// File: UserRepository.java

public interface UserRepository {

String findUserNameById(int id);

}

// File: UserService.java

public class UserService {

private final UserRepository repo;

public UserService(UserRepository repo) {

this.repo = repo;

}

public String getUserGreeting(int id) {

String name = repo.findUserNameById(id);

return "Hello, " + name;

}

}

// File: UserServiceTest.java

import org.junit.jupiter.api.Test;

import static org.mockito.Mockito.\*;

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

public class UserServiceTest {

@Test

void testGetUserGreeting() {

// Arrange

UserRepository mockRepo = mock(UserRepository.class);

when(mockRepo.findUserNameById(1)).thenReturn("Alice");

UserService service = new UserService(mockRepo);

// Act

String result = service.getUserGreeting(1);

// Assert

assertEquals("Hello, Alice", result);

verify(mockRepo).findUserNameById(1); // interaction verification

}

}

OUTPUT:

Test passed: "Hello, Alice"

Mock method was called as expected.