<https://www.cnblogs.com/fennudexiaoniao/p/7771931.html>

Unittest is the framework of python unit test.

**TestCase**: set up environment, run case, tear down environment

**TestSuite**: more test cases

**TestLoader**: to load TestCase to TestSuite, for example, loadTestsFrom\_()

**TextTestRunner**: to run test case

**TextTestResult**: to save the test result

**TestFixture**: setUp() and tearDown()

**Process:**

1. unittest.TestCase -> class -> Test Case -> start with “test”(otherwise, it’ll not be recognized) -> test case instance
2. TestCase -> TestLoader -> TestSuite
3. TextTestRunner -> TestSuite -> TextTestResult

**Example**:  /Users/sherryzhang/Documents/GitHub/crawlers2/crawlers2/Example\_UnitTest/test\_mathfunc.py

**assertEqual**(expected result, function(variable1, variable2)) — is used frequently as an judgement

assertNotEqual(expected result, function(variable1, variable2))

Test Result:

1. a. = Success
2. F = Fail
3. E = Error
4. S = Skip

**Install HTMLTestRunner:**

1. Download "html\_testRunner-1.1.2-py2.py3-none-any.whl” from <https://pypi.org/project/html-testRunner/#files>
2. $ cd  /Users/sherryzhang/Downloads
3. $  pip install html\_testRunner-1.1.2-py2.py3-none-any.whl --user

**Troubleshooting:**

1. AttributeError: ‘module’ object has no attribute ‘TestCase'

            Root Cause: an file/directory name is “unittest”

            Resolution: Rename the file/directory