There are many ways to test a code.

Either we can do a *manual testing* or we can go *for automated testing*.

**Manual Testing:** As the name itself suggests manual testing is done manually without using of any software tool for testing. Programmer has to write all the conditions for failure and success for software manually over some input, if it fails, either we note it down or we debug the application for that particular test input, and then we repeat the process.

**Automation Testing:** Automation Testing uses automation tools to execute test cases. All the test inputs can be provided at once and then you can test your application. In the end, you get a detailed report with all the failed test cases clearly specified, if any. This testing can be executed on different operating platforms in parallel and reduce test execution time.

There are many advantages of automated testing over manual testing which makes it robust and more in practice over manual testing.

There are three major libraries used to perform automated unit testing in python

1. Pytest
2. Unittest
3. Nose

I am using unittest library to perform the unit test in python.

First I created a python script file then wrote this code

For testing:

import internshala\_assignment as intern

import unittest

class SimpleTest(unittest.TestCase):

# returns True or False.

def test\_profanity(self):

self.assertEqual(intern.pro('fuck you asshole'),0.2)

self.assertEqual(intern.pro('he is a bastard'),0.1)

self.assertEqual(intern.pro('this is unittest for profanity'),0.0)

if \_\_name\_\_ == '\_\_main\_\_':

unittest.main()

For execution of code go to command line and type python test\_internshala\_assignment.py -v

if it is successful 'OK' message will occur

if it fails assertion error with failure report will occur.

Test for 'fuck you asshole' failed, expected result was 0.2 and result was 0.3 so i have to alter the code inside pro() function, i eliminated the if statements. after the alteration of code, it passes the test.

This is how unit test plays important role in finding the bug in the code, and improve the code so that it satisfy any input entered.

References: <https://www.guru99.com/difference-automated-vs-manual-testing.html>