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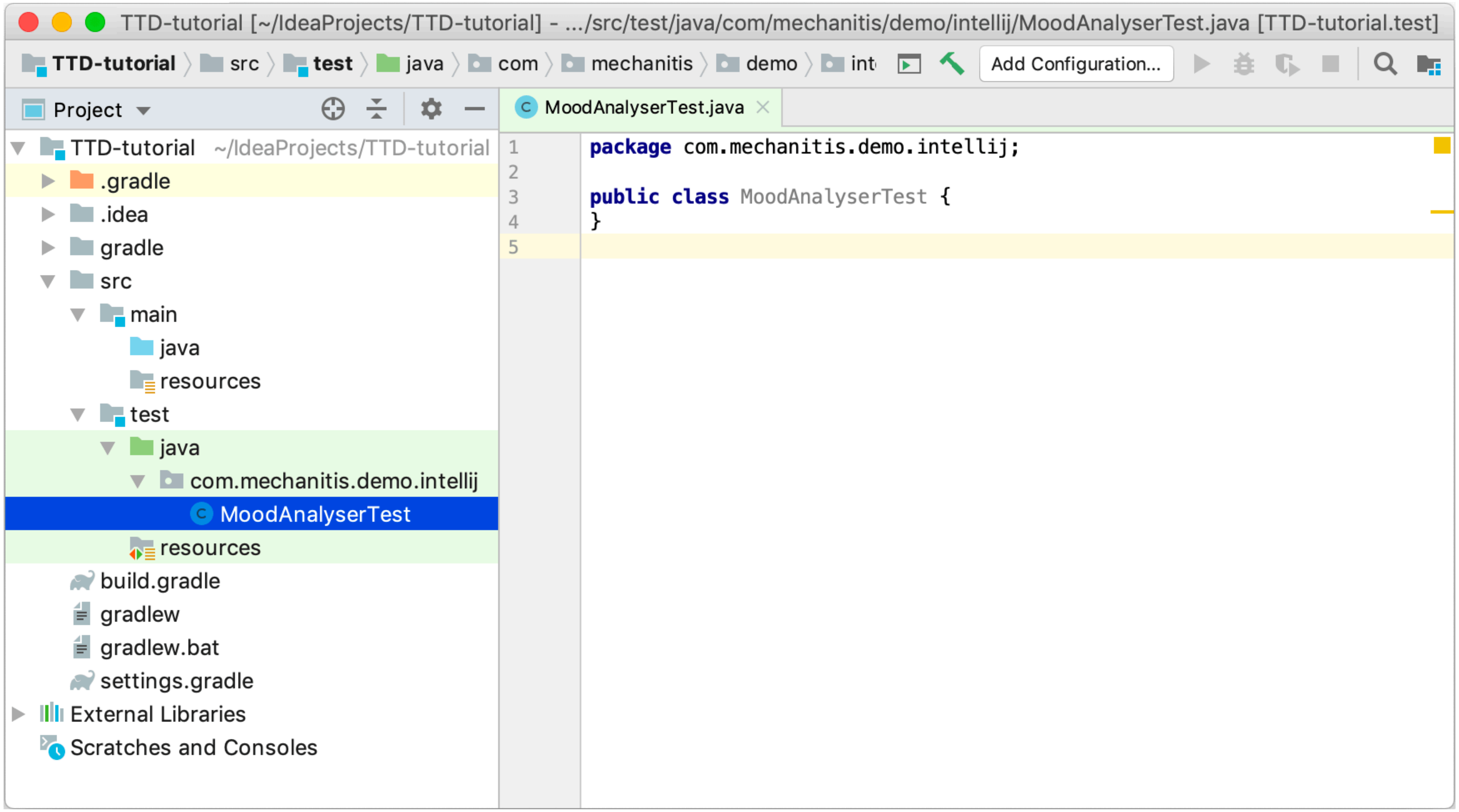
Junit with IntelliJ Intro

IntelliJ Intro to Junit

Create your first Junit Mood Analyser Application

Intro to IntelliJ – Create your Junit Test File



TTD-tutorial [~/IdeaProjects/TTD-tutorial] - .../src/test/java/com/mechanitis/demo/intellij/MoodAnalyserTest.java [TTD-tutorial.test]

TTD-tutorial 〉 src 〉 test 〉 java 〉 com 〉 mechanitis 〉 demo 〉 int
Add Configuration...
Project
MoodAnalyserTest.java

```
TTD-tutorial ~/IdeaProjects/TTD-tutorial
  .gradle
  .idea
  gradle
  src
    main
      java
      resources
    test
      java
        com.mechanitis.demo.intellij
          MoodAnalyserTest
      resources
  build.gradle
  gradlew
  gradlew.bat
  settings.gradle
External Libraries
Scratches and Consoles
```

```java
package com.mechanitis.demo.intellij;

public class MoodAnalyserTest {
}
```

Intro to IntelliJ – Set Gradle Dependency

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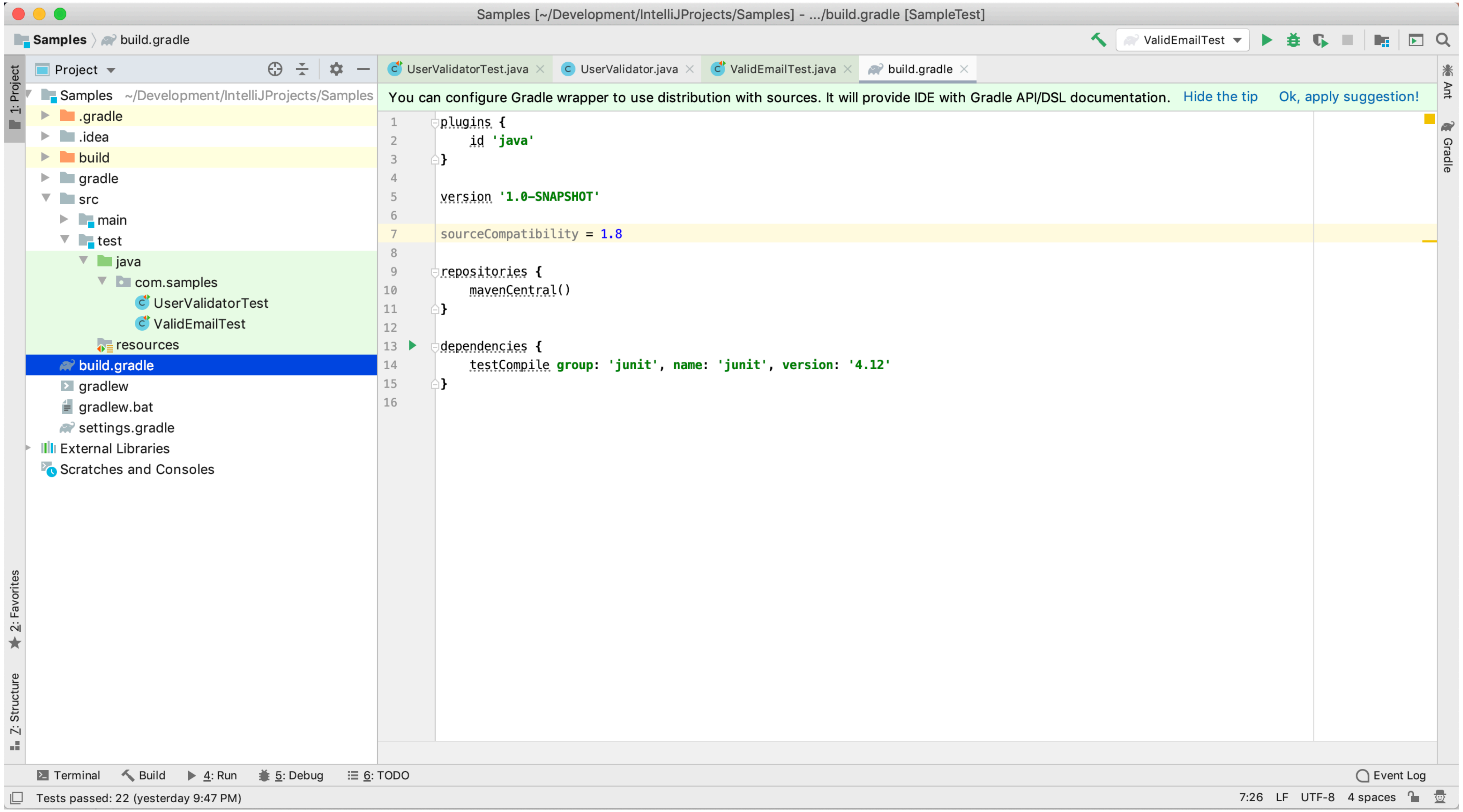

Samples [~/Development/IntelliJProjects/Samples] - .../build.gradle [SampleTest]

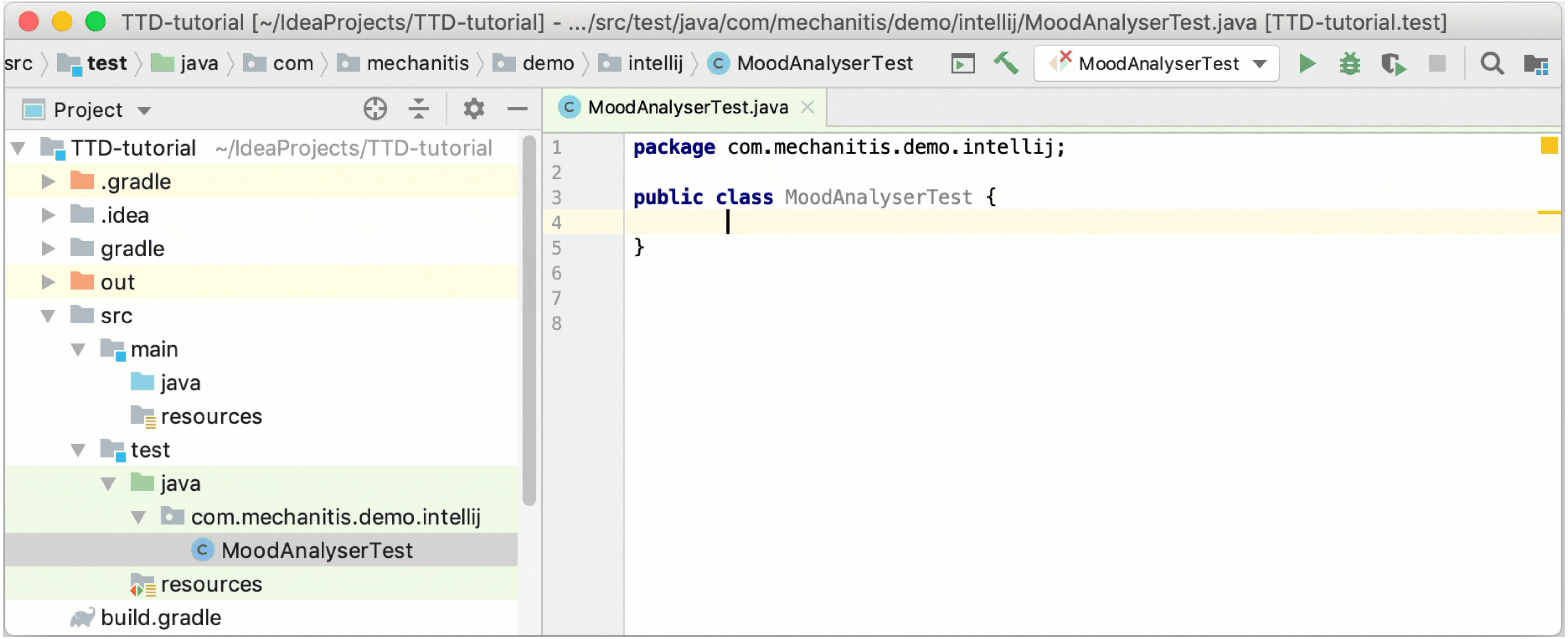
Samples 〉 build.gradle

You can configure Gradle wrapper to use distribution with sources. It will provide IDE with Gradle API/DSL documentation. Hide the tip Ok, apply suggestion!

```
plugins {
    id 'java'
}

version '1.0-SNAPSHOT'

sourceCompatibility = 1.8

repositories {
    mavenCentral()
}

dependencies {
    testCompile group: 'junit', name: 'junit', version: '4.12'
}
```

Tests passed: 22 (yesterday 9:47 PM)

Intro to IntelliJ – Create Test Method

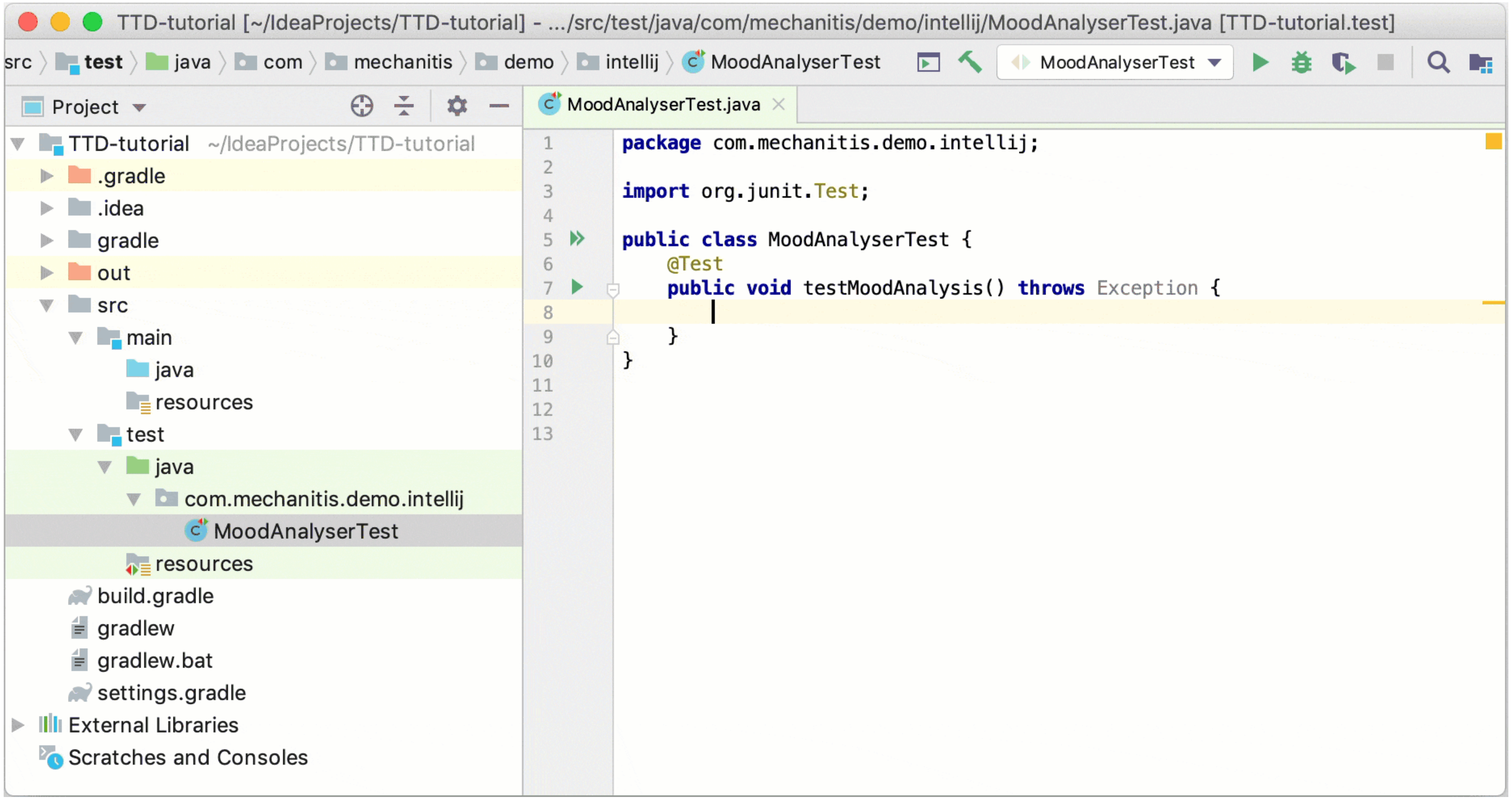


TTD-tutorial [~/IdeaProjects/TTD-tutorial] - .../src/test/java/com/mechanitis/demo/intellij/MoodAnalyserTest.java [TTD-tutorial.test]
src 〉 test 〉 java 〉 com 〉 mechanitis 〉 demo 〉 intellij 〉 MoodAnalyserTest
MoodAnalyserTest
Project
MoodAnalyserTest.java

```
TTD-tutorial ~/IdeaProjects/TTD-tutorial
    .gradle
    .idea
    gradle
    out
    src
        main
            java
            resources
        test
            java
                com.mechanitis.demo.intellij
                    MoodAnalyserTest
            resources
    build.gradle
```

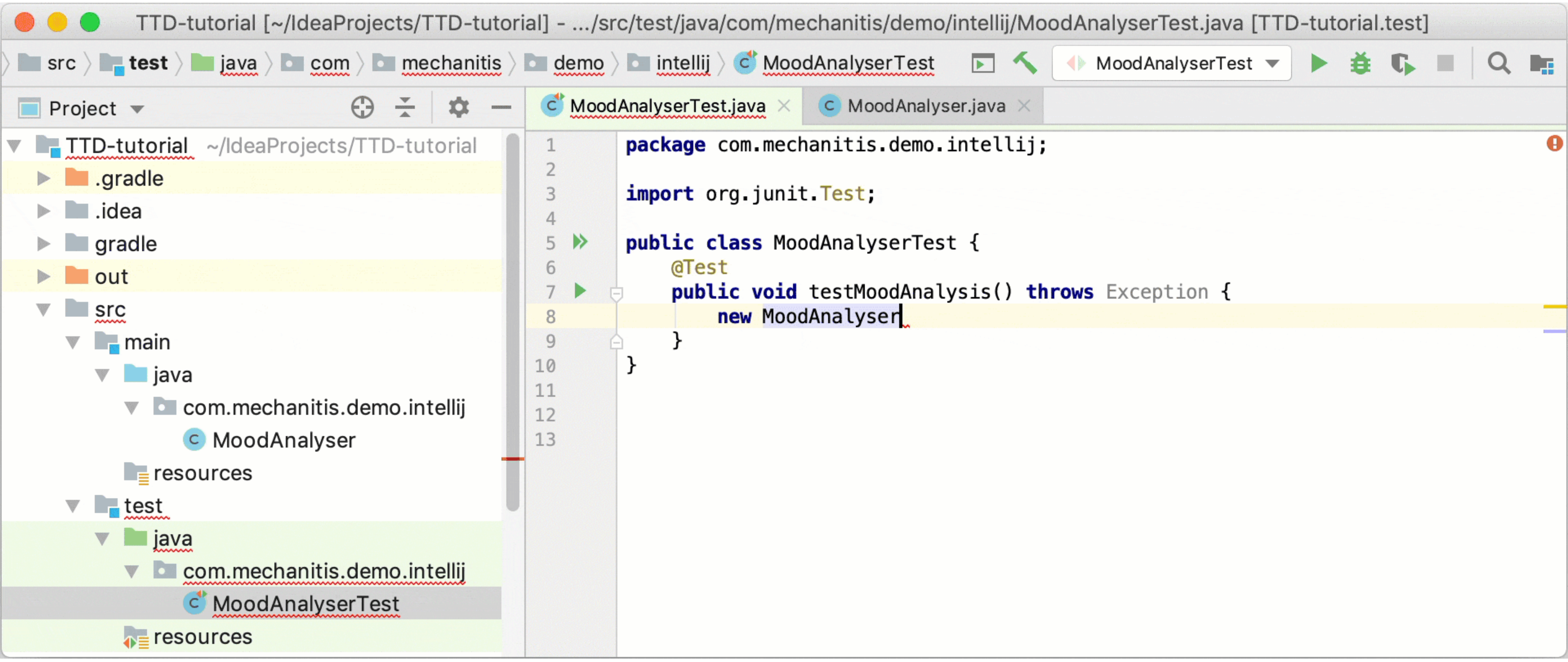
```java
package com.mechanitis.demo.intellij;

public class MoodAnalyserTest {

}
```

Intro to IntelliJ – Write Test Method Body



```java
package com.mechanitis.demo.intellij;

import org.junit.Test;

public class MoodAnalyserTest {
    @Test
    public void testMoodAnalysis() throws Exception {
        
    }
}
```

Intro to IntelliJ – Extract Variable



TTD-tutorial [~/IdeaProjects/TTD-tutorial] - .../src/test/java/com/mechanitis/demo/intellij/MoodAnalyserTest.java [TTD-tutorial.test]
src 〉 test 〉 java 〉 com 〉 mechanitis 〉 demo 〉 intellij 〉 MoodAnalyserTest
MoodAnalyserTest
Project
TTD-tutorial ~/IdeaProjects/TTD-tutorial
.gradle
.idea
gradle
out
src
main
java
com.mechanitis.demo.intellij
MoodAnalyser
resources
test
java
com.mechanitis.demo.intellij
MoodAnalyserTest
resources
MoodAnalyserTest.java
MoodAnalyser.java

```java
package com.mechanitis.demo.intellij;

import org.junit.Test;

public class MoodAnalyserTest {
    @Test
    public void testMoodAnalysis() throws Exception {
        new MoodAnalyser
    }
}
```

Intro to IntelliJ – Quick Action to Create Method

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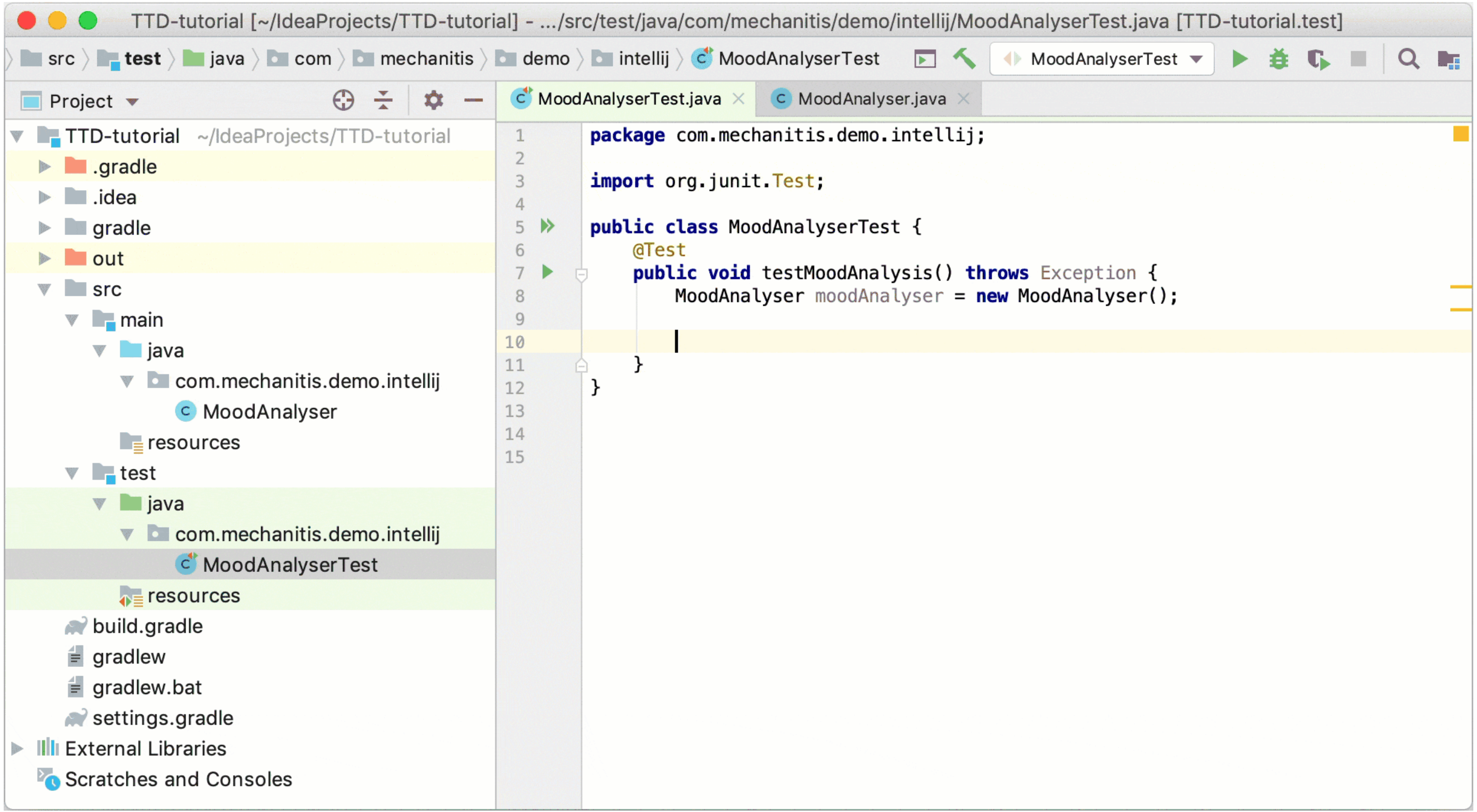

TTD-tutorial [~/IdeaProjects/TTD-tutorial] - .../src/test/java/com/mechanitis/demo/intellij/MoodAnalyserTest.java [TTD-tutorial.test]

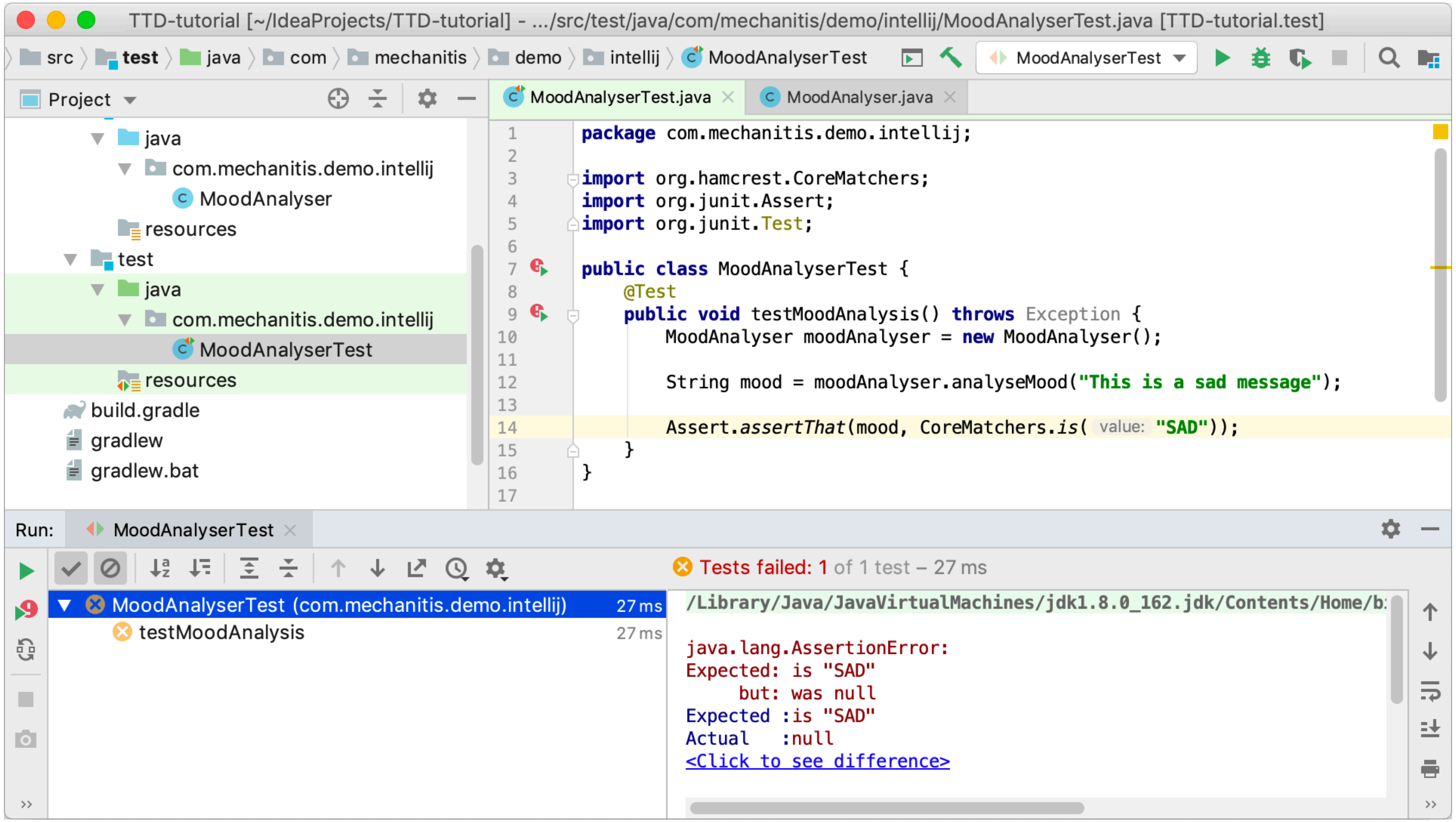
src 〉 test 〉 java 〉 com 〉 mechanitis 〉 demo 〉 intellij 〉 MoodAnalyserTest

MoodAnalyserTest.java × | MoodAnalyser.java ×

```
package com.mechanitis.demo.intellij;

import org.junit.Test;

public class MoodAnalyserTest {
    @Test
    public void testMoodAnalysis() throws Exception {
        MoodAnalyser moodAnalyser = new MoodAnalyser();

        
    }
}
```

```
TTD-tutorial  ~/IdeaProjects/TTD-tutorial
    .gradle
    .idea
    gradle
    out
    src
        main
            java
                com.mechanitis.demo.intellij
                    MoodAnalyser
            resources
        test
            java
                com.mechanitis.demo.intellij
                    MoodAnalyserTest
            resources
    build.gradle
    gradlew
    gradlew.bat
    settings.gradle
External Libraries
Scratches and Consoles
```

Intro to IntelliJ – Run the Test Cases


TTD-tutorial [~/IdeaProjects/TTD-tutorial] - .../src/test/java/com/mechanitis/demo/intellij/MoodAnalyserTest.java [TTD-tutorial.test]

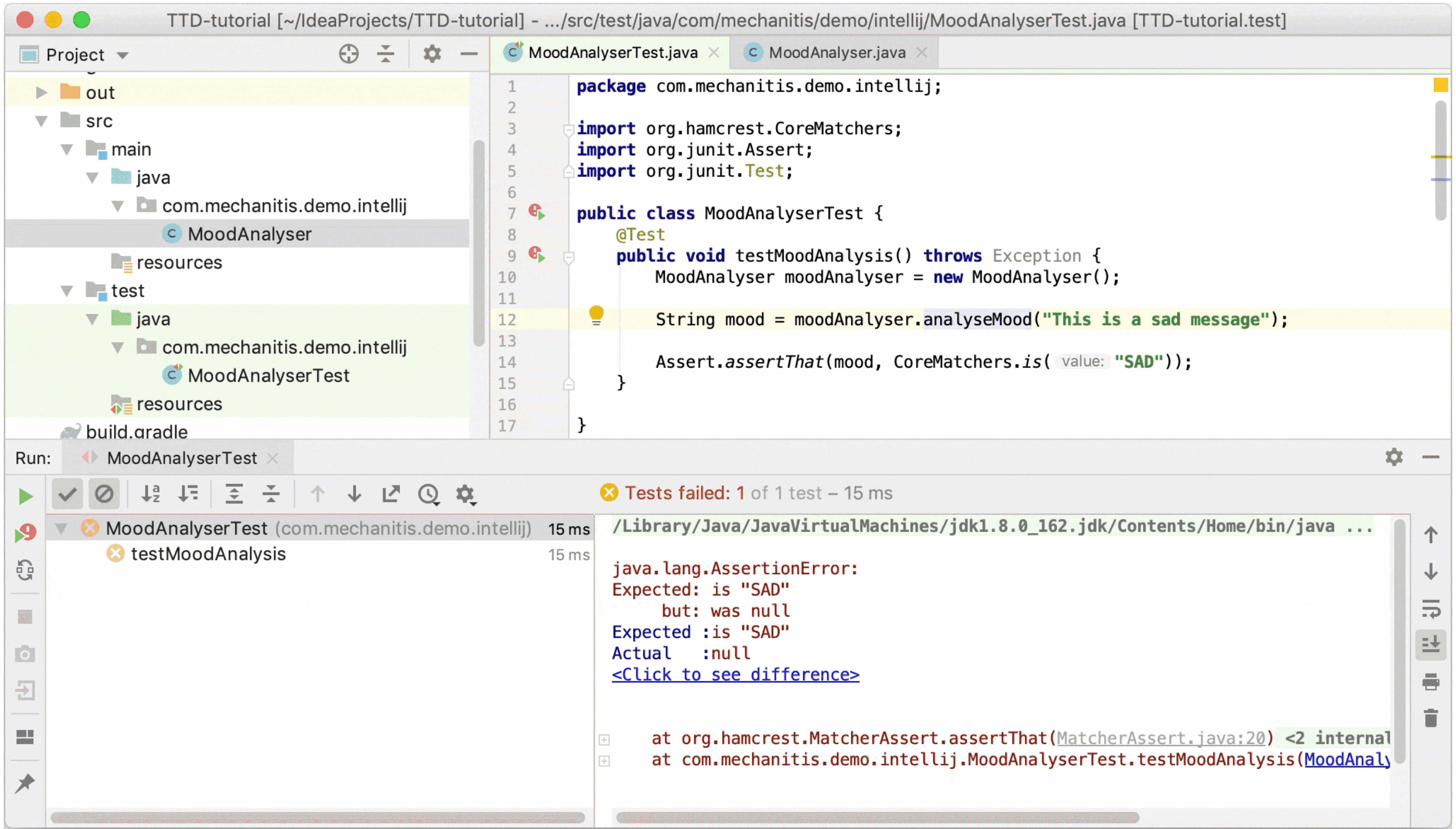
```java
package com.mechanitis.demo.intellij;

import org.hamcrest.CoreMatchers;
import org.junit.Assert;
import org.junit.Test;

public class MoodAnalyserTest {
    @Test
    public void testMoodAnalysis() throws Exception {
        MoodAnalyser moodAnalyser = new MoodAnalyser();

        String mood = moodAnalyser.analyseMood("This is a sad message");

        Assert.assertThat(mood, CoreMatchers.is( value: "SAD"));
    }
}
```

Tests failed: 1 of 1 test – 27 ms

```
MoodAnalyserTest (com.mechanitis.demo.intellij)   27 ms
    testMoodAnalysis                              27 ms
```

```
/Library/Java/JavaVirtualMachines/jdk1.8.0_162.jdk/Contents/Home/b

java.lang.AssertionError:
Expected: is "SAD"
     but: was null
Expected :is "SAD"
Actual   :null
<Click to see difference>
```

Intro to IntelliJ – Implement Code to Make it Work

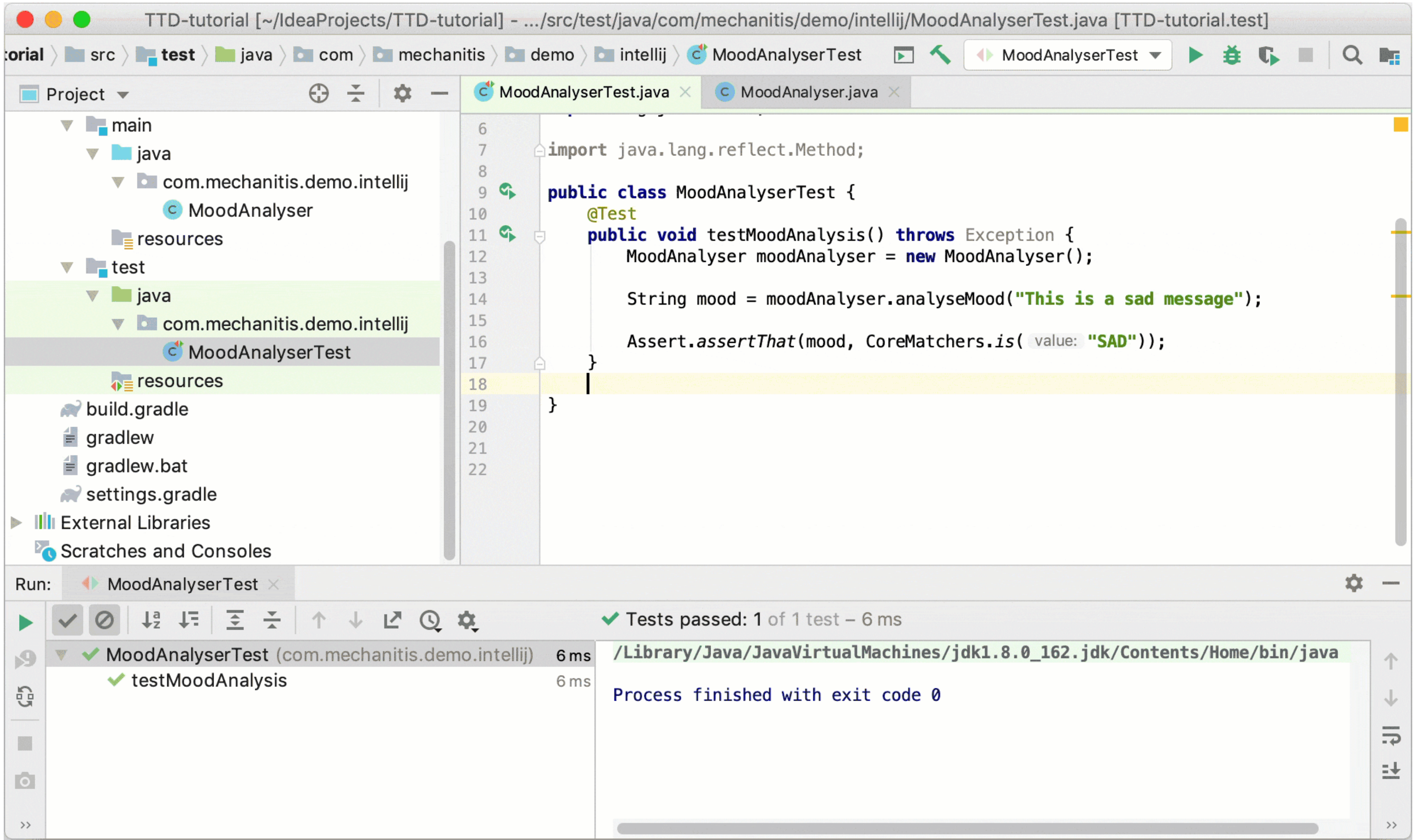

TTD-tutorial [~/IdeaProjects/TTD-tutorial] - .../src/test/java/com/mechanitis/demo/intellij/MoodAnalyserTest.java [TTD-tutorial.test]
Project
MoodAnalyserTest.java
MoodAnalyser.java
out
src
main
java
com.mechanitis.demo.intellij
MoodAnalyser
resources
test
java
com.mechanitis.demo.intellij
MoodAnalyserTest
resources
build.gradle
Run:
MoodAnalyserTest
MoodAnalyserTest (com.mechanitis.demo.intellij) 15 ms
testMoodAnalysis 15 ms

```java
package com.mechanitis.demo.intellij;

import org.hamcrest.CoreMatchers;
import org.junit.Assert;
import org.junit.Test;

public class MoodAnalyserTest {
    @Test
    public void testMoodAnalysis() throws Exception {
        MoodAnalyser moodAnalyser = new MoodAnalyser();

        String mood = moodAnalyser.analyseMood("This is a sad message");

        Assert.assertThat(mood, CoreMatchers.is( value: "SAD"));
    }

}
```

Tests failed: 1 of 1 test – 15 ms

```
/Library/Java/JavaVirtualMachines/jdk1.8.0_162.jdk/Contents/Home/bin/java ...

java.lang.AssertionError:
Expected: is "SAD"
     but: was null
Expected :is "SAD"
Actual   :null
<Click to see difference>


    at org.hamcrest.MatcherAssert.assertThat(MatcherAssert.java:20) <2 internal
    at com.mechanitis.demo.intellij.MoodAnalyserTest.testMoodAnalysis(MoodAnaly
```

Intro to IntelliJ – Write Second Test to Fail First

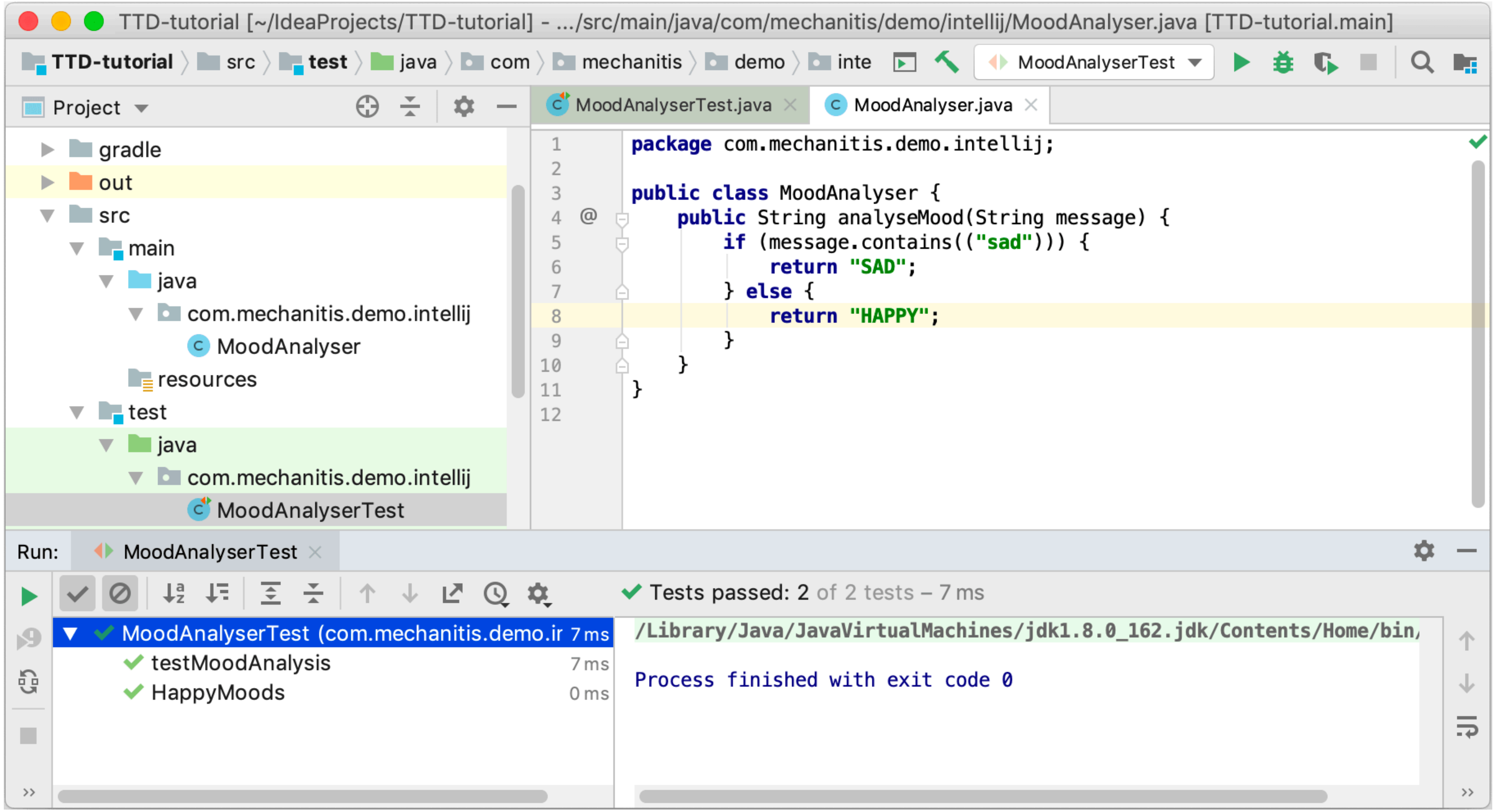


TTD-tutorial [~/IdeaProjects/TTD-tutorial] - .../src/test/java/com/mechanitis/demo/intellij/MoodAnalyserTest.java [TTD-tutorial.test]
torial › src › test › java › com › mechanitis › demo › intellij › MoodAnalyserTest
Project
main
java
com.mechanitis.demo.intellij
MoodAnalyser
resources
test
java
com.mechanitis.demo.intellij
MoodAnalyserTest
resources
build.gradle
gradlew
gradlew.bat
settings.gradle
External Libraries
Scratches and Consoles
MoodAnalyserTest.java
MoodAnalyser.java
Run: MoodAnalyserTest

```java
import java.lang.reflect.Method;

public class MoodAnalyserTest {
    @Test
    public void testMoodAnalysis() throws Exception {
        MoodAnalyser moodAnalyser = new MoodAnalyser();

        String mood = moodAnalyser.analyseMood("This is a sad message");

        Assert.assertThat(mood, CoreMatchers.is( value: "SAD"));
    }

}
```

```
✓ Tests passed: 1 of 1 test – 6 ms
✓ MoodAnalyserTest (com.mechanitis.demo.intellij)  6 ms
  ✓ testMoodAnalysis  6 ms

/Library/Java/JavaVirtualMachines/jdk1.8.0_162.jdk/Contents/Home/bin/java

Process finished with exit code 0
```

Intro to IntelliJ – Implement the Actual Code



TTD-tutorial [~/IdeaProjects/TTD-tutorial] - .../src/main/java/com/mechanitis/demo/intellij/MoodAnalyser.java [TTD-tutorial.main]

```java
package com.mechanitis.demo.intellij;

public class MoodAnalyser {
    public String analyseMood(String message) {
        if (message.contains(("sad"))) {
            return "SAD";
        } else {
            return "HAPPY";
        }
    }
}
```

Tests passed: 2 of 2 tests – 7 ms

```
MoodAnalyserTest (com.mechanitis.demo.ir 7 ms
    testMoodAnalysis 7 ms
    HappyMoods 0 ms
```

```
/Library/Java/JavaVirtualMachines/jdk1.8.0_162.jdk/Contents/Home/bin/

Process finished with exit code 0
```

Intro to IntelliJ – Red Green Refactor

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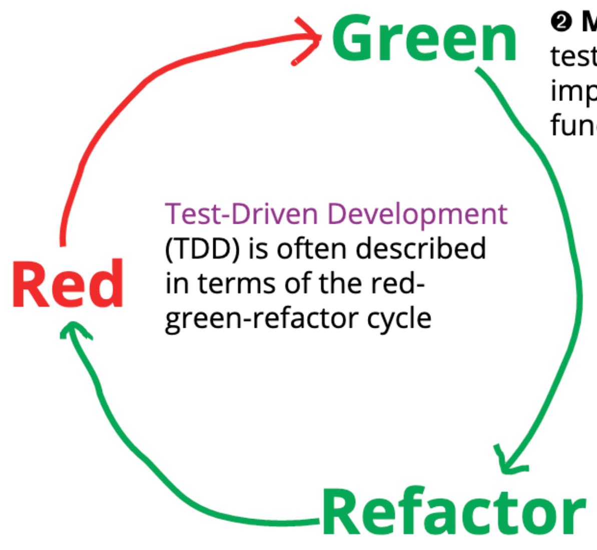
martinFowler.com 2/13

Refactoring is often taught in the context of TDD



❶ **Add a Test:** Use specification by example by adding a test for yet-to-be-built functionality. This test will fail, making the test suite red.

❷ **Make it work:** Make the failing test pass (go green) by implementing the necessary functionality simply but crudely.

Test-Driven Development (TDD) is often described in terms of the red-green-refactor cycle

❸ **Make it Clean:** Use refactoring to ensure the overall code base is as clean and well-designed as possible for currently-implemented functionality.

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Thankyou