

Cheat sheet: Unit testing (pytest)

Unit test

```
def test_TEST_NAME():  
    ...  
    assert TEST_SUCCESS_AS_BOOL
```

Test success if no `TEST_SUCCESS_AS_BOOL` evaluated to False

Running tests from command line

```
python3 -m pytest / python -m pytest
```

Parametrized tests

```
@pytest.mark.parametrize("ARG", PARAMLIST)  
def test_TEST_NAME(ARG):  
    ...  
    assert TEST_SUCCESS_AS_BOOL
```

→ one test for each `ARG` in `PARAMLIST`

Running tests and collect coverage data

```
coverage run --source=. -m pytest
```

Visualize coverage data

```
coverage report -m
```

```
coverage html -d HTML_DIR
```

Functions for array comparison

```
np.any()
```

```
np.all()
```

```
np.where()
```

Comparing floating point values

```
np.abs(x - y) < ABS_TOL
```

```
np.abs((x - y) / y) < REL_TOL
```

```
np.isclose(x, y,  
           atol=ABS_TOL,  
           rtol=REL_TOL)
```