

Tests

UPSSITECH – KUPR9BC3

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TESTS UNITAIRES

```
import unittest

class TestAddition(unittest.TestCase):
    def test_addition(self):
        self.assertEqual(1 + 1, 3)

if __name__ == '__main__':
    unittest.main()
```

```
import unittest

from my_lib import my_add

class TestMyAddition(unittest.TestCase):
    def test_my_addition(self):
        self.assertEqual(my_add(1, 1), 2)

if __name__ == '__main__':
    unittest.main()
```

```
$ python -m unittest -v
test_addition (test_add.TestAddition.test_addition) \
    ... ok
test_my_addition (test_my_add.TestMyAddition \
    .test_my_addition) ... ok
```

```
-----
Ran 2 tests in 0.000s
```

OK

TESTS DES EXEMPLES

```
def my_add(a: int, b: int) -> int:
    """Performs addition on integers.
    >>> my_add(3, 4)
    7
    """
    return a + b
```

```
$ python -m doctest my_lib.py -v
```

```
Trying:
```

```
    my_add(3, 4)
```

```
Expecting:
```

```
    7
```

```
ok
```

```
1 items had no tests:
```

```
    my_lib
```

```
1 items passed all tests:
```

```
    1 tests in my_lib.my_add
```

```
1 tests in 2 items.
```

```
1 passed and 0 failed.
```

```
Test passed.
```

TESTS INTÉGRATIFS

```
import unittest

from my_robot import QuadrupedRobot

class TestMove(unittest.TestCase):
    def test_move(self):
        robot = QuadrupedRobot()
        robot.set_speed(1) # m/s
        robot.simulate(10) # s
        self.assertGreater(robot.get_z(), 0.1)
        self.assertGreater(robot.get_x(), 9)
```

TIERCES PARTIES

- > pytest
- > tox
- > nose

- > Boost unit test framework
- > Gtest
- > catch2
- > doctest

INTÉGRATION CONTINUE

```
name: run unittests & doctests
on: ["push"]
jobs:
  test:
    runs-on: "ubuntu-latest"
    steps:
      - uses: actions/checkout@v5
      - uses: actions/setup-python@v6
        with:
          python-version: 3.13
      - run: python -m unittest
      - run: python -m doctest my_lib.py
```

```
test:
```

```
  image: ubuntu:24.04
```

```
  script:
```

- apt update && apt install -qy python3
- python -m unittest
- python -m doctest my_lib.py