Spock on Android

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About Me

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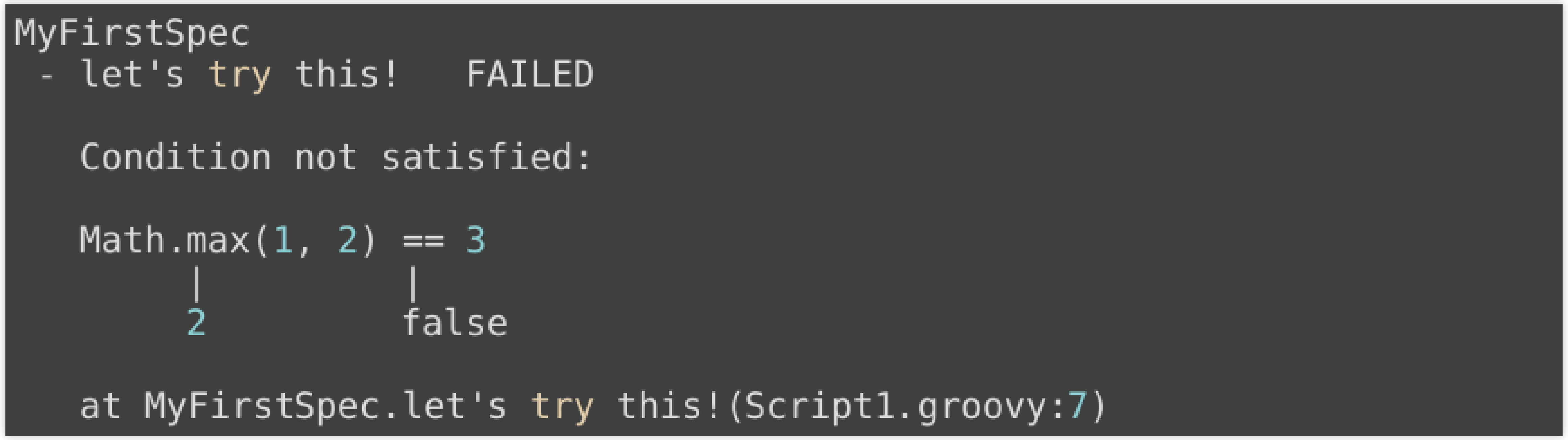
Overview

1. Why Spock?
2. How to run it on Android
3. Extra Features
4. Moving Forward

Why Spock?

```
class MyFirstSpec extends Specification {
  def "let's try this!"() {
    expect:
    Math.max(1, 2) == 3
  }
}
```

Why Spock?



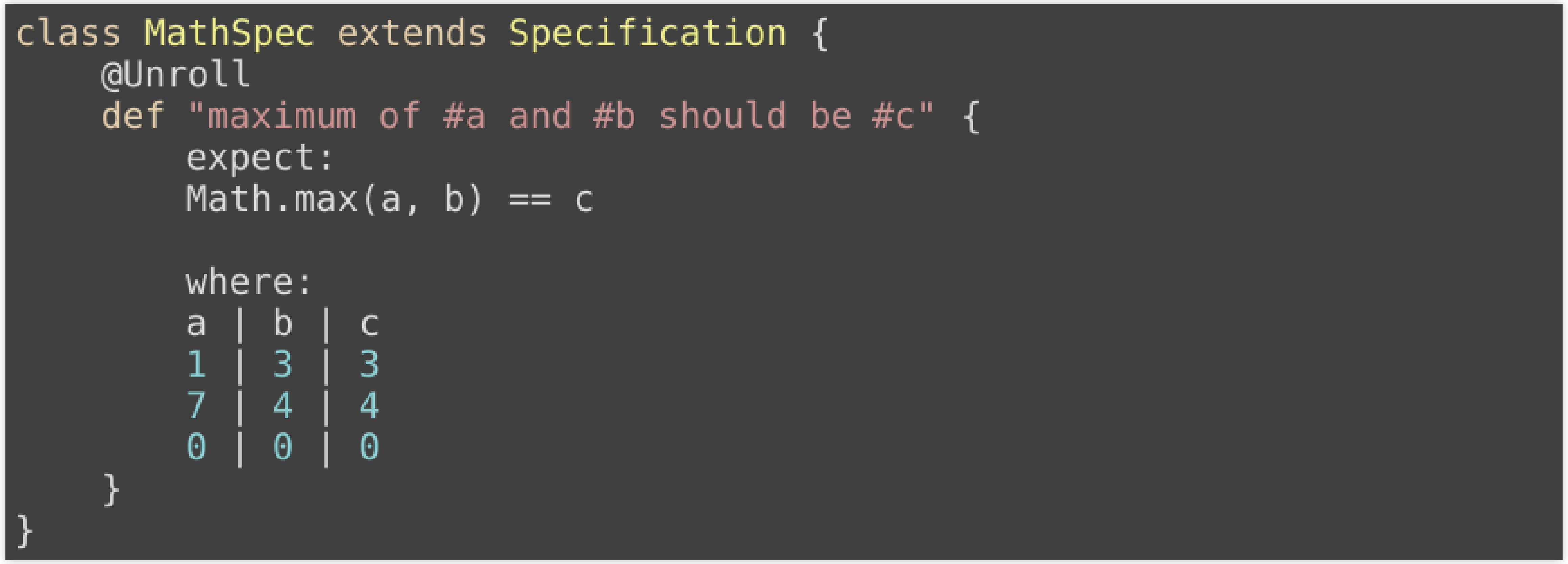
```
MyFirstSpec
 - let's try this!   FAILED

   Condition not satisfied:

   Math.max(1, 2) == 3
        |         |
        2         false

   at MyFirstSpec.let's try this!(Script1.groovy:7)
```

Why Spock?



```
class MathSpec extends Specification {
    @Unroll
    def "maximum of #a and #b should be #c" {
        expect:
        Math.max(a, b) == c

        where:
        a | b | c
        1 | 3 | 3
        7 | 4 | 4
        0 | 0 | 0
    }
}
```

Android

Testing Options

- Native Android - JUnit 3
- JVM - Robolectric

Android

JUnit 3

- Painful
- Hard to find documentation
- Slow...
- Let's Take a Look

Android

Robolectric

- Fast
- Everything is mocked
- JUnit 4
- Slow to iterate
- Example

Android

My choice.

Android Tests (JUnit 3)

Scrafice speed for reliability and ease of setup.

Android

Making Android Unit Tests less painful

Use Groovy!

Get Spock to Android!

Get Spock to Android!

Steps

1. Include the Jar
2. Figure out why it's not running
3. Fix it
4. Release

Get Spock to Android!

Including the Spock Jar

- Failed to run JUnit 4
- Android Test Kit (Allows JUnit 4 to Run)

Get Spock to Android!

Still Failing

Android Test Kit would run `OptimizeRunOrderSuite`

Fix: Created custom test runner ignoring everything in the spock package.

Get Spock to Android!

IT WORKS!

```
class AndroidTestSpec extends Specification {
  def "this should run on Android!"() {
    given:
    def a = 2
    def b = 3

    when:
    def result = a + b

    then:
    result == 5
  }
}
```

Issues

- Mocks
- Wild card chraracter _
- `thrown()` does not work
- Compilation/install failures

Mocking

- Android uses different bytecode.
- Spock uses CGLib (bytecode generator)
- Automatic Getters/Setter on mocks don't work (PR) (java.bean)

Mocking

- DexMaker, Problem solved!
- AndroidSpecification.groovy: Custom specification that overrides createMock
- ProxyBasedMockFactory.java: main changes

Extensions

- `@UseActivity(MyActivity) def myActivity`
- `@UseApplication(MyApplication) def myApplication`
- `@WithContext def context`

Where Next?

- Add more Extensions
- Figure out and fix known dsl issues
- Move into SpockFramework?

Questions?