**Exercise 4: Mocking Network Interactions**

You need to test a service that interacts with network resources.

**NetworkClient.java :-**

package org.example1;  
  
public interface NetworkClient {  
 String connect();  
}

**NetworkService.java :-**

package org.example1;  
  
public class NetworkService {  
  
 private final NetworkClient networkClient;  
  
 public NetworkService(NetworkClient networkClient) {  
 this.networkClient = networkClient;  
 }  
  
 public String connectToServer() {  
 String connection = networkClient.connect();  
 return "Connected to " + connection;  
 }  
}

**NetworkServiceTest.java :-**

package org.example1;  
  
import org.junit.jupiter.api.Test;  
import static org.mockito.Mockito.\*;  
import static org.junit.jupiter.api.Assertions.\*;  
  
public class NetworkServiceTest {  
  
 @Test  
 public void testServiceWithMockNetworkClient() {  
 // Step 1: Create mock network client  
 NetworkClient mockNetworkClient = *mock*(NetworkClient.class);  
  
 // Step 2: Stub method to simulate network response  
 *when*(mockNetworkClient.connect()).thenReturn("Mock Connection");  
  
 // Step 3: Inject mock and test service  
 NetworkService networkService = new NetworkService(mockNetworkClient);  
 String result = networkService.connectToServer();  
  
 // Assertion  
 *assertEquals*("Connected to Mock Connection", result);  
  
 // Optional: verify interaction  
 *verify*(mockNetworkClient, *times*(1)).connect();  
 }  
}

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**Output :-**

