

### 3.13 Assisted Practice:

#### 5. Write a program to demonstrate dynamic tests.

##### Source Code:

##### # DynamicTests.java

```
package com.ecommerce.tests;

import org.junit.jupiter.api.*;
import org.junit.jupiter.api.condition.DisabledIf;
import org.junit.jupiter.api.condition.EnabledOnOs;
import org.junit.jupiter.api.condition.OS;
import org.junit.jupiter.api.function.Executable;
import org.junit.jupiter.api.DynamicTest;
import org.junit.jupiter.api.TestFactory;
import org.junit.platform.runner.JUnitPlatform;
import org.junit.runner.RunWith;

import java.util.Arrays;
import java.util.Collection;

import static org.junit.jupiter.api.Assertions.assertTrue;

@DisplayName("JUnit 5 Dynamic Tests Example")
@RunWith(JUnitPlatform.class)
public class DynamicTests {

    @TestFactory
    Collection<DynamicTest> dynamicTests() {
        return Arrays.asList(
            DynamicTest.dynamicTest("simple dynamic test", () ->
                assertTrue(true)),
            DynamicTest.dynamicTest("My Executable Class", new
                MyExecutable()),
            DynamicTest.dynamicTest("Exception Executable", () -> {
                throw new Exception("Exception Example");
            }),
            DynamicTest.dynamicTest("simple dynamic test-2", () ->
                assertTrue(true))
        );
    }

    static class MyExecutable implements Executable {
        @Override
        public void execute() throws Throwable {
            System.out.println("Hello World!");
        }
    }
}
```

##### # pom.xml

```
<project xmlns="http://maven.apache.org/POM/4.0.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
https://maven.apache.org/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>
  <groupId>JUnitDynamic</groupId>
  <artifactId>JUnitDynamic</artifactId>
```

```
<dependencies>
  <dependency>
    <groupId>org.junit.jupiter</groupId>
    <artifactId>junit-jupiter-engine</artifactId>
    <version>5.4.2</version>
  </dependency>

  <dependency>
    <groupId>org.junit.platform</groupId>
    <artifactId>junit-platform-launcher</artifactId>
    <version>1.2.0</version>
  </dependency>
</dependencies>

</project>
```

A screenshot of the Eclipse IDE's console window. The top toolbar includes icons for Markers, Properties, Snippets, Terminal, Console, Progress, Servers, Coverage, Outline, Palette, JUnit, Maven, and Debug. The console text shows the start of a JUnit test run for 'com.ecommerce.tests.DynamicTests'. It displays the date and time 'Jun 16, 2023 12:11:07 AM' followed by the class name and a warning message: 'WARNING: Ignoring test class using JUnitPlatform runner: com.ecommerce.tests.DynamicTests'. Below this, it prints 'Hello World!'.

<terminated> JUnitDynamic [JUnit] C:\Users\sweet\janet\Downloads\sts-4.18.0.RELEASE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86\_64\_17.0.6.v20  
Jun 16, 2023 12:11:07 AM org.junit.vintage.engine.discovery.DefensiveAllDefaultPossibilitiesBuilder\$Defe  
WARNING: Ignoring test class using JUnitPlatform runner: com.ecommerce.tests.DynamicTests  
Hello World!

JUnitDynamic (16-Jun-2023 12:15:54 am)				
Element	Coverage	Covered Ins...	Missed Instr...	Total Instruc...
JUnitDynamic	100.0 %	51	0	51
src/main/java	100.0 %	51	0	51
com.ecommerce.tests	100.0 %	51	0	51
DynamicTests.java	100.0 %	51	0	51
DynamicTests	100.0 %	44	0	44
MyExecutable	100.0 %	7	0	7
execute()	100.0 %	4	0	4
dynamicTests()	100.0 %	30	0	30