Exercise 1: Mocking and Stubbing

Program:

WeatherApiClient.java

**public** **interface** WeatherApiClient {

String getWeather(String city);

}

WeatherServiceClient.java

**public** **class** WeatherService {

**private** WeatherApiClient apiClient;

**public** WeatherService(WeatherApiClient apiClient) {

**this**.apiClient = apiClient;

}

**public** String fetchWeather(String city) {

**return** apiClient.getWeather(city);

}

}

WeatherServiceTest.java

**import** org.junit.jupiter.api.Test;

**import** org.mockito.Mockito;

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

**public** **class** WeatherServiceTest {

@Test

**public** **void** testFetchWeather() {

WeatherApiClient mock = Mockito.*mock*(WeatherApiClient.**class**);

// Step 2: Stub the method

Mockito.*when*(mock.getWeather("London")).thenReturn("Sunny");

// Step 3: Inject mock into service

WeatherService service = **new** WeatherService(mock);

// Step 4: Call and assert

String result = service.fetchWeather("London");

*assertEquals*("Sunny", result);

}

}