**Exercise 5: Timeout and Performance Testing**

**Scenario:** You want to ensure that a method completes within a specified time limit.

**PerformanceTester.java :-**

package org.example1;  
  
public class PerformanceTester {  
  
 public void performTask() {  
 // Simulate task (e.g., a delay of 300 ms)  
 try {  
 Thread.*sleep*(300); // Delay for demonstration purposes  
 } catch (InterruptedException e) {  
 Thread.*currentThread*().interrupt(); // Restore interrupt flag  
 throw new RuntimeException("Task interrupted", e);  
 }  
 }  
}

**PerformanceTesterTest.java :-**

package org.example1;  
  
import org.junit.Test;  
  
import static org.junit.jupiter.api.Assertions.*assertTimeout*;  
import static java.time.Duration.*ofMillis*;  
  
public class PerformanceTesterTest {  
  
 @Test  
 public void testPerformTask\_ShouldCompleteWithin500ms() {  
 PerformanceTester tester = new PerformanceTester();  
  
 *assertTimeout*(  
 *ofMillis*(500),  
 tester::performTask,  
 "performTask() should complete within 500 milliseconds"  
 );  
 }  
}

**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  
 http://maven.apache.org/xsd/maven-4.0.0.xsd">  
  
 <modelVersion>4.0.0</modelVersion>  
 <groupId>org.example1</groupId>  
 <artifactId>performance-testing</artifactId>  
 <version>1.0-SNAPSHOT</version>  
  
 <dependencies>  
 <!-- JUnit 5 -->  
 <dependency>  
 <groupId>org.junit.jupiter</groupId>  
 <artifactId>junit-jupiter</artifactId>  
 <version>5.10.0</version>  
 <scope>test</scope>  
 </dependency>  
 <dependency>  
 <groupId>junit</groupId>  
 <artifactId>junit</artifactId>  
 <version>4.13.2</version>  
 <scope>test</scope>  
 </dependency>  
 </dependencies>  
  
 <build>  
 <plugins>  
 <!-- Surefire plugin for running unit tests -->  
 <plugin>  
 <groupId>org.apache.maven.plugins</groupId>  
 <artifactId>maven-surefire-plugin</artifactId>  
 <version>3.1.2</version>  
 </plugin>  
 </plugins>  
 </build>  
  
</project>

**Output :-**

