pytest Python test runner

CONCEPTS

Files named test_*.py or *_test.py, functions named test_*, are collected; plain assert is all you need.

Collect find tests
↓ `filter -k -m`
Setup fixtures
↓ `run`
Call test body
↓ `teardown`
Report pass / fail

SELECT TESTS

`pytest <dir> / <file.py>`
Run a directory or file

`pytest <file.py>::<test>`
Run one test function

`pytest -k "a and not b"`
Select by name expression

`pytest -m <marker>`
Select by marker

`pytest -m "not slow"`
Skip a marker

RUN CONTROL

`pytest -x`
Stop at first failure

`pytest --lf`
Rerun only last failures

`pytest --ff`
Failures first, then the rest

`pytest --durations=<n>`
Show n slowest tests

OUTPUT

`pytest -v / -vv`
More detail per test

`pytest -s`
Do not capture stdout

`pytest --tb=short`
Compact tracebacks

`pytest -l`
Show locals in tracebacks

`pytest -ra`
Summary of all but passed

DEBUGGING

`pytest --pdb`
Open pdb at a failure

FIXTURES

`@pytest.fixture`
Declare a fixture

`def test_x(<fixture>):`
Request a fixture by argument name

`yield <value>`
Setup before, teardown after

`conftest.py`
Directory-wide shared fixtures

Fixture with teardown

```
@pytest.fixture
def db():
    conn = connect()
    yield conn
    conn.close()
```

PARAMETRIZE AND MARKS

`@pytest.mark.parametrize("a,b", [(1, 2), (3, 4)])`
Run a test per data row

ASSERTIONS AND BUILT-INS

`assert <expr>`
Plain assert with rich diffs

`with pytest.raises(<Exc>):`
Expect an exception

`tmp_path`
Temporary directory per test

`monkeypatch`
Patch attrs, env, dicts

CONFIG

`[tool.pytest]`
pyproject table (pytest 9+)

RECIPES

Table-driven test

```
@pytest.mark.parametrize("s,n", [
    ("1", 1),
    (" 2 ", 2),
    pytest.param("x", 0, id="bad"),
])
def test_parse(s, n):
    assert parse(s) == n
```