

SWIFT TESTING

DHANUSHKUMAR K

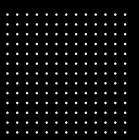






Predecessor - XCTest

- API design borrows from Obj-c tradition
- Steeper learning curve
- Test methods are verbose and less readable
- Limited parallel testing
- Less flexibility for code organization



Swift Testing Brings



- Expressive Code
- Organized Tests
- Improved Parallel Testing
- Modern Swift features



Building Blocks ~~~



- @Test functions
- Expectations
- Traits
- @Suite types





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Common Workflows



- Tests with conditions
- Tests with common characteristics
- Tests with different arguments



conditions

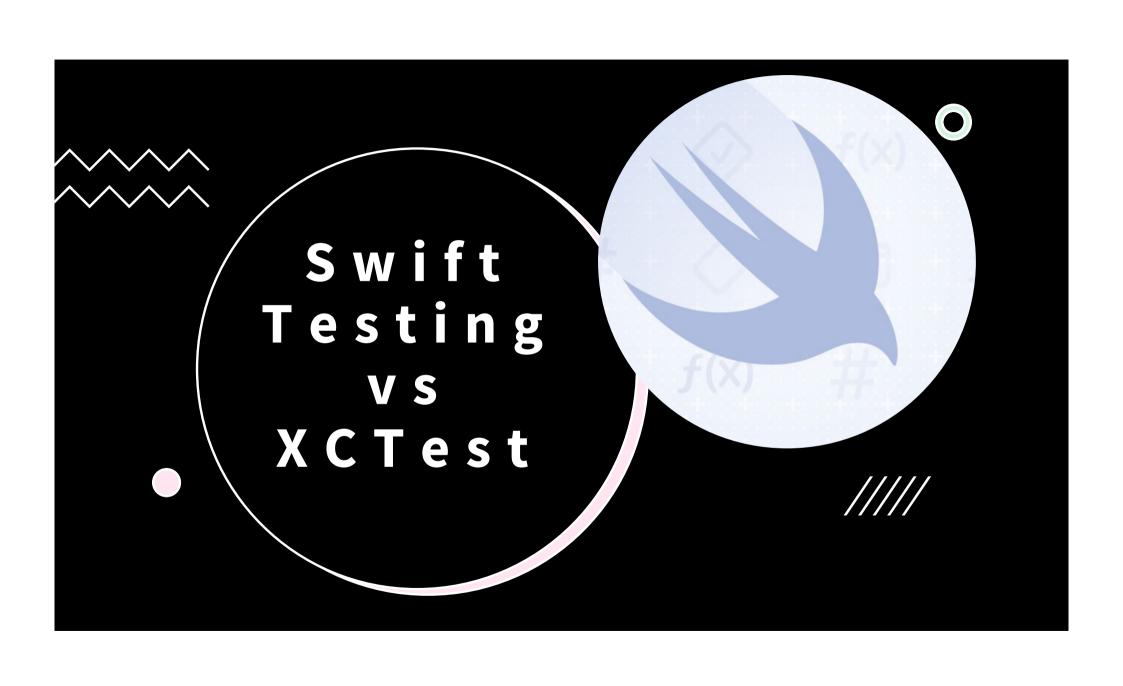


Tests with common characteristics



Tests with different arguments

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Test functions

| | XCTest | Swift Testing |
|--------------------|--|--|
| Discovery | name begins with test | @Test |
| Support Types | instance methods | instance methods/ static/class methods/ global functions |
| Supports Traits | No | Yes |
| Parallel execution | Multi process macOS and Simulator only | In-process (using Swift Concurrency) Supports devices |





Expectations

| XCTest | Swift Testing |
|--|----------------|
| XCTAssert, XCTAssertTrue, XCTAssertFalse | |
| XCTAssertNil, XCTAssertNotNil | |
| XCTAssertEqual, XCTAssertNotEqual | #expect() |
| XCTAssertIdentical, XCTAssertNotIdentical | try #require() |
| XCTAssertGreaterThan, XCTAssertLessThan | |
| XCTAssertGreaterThanOrEqual, XCTAssertLessThanOrEqual | |



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Suites

| | XCTest | Swift Testing |
|------------------|--|-----------------------|
| Types | class | struct, class & actor |
| Discovery | Subclass of XCTestCase | @Suite |
| Before Each test | setUp() setUpWithErrors() throws setUp() async throws | init() async throws |
| After Each test | tearDown() tearDownWithErrors() throws tearDown() async throws | deinit |



Swift Testing Limitations



- Doesn't support UI automation APIs (such as XCUIApplication)
- Doesn't support performance APIs (such as XCTMetric)
- Doesn't work on Objective-C
- Avoid calliing XCTestAssert from Swift testing tests or #expect from XCTests



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Demo Project



 https://github.com/DhanushKumar1 9/Swift-Testing-



