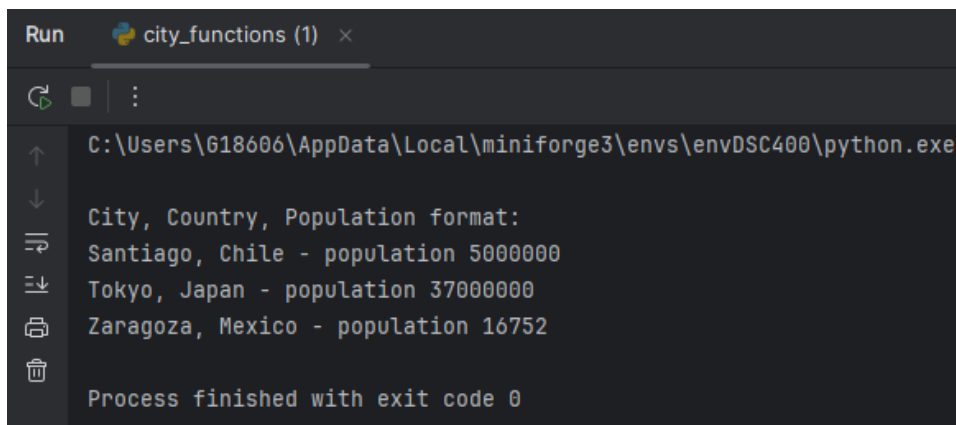
FAILED (errors=1)

Error
Traceback (most recent call last):
  File "C:\Users\618606\OneDrive - Vitesco Technologies\1_AnalyzerTools\Python...
    result = city_country("santiago", "chile")
TypeError: city_country() missing 1 required positional argument: 'population'

Process finished with exit code 1
```

Step 4: Test Passes - Population Parameter Optional

After modifying the function to make population an optional parameter:



```
Run city_functions (1) x
C:\Users\618606\AppData\Local\miniforge3\envs\envDSC400\python.exe

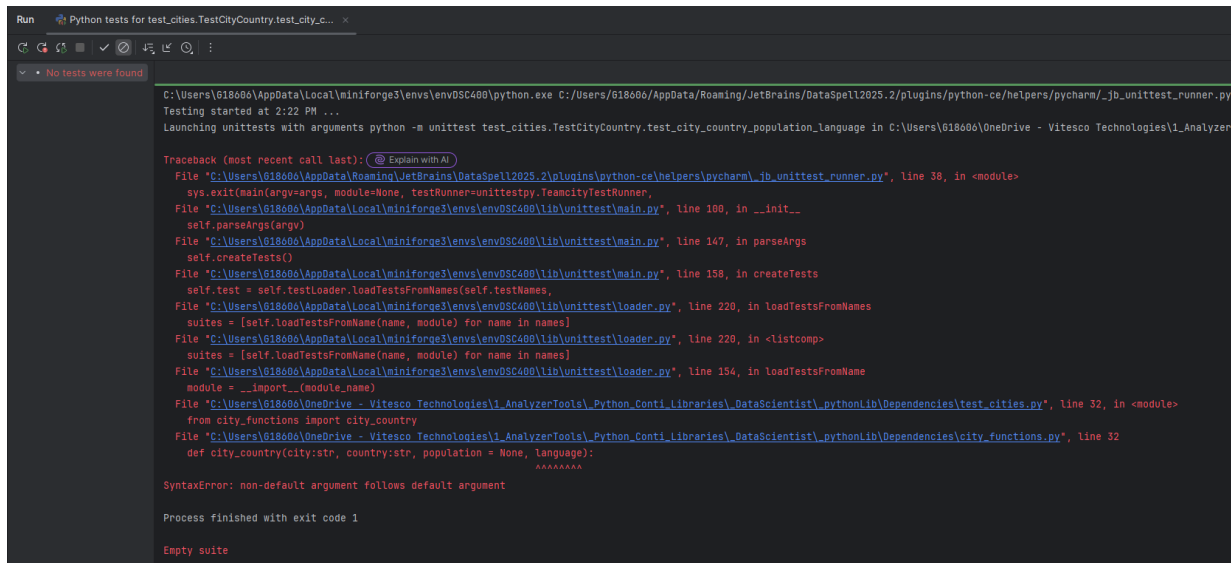
City, Country, Population format:
Santiago, Chile - population 5000000
Tokyo, Japan - population 37000000
Zaragoza, Mexico - population 16752

Process finished with exit code 0
```

Step 5: Test Failure - Required Language Parameter

After adding language as a required parameter:

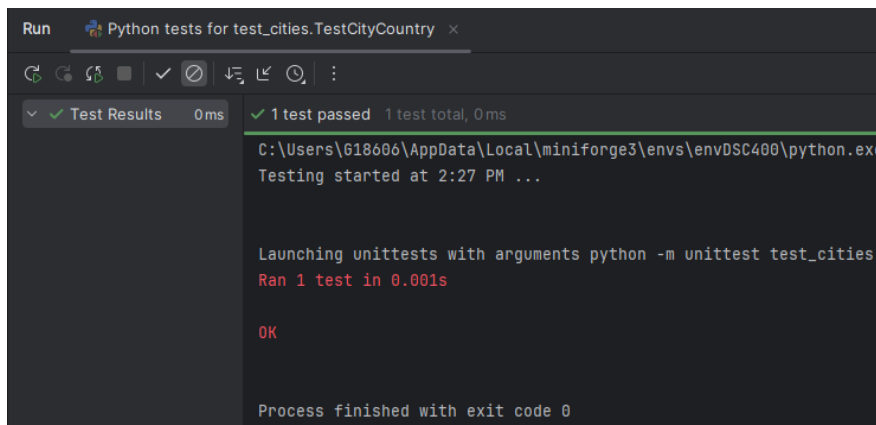
SyntaxError: non-default argument follows default argument



```
Run Python tests for test_cities.TestCityCountry.test_city_c...  
No tests were found  
C:\Users\G18606\AppData\Local\miniforge3\envs\envDSC400\python.exe C:\Users\G18606\AppData\Roaming\JetBrains\DataSpell2025.2\plugins\python-ce\helpers\pycharm\_jb_unittest_runner.py  
Testing started at 2:22 PM ...  
Launching unittests with arguments python -m unittest test_cities.TestCityCountry.test_city_country_population_language in C:\Users\G18606\OneDrive - Vitesco Technologies\1_AnalyzerTools\Python-Conti-Libraries\DataScientist\pythonLib\dependencies\test_cities.py  
Traceback (most recent call last):  
  File "C:\Users\G18606\AppData\Roaming\JetBrains\DataSpell2025.2\plugins\python-ce\helpers\pycharm\_jb_unittest_runner.py", line 38, in <module>  
    sys.exit(main(argv=args, module=None, testRunner=unittestpy.TeacntityTestRunner,  
  File "C:\Users\G18606\AppData\Local\miniforge3\envs\envDSC400\lib\unittest\main.py", line 100, in __init__  
    self.parseArgs(argv)  
  File "C:\Users\G18606\AppData\Local\miniforge3\envs\envDSC400\lib\unittest\main.py", line 147, in parseArgs  
    self.createTests()  
  File "C:\Users\G18606\AppData\Local\miniforge3\envs\envDSC400\lib\unittest\main.py", line 158, in createTests  
    self.test = self.testLoader.loadTestsFromNames(self.testNames,  
  File "C:\Users\G18606\AppData\Local\miniforge3\envs\envDSC400\lib\unittest\loader.py", line 220, in loadTestsFromNames  
    suites = [self.loadTestsFromName(name, module) for name in names]  
  File "C:\Users\G18606\AppData\Local\miniforge3\envs\envDSC400\lib\unittest\loader.py", line 220, in <listcomp>  
    suites = [self.loadTestsFromName(name, module) for name in names]  
  File "C:\Users\G18606\AppData\Local\miniforge3\envs\envDSC400\lib\unittest\loader.py", line 154, in loadTestsFromName  
    module = __import__(module_name)  
  File "C:\Users\G18606\OneDrive - Vitesco Technologies\1_AnalyzerTools\Python-Conti-Libraries\DataScientist\pythonLib\dependencies\test_cities.py", line 32, in <module>  
    from city.functions import city.country  
  File "C:\Users\G18606\OneDrive - Vitesco Technologies\1_AnalyzerTools\Python-Conti-Libraries\DataScientist\pythonLib\dependencies\city_functions.py", line 32  
    def city.country(city:str, country:str, population = None, language):  
        ^^^^^^^^^  
SyntaxError: non-default argument follows default argument  
Process finished with exit code 1  
Empty suite
```

Step 6: Test Passes - Language Parameter Optional

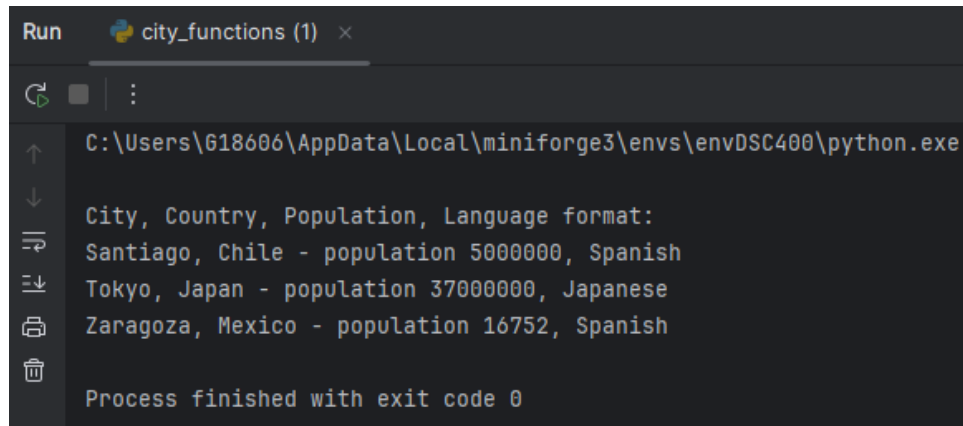
After making language an optional parameter:



```
Run Python tests for test_cities.TestCityCountry  
Test Results 0ms  
1 test passed 1 test total, 0ms  
C:\Users\G18606\AppData\Local\miniforge3\envs\envDSC400\python.exe  
Testing started at 2:27 PM ...  
Launching unittests with arguments python -m unittest test_cities.  
Ran 1 test in 0.001s  
OK  
Process finished with exit code 0
```

Step 7: Final city_functions.py Execution

Final program demonstrating all three calling patterns:



```
Run city_functions (1) x
C:\Users\G18606\AppData\Local\miniforge3\envs\envDSC400\python.exe
City, Country, Population, Language format:
Santiago, Chile - population 5000000, Spanish
Tokyo, Japan - population 37000000, Japanese
Zaragoza, Mexico - population 16752, Spanish
Process finished with exit code 0
```