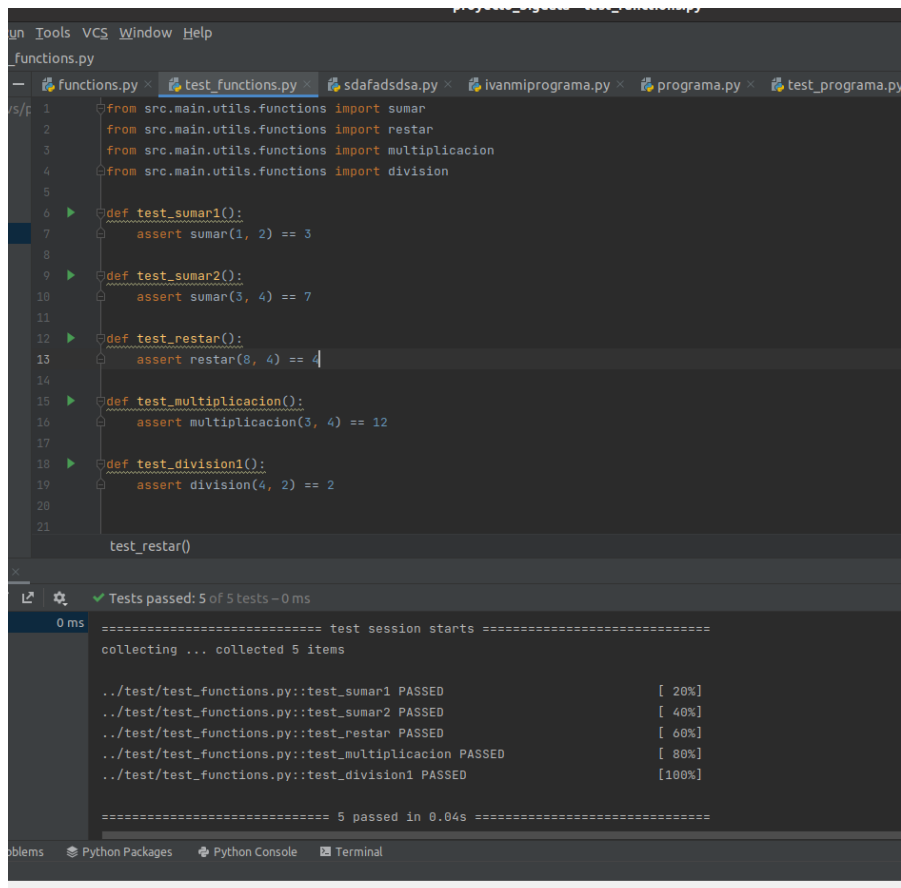


TEST UNITARIO:



The screenshot shows an IDE with a Python file named `test_functions.py`. The file contains five unit tests for functions `sumar`, `restar`, `multiplicacion`, and `division`. The tests are all passing. The test runner at the bottom indicates that 5 tests passed in 0.04s.

```
1 from src.main.utils.functions import sumar
2 from src.main.utils.functions import restar
3 from src.main.utils.functions import multiplicacion
4 from src.main.utils.functions import division
5
6 def test_sumar1():
7     assert sumar(1, 2) == 3
8
9 def test_sumar2():
10    assert sumar(3, 4) == 7
11
12 def test_restar():
13    assert restar(8, 4) == 4
14
15 def test_multiplicacion():
16    assert multiplicacion(3, 4) == 12
17
18 def test_division1():
19    assert division(4, 2) == 2
20
21 test_restar()
```

Tests passed: 5 of 5 tests – 0 ms

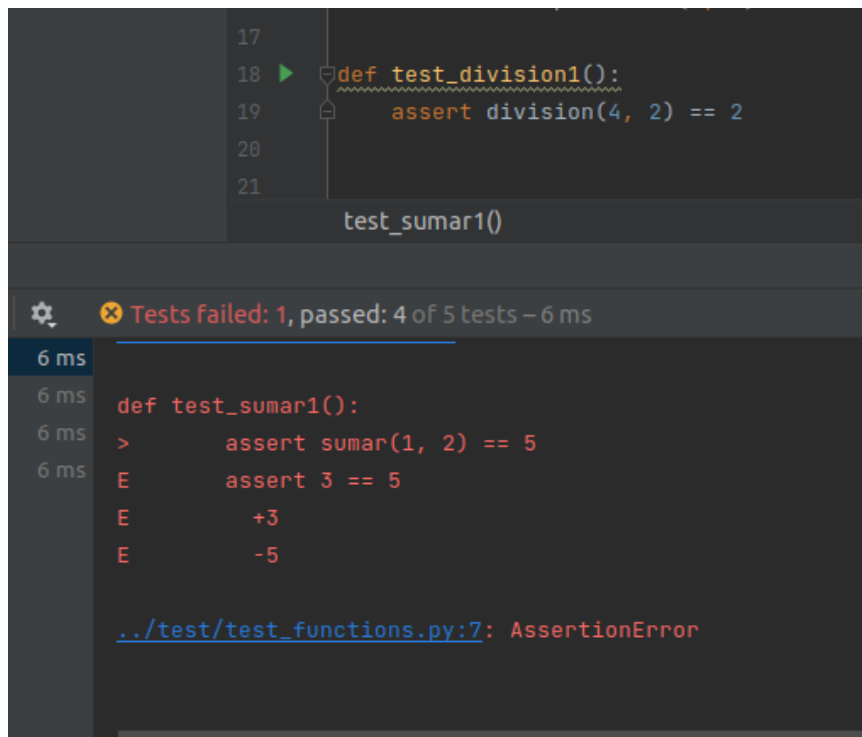
0 ms

===== test session starts =====
collecting ... collected 5 items

../test/test_functions.py::test_sumar1 PASSED [20%]
../test/test_functions.py::test_sumar2 PASSED [40%]
../test/test_functions.py::test_restar PASSED [60%]
../test/test_functions.py::test_multiplicacion PASSED [80%]
../test/test_functions.py::test_division1 PASSED [100%]

===== 5 passed in 0.04s =====

Realizamos cambios para que dé fallo:



The screenshot shows the same IDE with the `test_functions.py` file. The test `test_sumar1` is now failing. The test runner at the bottom indicates that 1 test failed and 4 tests passed in 6 ms. The error message is `AssertionError`.

```
17
18 def test_division1():
19     assert division(4, 2) == 2
20
21 test_sumar1()
```

Tests failed: 1, passed: 4 of 5 tests – 6 ms

6 ms

6 ms

6 ms

6 ms

def test_sumar1():
> assert sumar(1, 2) == 5
E assert 3 == 5
E +3
E -5

../test/test_functions.py:7: AssertionError

COVERAGE:

```
Terminal: Local x + v
(venv_bigdata) bigdata@bigdata-VirtualBox:~/Documentos/envs/proyecto_bigdata$ ls
htmlcov requirements.txt src
(venv_bigdata) bigdata@bigdata-VirtualBox:~/Documentos/envs/proyecto_bigdata$ coverage report src/main/utis/ivanmiprograma.py
Name                               Stmts   Miss  Cover
-----
src/main/utis/ivanmiprograma.py     52      16    69%
TOTAL                               52      16    69%
(venv_bigdata) bigdata@bigdata-VirtualBox:~/Documentos/envs/proyecto_bigdata$
```

FLAKE 8:

```
src/main/utis/ivanmiprograma.py:77:14: W292 no newline at end of file
(venv_bigdata) bigdata@bigdata-VirtualBox:~/Documentos/envs/proyecto_bigdata$ flake8 src/main/utis/ivanmiprograma.py
src/main/utis/ivanmiprograma.py:14:80: E501 line too long (85 > 79 characters)
src/main/utis/ivanmiprograma.py:18:80: E501 line too long (85 > 79 characters)
src/main/utis/ivanmiprograma.py:20:1: E302 expected 2 blank lines, found 0
src/main/utis/ivanmiprograma.py:30:9: F841 local variable 'elegir' is assigned to but never used
src/main/utis/ivanmiprograma.py:43:1: E302 expected 2 blank lines, found 0
src/main/utis/ivanmiprograma.py:50:80: E501 line too long (99 > 79 characters)
src/main/utis/ivanmiprograma.py:54:1: E305 expected 2 blank lines after class or function definition, found 0
src/main/utis/ivanmiprograma.py:54:4: F821 undefined name 'elegir'
src/main/utis/ivanmiprograma.py:56:4: F821 undefined name 'elegir'
src/main/utis/ivanmiprograma.py:57:14: W292 no newline at end of file
(venv_bigdata) bigdata@bigdata-VirtualBox:~/Documentos/envs/proyecto_bigdata$ flake8 src/main/utis/ivanmiprograma.py
```

Corregimos errores

```
> .pytest_cache
Terminal: Local x + v
(venv_bigdata) bigdata@bigdata-VirtualBox:~/Documentos/envs/proyecto_bigdata$ flake8 src/main/utis/ivanmiprograma.py
src/main/utis/ivanmiprograma.py:17:80: E501 line too long (85 > 79 characters)
src/main/utis/ivanmiprograma.py:22:80: E501 line too long (85 > 79 characters)
src/main/utis/ivanmiprograma.py:63:80: E501 line too long (99 > 79 characters)
(venv_bigdata) bigdata@bigdata-VirtualBox:~/Documentos/envs/proyecto_bigdata$

(venv_bigdata) bigdata@bigdata-VirtualBox:~/Documentos/envs/proyecto_bigdata$ flake8 --statistics src/main/utis/ivanmiprograma.py
src/main/utis/ivanmiprograma.py:17:80: E501 line too long (85 > 79 characters)
src/main/utis/ivanmiprograma.py:22:80: E501 line too long (85 > 79 characters)
src/main/utis/ivanmiprograma.py:63:80: E501 line too long (99 > 79 characters)
3      E501 line too long (85 > 79 characters)
(venv_bigdata) bigdata@bigdata-VirtualBox:~/Documentos/envs/proyecto_bigdata$
```

Establecer un umbral máximo de complejidad ciclomatica8 y tener como máximo 5 advertencias.

```
(venv_bigdata) bigdata@bigdata-VirtualBox:~/Documentos/envs/proyecto_bigdata$ flake8 --max-complexity 2 --statistics src/main/utills/ivanmiprograma.py
src/main/utills/ivanmiprograma.py:12:1: C901 'Loop 12' is too complex (5)
src/main/utills/ivanmiprograma.py:16:80: E501 line too long (85 > 79 characters)
src/main/utills/ivanmiprograma.py:21:80: E501 line too long (85 > 79 characters)
src/main/utills/ivanmiprograma.py:35:1: C901 'letra' is too complex (4)
src/main/utills/ivanmiprograma.py:53:1: C901 'palabra' is too complex (3)
src/main/utills/ivanmiprograma.py:62:80: E501 line too long (99 > 79 characters)
3      C901 'Loop 12' is too complex (5)
3      E501 line too long (85 > 79 characters)
(venv_bigdata) bigdata@bigdata-VirtualBox:~/Documentos/envs/proyecto_bigdata$
```

Corregimos

```
(venv_bigdata) bigdata@bigdata-VirtualBox:~/Documentos/envs/proyecto_bigdata$ flake8 --max-complexity 2 --statistics src/main/utills/ivanmiprograma.py
src/main/utills/ivanmiprograma.py:12:1: C901 'Loop 12' is too complex (5)
src/main/utills/ivanmiprograma.py:35:1: C901 'letra' is too complex (4)
src/main/utills/ivanmiprograma.py:53:1: C901 'palabra' is too complex (3)
3      C901 'Loop 12' is too complex (5)
(venv_bigdata) bigdata@bigdata-VirtualBox:~/Documentos/envs/proyecto_bigdata$
```

Version Control | TODO | Problems | Python Packages | Python Console | Terminal