JAVA BOOTCAMP

TEST DRIVEN DEVELOPMENT

TEST DRIVEN DEVELOPMENT

TOPICS

- Test driven development
- Testing frameworks
- JUnit

TEST-DRIVEN DEVELOPMENT

WHAT IS TDD?

TDD is a method of developing software that involves a very quick cycle. It stresses simplicity of design as well as speed of implementation.

TEST-DRIVEN DEVELOPMENT

THE BASIC STEPS

1. Write a test
2. Run tests
3. Write implementation code
4. Run tests
5. Refactor

TEST-DRIVEN DEVELOPMENT

APPROACHING TESTING

TDD is not as focused as you may think on the tests themselves. It's more about having the confidence to reorganize our code knowing that all the previously completed features are working properly.

TEST-DRIVEN DEVELOPMENT

DOCUMENTATION

Tests provide an excellent record of what the application should do as well as what it actually does. Some advantages to using tests as documentation is that they are:

- Comprehensive
- Consistently up-to-date
- Accessible

TESTING FRAMEWORKS

- Junit
- TestNG
- Jtest
- Arquilian
- JMock
- Mocketo
- Cucumber

JUNIT

JUNIT
ASSERTIONS

JUnit provides overloaded assertion methods for all primitive types and objects. Parameters are listed as expected value followed by actual value. Optionally, the first parameter may be a String that displays a failure message.

JUNIT

ASSERTIONS

```java
import org.junit.Assert;

@Test
public void testAssertEquals() {
        String expected = "Hello World";
        String actual = MyClass.getGreeting();
        Assert.assertEquals("failure — strings are not equal", expected, actual);
}
```
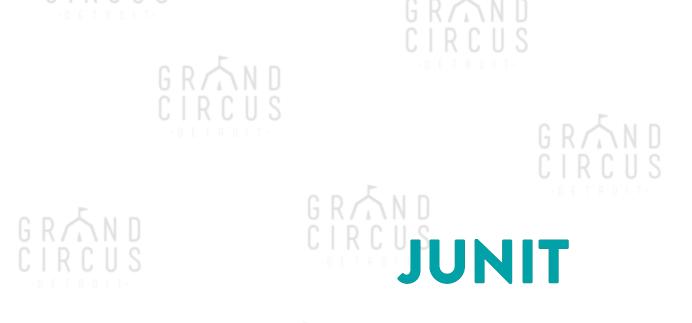
JUNIT

TEST RUNNERS

JUnit provides console-based tools to define the suite of test to be run. However, Eclipse comes with a native graphical test runner built in.

JUNIT

CONTINUOUS TESTING

We can receive immediate feedback on JUnit test results within Eclipse. Tests are run automatically after each change. Infinitest is an open source plugin for Eclipse that provides this functionality.

RECAP

RECAP

- What is TDD?
- Basic steps of TDD
- Using testing tools
- Know some testing frameworks
- Using Junit