

3 Test Runner: Main

Test Runner

The unittest module includes a mechanism for running tests called a **test runner**. The test runner is used to run one or more tests from one or more test cases.

The test runner can be started using the `unittest.main` callable.

Example:

```
1 import unittest
2 ...
3 # Q: What does __name__ == '__main__' do?
4 # A: It determines if this code is being run directly.
5 # Example: $ python3 code_file.py
6 # It doesn't run if this code file is imported as a module.
7 if __name__ == '__main__':
8     unittest.main()
```

By default `unittest.main` runs the tests from test cases defined in the current code file.

The `unittest.main` callable can be configured by providing keyword arguments to the callable, by specifying command line arguments, or both.

Using unittest.main With CLI Flags

Configuration can be specified using [command line flags](#).

```
1 python3 cloudacademy/test_assertion.py -h
```

```
usage: test_assertion.py [-h] [-v] [-q] [--locals] [-f] [-c] [-b] [-k TESTNAMEPATTERNS] [tests ...]
positional arguments:
  tests                a list of any number of test modules, classes and test methods.
```

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```
1 python3 cloudacademy/test_assertion.py -h

usage: test_assertion.py [-h] [-v] [-q] [--locals] [-f] [-c] [-b] [-k TESTNAMEPATTERNS] [tests ...]

positional arguments:
  tests                a list of any number of test modules, classes and test methods.

optional arguments:
  -h, --help            show this help message and exit
  -v, --verbose          Verbose output
  -q, --quiet           Quiet output
  --locals              Show local variables in tracebacks
  -f, --failfast         Stop on first fail or error
  -c, --catch            Catch Ctrl-C and display results so far
  -b, --buffer           Buffer stdout and stderr during tests
  -k TESTNAMEPATTERNS  Only run tests which match the given substring

Examples:
  test_assertion.py                - run default set of tests
  test_assertion.py MyTestSuite    - run suite 'MyTestSuite'
  test_assertion.py MyTestCase.testSomething - run MyTestCase.testSomething
  test_assertion.py MyTestCase    - run all 'test*' test methods
                                   in MyTestCase
```

Instructions

1. Run `test_assertion.py` with CLI flags in the IDEs terminal pane.

```
1 python3 cloudacademy/test_assertion.py -v -f
```

```
test_is_number (__main__.TestExample) ... ok
test_not_number (__main__.TestExample) ... ok

-----
Ran 2 tests in 0.001s

OK
```

Using unittest.main With Keyword Arguments

Configuration can be specified using keyword arguments. A complete list of parameters can be found [here](#).

```
1 import unittest
```

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Using unittest.main With Keyword Arguments

Configuration can be specified using keyword arguments. A complete list of parameters can be found [here](#).

```
1 import unittest
2 class TestExample(unittest.TestCase):
3     def test_is_number(self):
4         self.assertTrue(int('10') == 10)
5     def test_not_number(self):
6         with self.assertRaises(ValueError):
7             int('nope')
8 if __name__ == '__main__':
9     # Increase the verbosity of the console output and stop all
10    # Similar to using the CLI flags: python3 test_assertion.py
11    unittest.main(verbosity=2, failfast=True)
```

Instructions

1. Arrange the **test_assertion.py** file to match the code above.
2. Run **test_assertion.py** in the IDE's terminal pane.

```
1 python3 cloudacademy/test_assertion.py
```

```
test_is_number (__main__.TestExample) ... ok
test_not_number (__main__.TestExample) ... ok

-----
Ran 2 tests in 0.001s

OK
```

★ Proceed to the next step ★

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