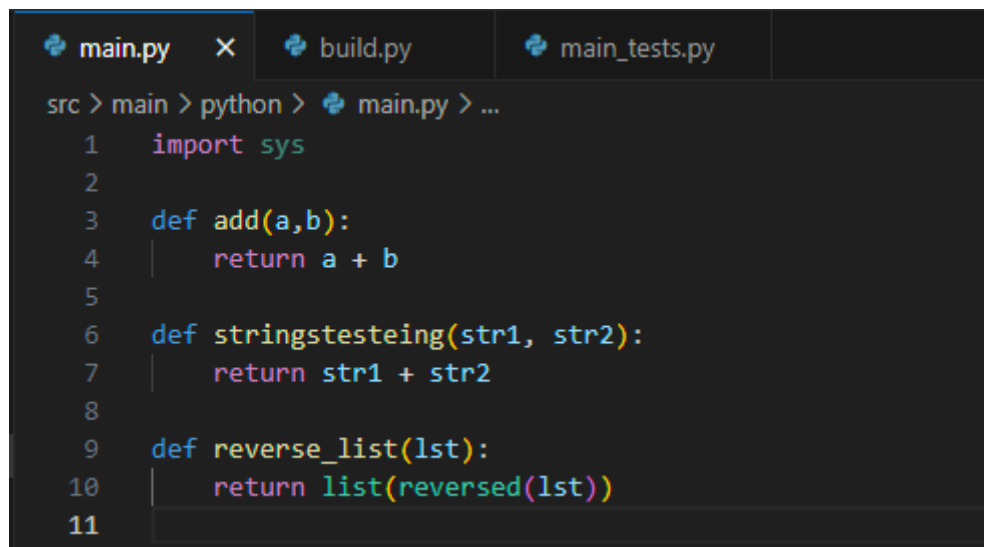


For the unit tests I needed to create a file “main_tests.py” in specific location “..src unittest.python”

In main we have 3 functions

A screenshot of a code editor with a dark background. At the top, there are three tabs: 'main.py' (active), 'build.py', and 'main_tests.py'. The editor shows the content of 'main.py' with line numbers 1 through 11 on the left. The code defines three functions: 'add(a,b)', 'stringstesteing(str1, str2)', and 'reverse_list(lst)'.

```
src > main > python > main.py > ...
1  import sys
2
3  def add(a,b):
4      return a + b
5
6  def stringstesteing(str1, str2):
7      return str1 + str2
8
9  def reverse_list(lst):
10     return list(reversed(lst))
11
```

And here we can find tests

```
main.py build.py main_tests.py X
src > unittest > python > main_tests.py > TestAddition > test_add
1  from mockito import mock, verify
2  import unittest
3
4  from main import reverse_list, add, stringsteing
5
6
7  class TestAddition(unittest.TestCase):
8
9      def test_add(self):
10         self.assertEqual(add(3, 4), 7)
11
12         def test_negative(self):
13             self.assertEqual(add(-2, 5), 3)
14
15         def test_zero(self):
16             self.assertEqual(add(0, 0), 0)
17
18  class TestStringManipulation(unittest.TestCase):
19
20      def test_concatenate(self):
21         self.assertEqual(stringsteing("Hello", "World"), "HelloWorld")
22
23      def test_empty(self):
24         self.assertEqual(stringsteing("", ""), "")
25
26      def test_whitespace(self):
27         self.assertEqual(stringsteing(" ", "Python"), " Python")
28
29  class TestListOperations(unittest.TestCase):
30
31      def test_reverse_list(self):
32         self.assertEqual(reverse_list([1, 2, 3]), [3, 2, 1])
33
34      def test_empty_list(self):
35         self.assertEqual(reverse_list([]), [])
36
37      def test_mixed_type_list(self):
38         self.assertEqual(reverse_list(['a', 1, True]), [True, 1, 'a'])
39
40  if __name__ == '__main__':
41      unittest.main()
42
```

After writing unittests we run the script by command pyc in the console

```

PS F:\test\qqr> pyb
PyBuilder version 0.13.10
Build started at 2024-01-23 19:55:28
-----
[INFO] Building softwaredevelopment version 1.0.dev0
[INFO] Executing build in f:\test\qqr
[INFO] Going to execute task publish
[INFO] Processing plugin packages 'coverage>=6.0' to be installed with {'upgrade': True}
[INFO] Processing plugin packages 'flake8>=4.0' to be installed with {'upgrade': True}
[INFO] Processing plugin packages 'pypandoc==1.4' to be installed with {'upgrade': True}
[INFO] Processing plugin packages 'setuptools>=38.6.0' to be installed with {}
[INFO] Processing plugin packages 'twine>1.15.0' to be installed with {'upgrade': True}
[INFO] Processing plugin packages 'unittest-xml-reporting>=3.0.4' to be installed with {'upgrade': True}
[INFO] Processing plugin packages 'wheel>=0.34.0' to be installed with {}
[INFO] Creating target 'build' VEnv in 'f:\test\qqr\target\venv\build\cpython-3.12.0.final.0'
[INFO] Creating target 'test' VEnv in 'f:\test\qqr\target\venv\test\cpython-3.12.0.final.0'
[INFO] Requested coverage for tasks: pybuilder.plugins.python.unittest_plugin:run_unit_tests
[INFO] Running unit tests
[INFO] Executing unit tests from Python modules in f:\test\qqr\src\unittest\python
[INFO] Executed 9 unit tests
[INFO] All unit tests passed.
[INFO] Building distribution in f:\test\qqr\target\dist\softwaredevelopment-1.0.dev0
[INFO] Copying scripts to f:\test\qqr\target\dist\softwaredevelopment-1.0.dev0\scripts
[INFO] Writing setup.py as f:\test\qqr\target\dist\softwaredevelopment-1.0.dev0\setup.py
[INFO] Collecting coverage information for 'pybuilder.plugins.python.unittest_plugin:run_unit_tests'
[WARN] ut_coverage_branch_threshold_warn is 0 and branch coverage will not be checked
[WARN] ut_coverage_branch_partial_threshold_warn is 0 and partial branch coverage will not be checked
[INFO] Running unit tests
[INFO] Executing unit tests from Python modules in f:\test\qqr\src\unittest\python
[INFO] Executed 9 unit tests
[INFO] All unit tests passed.
[INFO] Overall pybuilder.plugins.python.unittest_plugin.run_unit_tests coverage is 100%
[INFO] Overall pybuilder.plugins.python.unittest_plugin.run_unit_tests branch coverage is 100%
[INFO] Overall pybuilder.plugins.python.unittest_plugin.run_unit_tests partial branch coverage is 100%
[INFO] Overall softwaredevelopment coverage is 100%
[INFO] Overall softwaredevelopment branch coverage is 100%
[INFO] Overall softwaredevelopment partial branch coverage is 100%
[INFO] Building binary distribution in f:\test\qqr\target\dist\softwaredevelopment-1.0.dev0
[INFO] Running Twine check for generated artifacts
-----
BUILD SUCCESSFUL
-----
Build Summary
      Project: softwaredevelopment
      Version: 1.0.dev0
  Base directory: f:\test\qqr
    Environments:
        Tasks: prepare [5170 ms] compile_sources [0 ms] run_unit_tests [198 ms] package [2 ms] run_integration_tests [0 ms] verify [0 ms] coverage [333 ms] publish [1182 ms]
Build finished at 2024-01-23 19:55:35

```

As we can see here all unit test passed

```

[INFO] Running unit tests
[INFO] Executing unit tests from Python modules in f:\test\qqr\src\unittest\python
[INFO] Executed 9 unit tests
[INFO] All unit tests passed.

```