ParameterizedTest with @MethodSource

This lesson demonstrates use of @MethodSource to pass different arguments to @ParameterizedTest.

WE'LL COVER THE FOLLOWING

@MethodSource

`@MethodSource` allows us to specify a factory method for different test arguments. This factory method must be `static` and can be present in the same class or any other class too. The factory method should return Stream, Iterator, Iterable or array of elements to `@ParameterizedTest` method.

Let's look at a demo.

Step 1 - Let's assume that we have to write a parameterized test that takes values of the `static` factory method as `@MethodSource`.

Step 2 - We create a test class by name, `MethodSourceTest.java`.

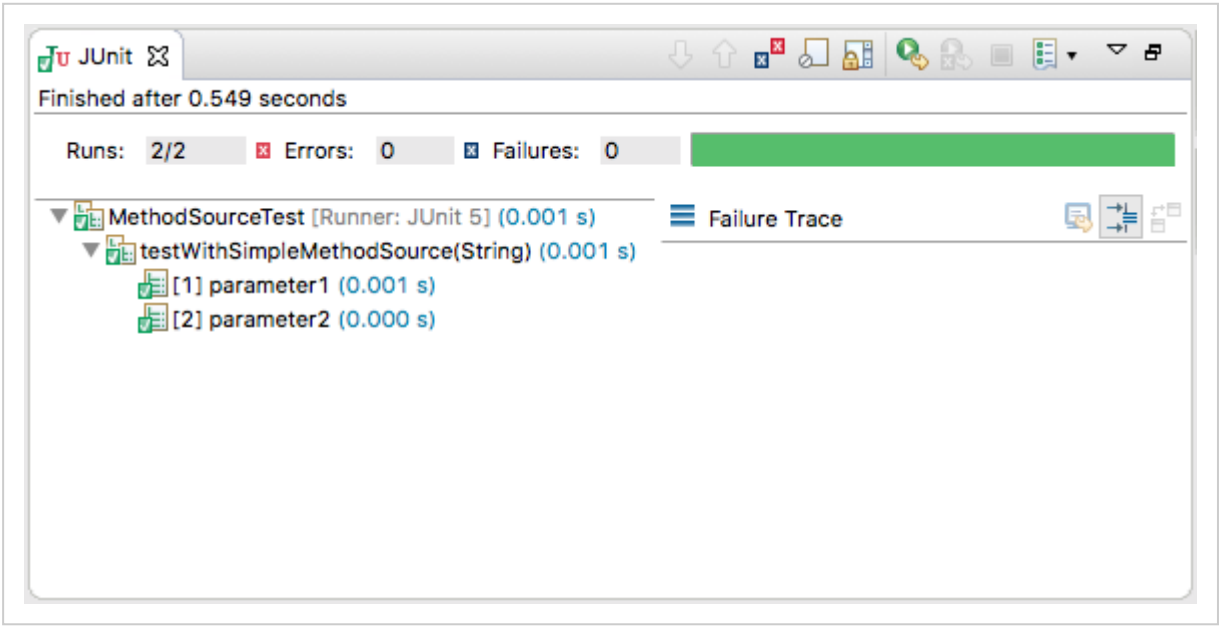
Step 3 - It contains a test method by name, `testMethodSource`. In order to provide different parameters/values to the same test method, this method is marked as `@ParameterizedTest` instead of `@Test`.

Step 4 - In order to provide different and multiple values through factory methods. We mark this test method with `@MethodSource` annotation. This annotation takes in name of factory method which will provide streams/lists of data to `@ParameterizedTest`.

Let's see the test class below.

```
package io.educative.junit5;

import static org.junit.jupiter.api.Assertions.*;
```

```
import java.util.stream.Stream;


import org.junit.jupiter.params.ParameterizedTest;
import org.junit.jupiter.params.provider.MethodSource;

class MethodSourceTest {

        @ParameterizedTest
        @MethodSource("parameterProvider")
        void testWithSimpleMethodSource(String argument) {
            assertNotNull(argument);
        }

        // method name is the source to test
        static Stream<String> parameterProvider() {
            return Stream.of("parameter1", "parameter2");
        }

}
```



Output of @ParameterizedTest demo

Above image demonstrates the working of `@ParameterizedTest`. As we have provided two different method source values by providing a `static` method as `parameterProvider()`, whose return type is Streams of String, therefore, the test case ran 2 times. We provide a static method name to `@MethodSource` annotation, which internally calls method `parameterProvider()` to get different parameters values. Also, all string values provided by `parameterProvider()` method are not null therefore `assertNotNull` passes for all values passed.

In the next lesson we will be studying parameterized tests with `@CsvSource`.