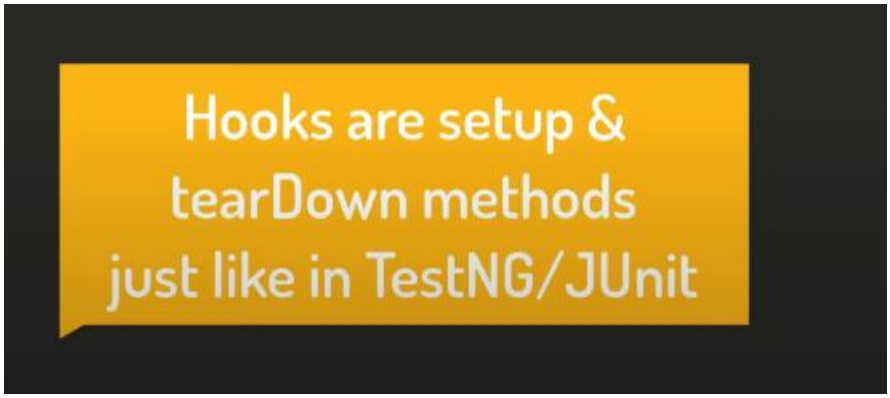
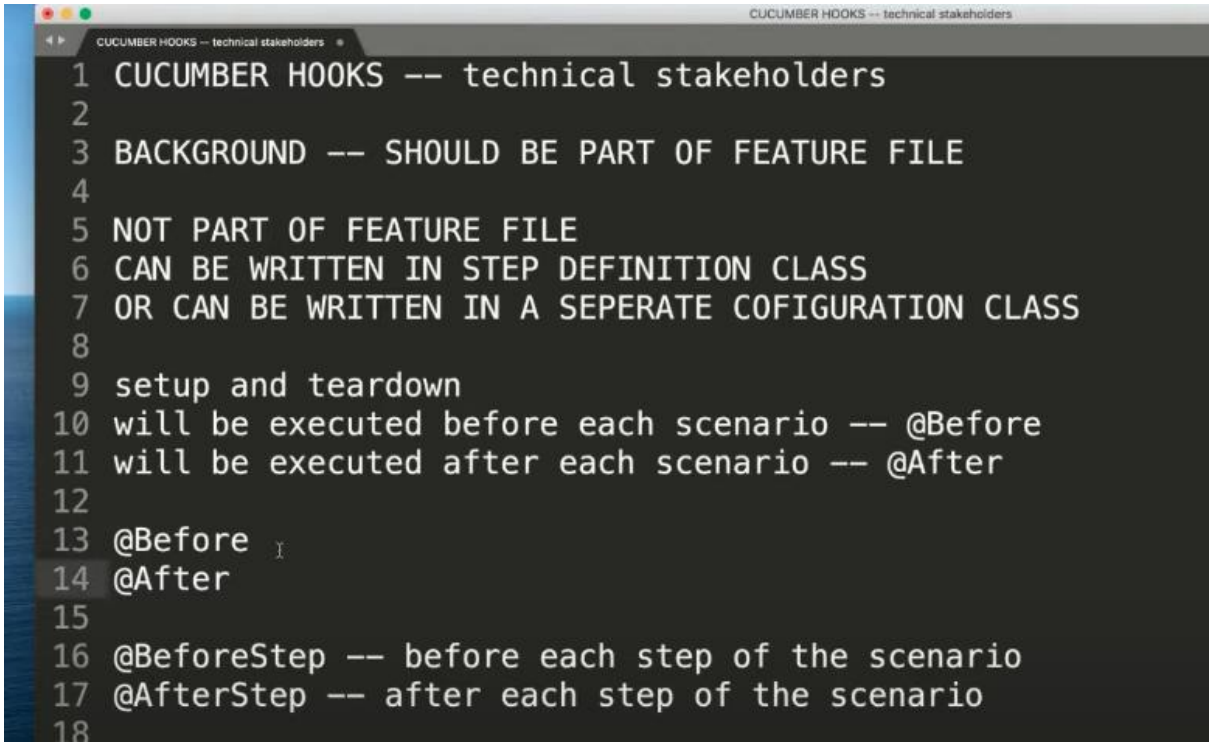
Hooks concept-



Hooks are for technical stakeholders.

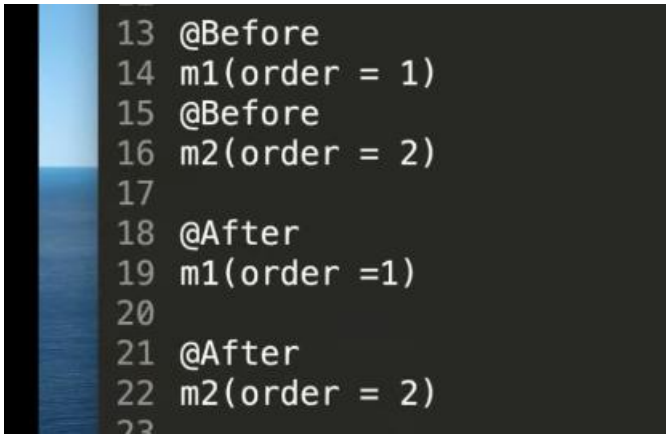
Hooks not part of feature file. We can write inside feature files but then other classes which use the common methods won't be able to access it.



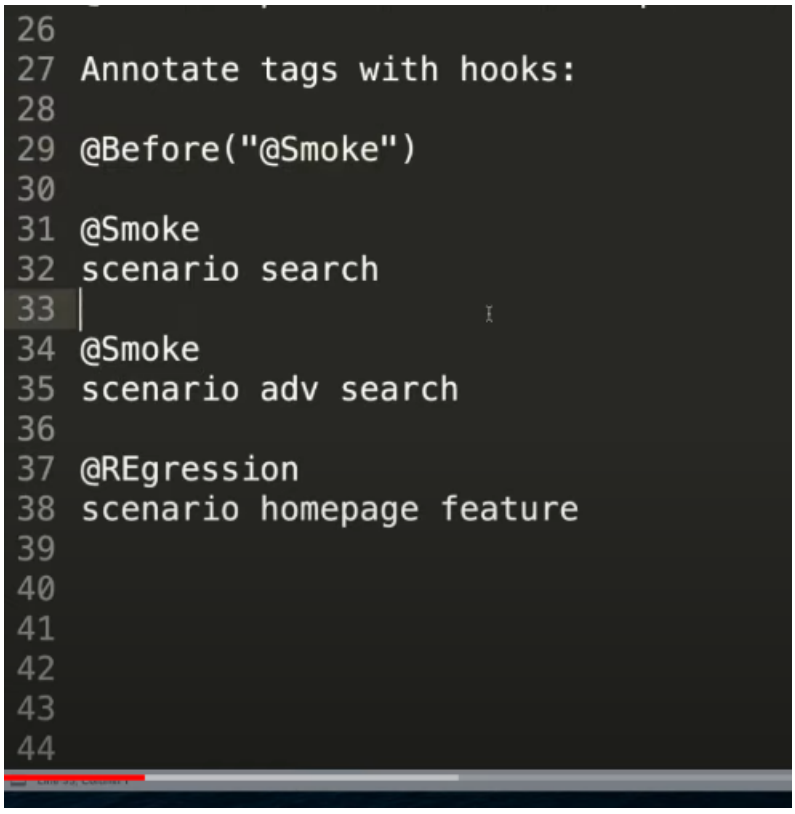
We can have multiple before and after annotations, but we need to give the order of execution.

Example, first browser launch, second db connection launch can be written in before hooks.

Example for after hooks – first close browser, second disconnect browser.



We can also use tag-hook combination-



In the above examples, only those scenarios with “tag = smoke” are executed in before tag.

Hooks code with before and after-

Hooks:

```
package MyHooks;

import io.cucumber.java.After;
import io.cucumber.java.Before;

public class AmazonHooks {

	@Before
	public void setup() {
		System.out.println("launching amazon application");
```

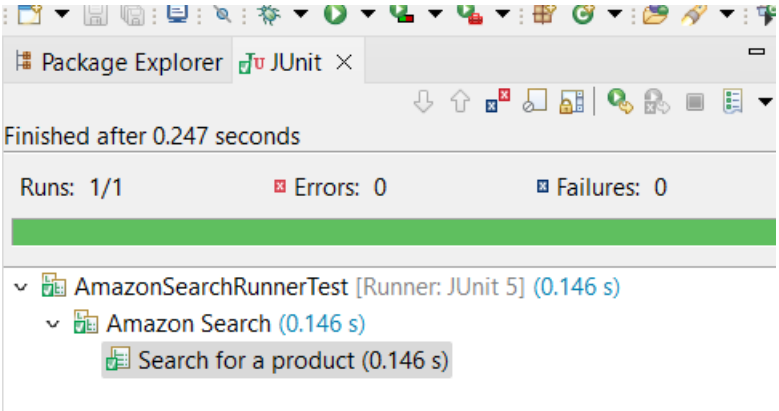
```
	}

	@After
	public void tearDown() {
		System.out.println("close the browser");
	}
}
```

Amazon search runner file:

```
package testRunners;

import io.cucumber.junit.Cucumber;
import io.cucumber.junit.CucumberOptions;
import org.junit.runner.RunWith;

@RunWith(Cucumber.class)
@CucumberOptions(plugin = { "pretty" }, features = {
"src/test/resources/AppFeatures/Search.feature" },
		// glue = {"/src/test/java/StepDefinitions/"} //this will
also work
		glue = { "StepDefinitions", "MyHooks" } // this way of
defining also works
)

//in features we can give path till the feature file itself but tomorrow
if n number of files are there and we want to run them
//then give the path till the package name
//glue tells where the step definitions are available.
//plugin = pretty means colorful and nice output.

public class AmazonSearchRunnerTest {

}
```

Run runner:

Junit output:



Console output:

```
Scenario: Search for a product                                  # src/test/resources/AppFeatures/Search.feature:24
launching amazon application
step 1 - i am on search page
  Given I have a search field on Amazon page                    #
StepDefinitions.SearchFeatureStepDef.i_have_a_search_field_on_amazon_page()
step 2 - search product with name apple and price is 1000
  When I search for product with name "apple" and price is 1000 #
StepDefinitions.SearchFeatureStepDef.i_search_for_product_with_name_and_price_is(java.lang.String,java.lang.Integer)
step 3 - product with apple : is displayed
returned product is apple
  Then Product with name "apple" should be displayed            #
StepDefinitions.SearchFeatureStepDef.product_with_name_should_be_displayed(java.lang.String)
close the browser
```

Likewise, if there are multiple scenarios, the before and after will run after each of the scenarios.

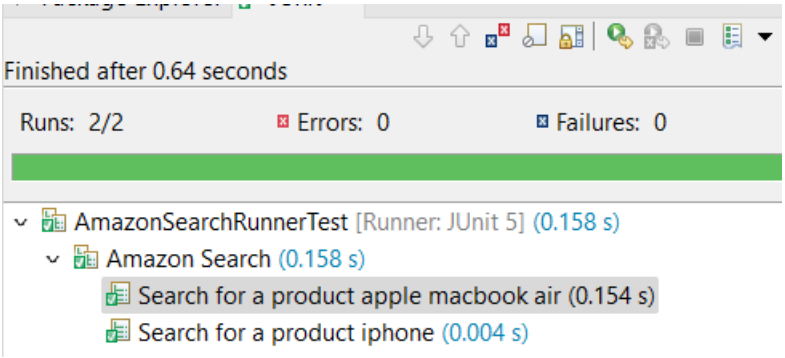
Multiple before and after with order number-

Hooks:

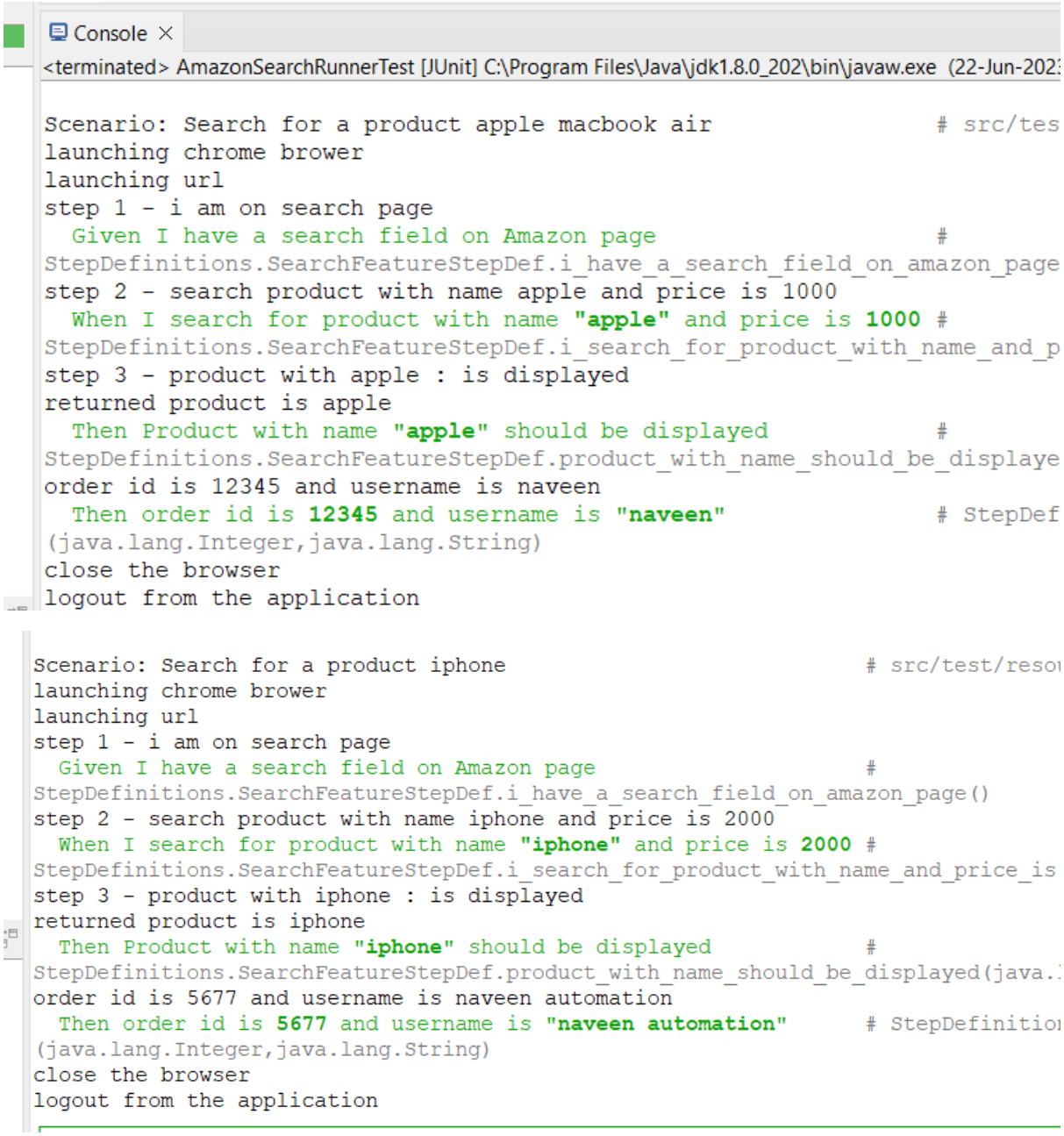
```
package MyHooks;

import io.cucumber.java.After;
import io.cucumber.java.Before;

public class AmazonHooks {

	@Before(order=1)
	public void setUpBrowser() {
		System.out.println("launching chrome brower");
	}

	@Before(order=2)
	public void setUpURL() {
		System.out.println("launching url");
	}

	@After(order=2)
	public void tearDownClose() {
		System.out.println("close the browser");
	}

	@After(order=1)
	public void tearDownLogout() {
		System.out.println("logout from the application");
	}
}
```

Run the runner file:

Junit:



Console:



Using scenario as parameter-

Scenario comes from cucumber library and has lot of inbuilt methods.

Hooks code with scenario parameter:

```
package MyHooks;

import io.cucumber.java.After;
import io.cucumber.java.Before;
import io.cucumber.java.Scenario;

public class AmazonHooks {

	@Before(order=1)
	public void setUpBrowser(Scenario sc) {
		System.out.println("launching chrome brower");
```

```
		System.out.println(sc.getName());
	}

	@Before(order=2)
	public void setUpURL() {
		System.out.println("launching url");
	}

	@After(order=2)
	public void tearDownClose(Scenario sc) {
		System.out.println("close the browser");
		System.out.println(sc.getName());
	}

	@After(order=1)
	public void tearDownLogout() {
		System.out.println("logout from the application");
	}
}
```

Run runner:

```
Scenario: Search for a product apple macbook air
launching chrome brower
Search for a product apple macbook air
launching url
step 1 - i am on search page
```

```
Scenario: Search for a product iphone
launching chrome brower
Search for a product iphone
launching url
step 1 - i am on search page
  Given I have a search field on Amazon
```

Its capturing the scenario name from feature file as seen below:

```
20
21 Feature: Amazon Search
22  #this is the feature for which we want to write code and requirements
23  #one feature file can have multiple scenarios
24 Scenario: Search for a product apple macbook air
25  #here we give the scenario name
```

```
 33
 34 Scenario: Search for a product iphone
 35 Given I have a search field on Amazon page
 36 When I search for product with name "iphone" and price is 2000
 37 Then Product with name "iphone" should be displayed
 38 Then order id is 5677 and username is "naveen automation"
 39
```

Hooks with before step and after step added-

```
package MyHooks;

import io.cucumber.java.After;
import io.cucumber.java.AfterStep;
import io.cucumber.java.Before;
import io.cucumber.java.BeforeStep;
```

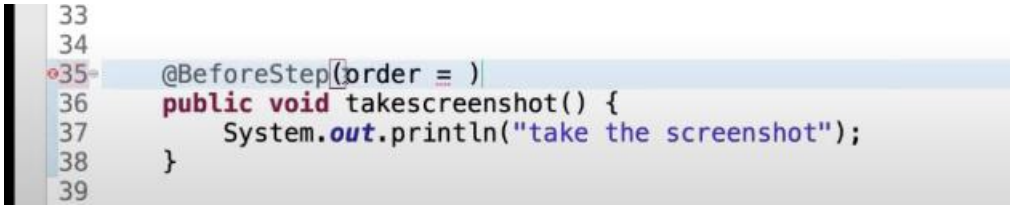
```
import io.cucumber.java.Scenario;

public class AmazonHooks {

	@Before(order = 1)
	public void setUpBrowser(Scenario sc) {
		System.out.println("launching chrome brower");
		System.out.println(sc.getName());
	}

	@Before(order = 2)
	public void setUpURL() {
		System.out.println("launching url");
	}

	@After(order = 2)
	public void tearDownClose(Scenario sc) {
		System.out.println("close the browser");
		System.out.println(sc.getName());
	}

	@After(order = 1)
	public void tearDownLogout() {
		System.out.println("logout from the application");
	}

	@BeforeStep
	public void takeScreenshot() {
		System.out.println("takes screenshot after every step");
	}

	@AfterStep
	public void refreshBrowser() {
		System.out.println("refresh the browser after every step");
	}
}
```

Run the runner:

```
Scenario: Search for a product apple macbook air                # src/test/res
launching chrome brower
Search for a product apple macbook air
launching url
takes screenshot after every step
step 1 - i am on search page
  Given I have a search field on Amazon page                    #
StepDefinitions.SearchFeatureStepDef.i_have_a_search_field_on_amazon_page()
refresh the browser after every step
takes screenshot after every step
step 2 - search product with name apple and price is 1000
  When I search for product with name "apple" and price is 1000 #
StepDefinitions.SearchFeatureStepDef.i_search_for_product_with_name_and_price_
refresh the browser after every step
takes screenshot after every step
step 3 - product with apple : is displayed
returned product is apple
  Then Product with name "apple" should be displayed            #
StepDefinitions.SearchFeatureStepDef.product_with_name_should_be_displayed(jav
refresh the browser after every step
takes screenshot after every step
order id is 12345 and username is naveen
  Then order id is 12345 and username is "naveen"               # StepDefiniti
(java.lang.Integer,java.lang.String)
refresh the browser after every step
close the browser
Search for a product apple macbook air
logout from the application
```

```
Scenario: Search for a product iphone                           # src/test/
launching chrome brower
Search for a product iphone
launching url
takes screenshot after every step
step 1 - i am on search page
  Given I have a search field on Amazon page                    #
StepDefinitions.SearchFeatureStepDef.i_have_a_search_field_on_amazon_page()
refresh the browser after every step
takes screenshot after every step
step 2 - search product with name iphone and price is 2000
  When I search for product with name "iphone" and price is 2000 #
StepDefinitions.SearchFeatureStepDef.i_search_for_product_with_name_and_pri
refresh the browser after every step
takes screenshot after every step
step 3 - product with iphone : is displayed
returned product is iphone
  Then Product with name "iphone" should be displayed           #
StepDefinitions.SearchFeatureStepDef.product_with_name_should_be_displayed(
refresh the browser after every step
takes screenshot after every step
order id is 5677 and username is naveen automation
  Then order id is 5677 and username is "naveen automation"     # StepDefi
(java.lang.Integer,java.lang.String)
refresh the browser after every step
close the browser
Search for a product iphone
logout from the application
```

Even before steps and after steps can have order-



```
33
34
35    @BeforeStep(order = )
36    public void takescreenshot() {
37        System.out.println("take the screenshot");
38    }
39
```

Hooks with @-

```
package MyHooks;

import io.cucumber.java.After;
import io.cucumber.java.AfterStep;
import io.cucumber.java.Before;
import io.cucumber.java.BeforeStep;
import io.cucumber.java.Scenario;

public class AmazonHooks {

	@Before("@Smoke")
	public void setUpBrowser(Scenario sc) {
		System.out.println("launching chrome brower");
		System.out.println(sc.getName());
	}

//	@Before(order = 2)
//	public void setUpURL() {
//		System.out.println("launching url");
////	}

	@After("@Regression")
	public void tearDownClose(Scenario sc) {
		System.out.println("close the browser");
		System.out.println(sc.getName());
	}

//	@After(order = 1)
//	public void tearDownLogout() {
//		System.out.println("logout from the application");
//	}

//	@BeforeStep
//	public void takeScreenshot() {
//		System.out.println("takes screenshot after every step");
//	}
//
//	@AfterStep
//	public void refreshBrowser() {
//		System.out.println("refresh the browser after every step");
//	}
}
```

Feature file:

```
#Author: your.email@your.domain.com
#Keywords Summary :
#Feature: List of scenarios.
#Scenario: Business rule through list of steps with arguments.
#Given: Some precondition step
```

```
#When: Some key actions
#Then: To observe outcomes or validation
#And,But: To enumerate more Given,When,Then steps
#Scenario Outline: List of steps for data-driven as an Examples and
<placeholder>
#Examples: Container for s table
#Background: List of steps run before each of the scenarios
#""" (Doc Strings)
#| (Data Tables)
#@ (Tags/Labels):To group Scenarios
#<> (placeholder)
#""
## (Comments)
#Sample Feature Definition Template


Feature: Amazon Search
#this is the feature for which we want to write code and requirements
#one feature file can have multiple scenarios

@Smoke
Scenario: Search for a product apple macbook air
#here we give the scenario name
#below scenario (given, when, then, and) etc are known as steps
Given I have a search field on Amazon page
#given can be considered as pre-condition
When I search for product with name "apple" and price is 1000
#string is in double quotes
Then Product with name "apple" should be displayed
Then order id is 12345 and username is "naveen"

@Regression
Scenario: Search for a product iphone
Given I have a search field on Amazon page
When I search for product with name "iphone" and price is 2000
Then Product with name "iphone" should be displayed
Then order id is 5677 and username is "naveen automation"
```

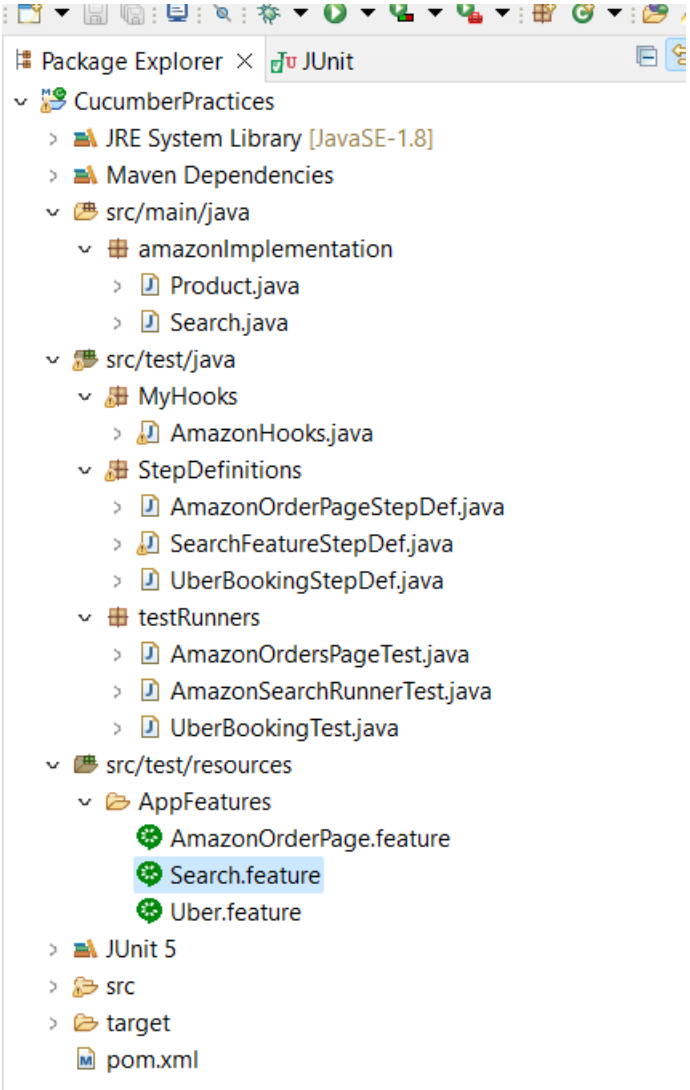
Run runner:

```
@Smoke
Scenario: Search for a product apple macbook air                # src/test/resour
launching chrome brower
Search for a product apple macbook air
step 1 - i am on search page
  Given I have a search field on Amazon page                    #
StepDefinitions.SearchFeatureStepDef.i_have_a_search_field_on_amazon_page()
step 2 - search product with name apple and price is 1000
  When I search for product with name "apple" and price is 1000 #
StepDefinitions.SearchFeatureStepDef.i_search_for_product_with_name_and_price_is(
step 3 - product with apple : is displayed
returned product is apple
  Then Product with name "apple" should be displayed            #
StepDefinitions.SearchFeatureStepDef.product_with_name_should_be_displayed(java.l
order id is 12345 and username is naveen
  Then order id is 12345 and username is "naveen"               # StepDefinitions
(java.lang.Integer,java.lang.String)
```

```
@Regression
Scenario: Search for a product iphone                                  # src/test/resources/A
step 1 - i am on search page
  Given I have a search field on Amazon page                           #
StepDefinitions.SearchFeatureStepDef.i_have_a_search_field_on_amazon_page()
step 2 - search product with name iphone and price is 2000
  When I search for product with name "iphone" and price is 2000 #
StepDefinitions.SearchFeatureStepDef.i_search_for_product_with_name_and_price_is(java.l
step 3 - product with iphone : is displayed
returned product is iphone
  Then Product with name "iphone" should be displayed                  #
StepDefinitions.SearchFeatureStepDef.product_with_name_should_be_displayed(java.lang.St
order id is 5677 and username is naveen automation
  Then order id is 5677 and username is "naveen automation"      # StepDefinitions.Sear
(java.lang.Integer,java.lang.String)
close the browser
Search for a product iphone
```

If we see the output above, for smoke, the before hook was executed and not after hook, and for regression the after hook was executed and not before book, as the @ have been defined in such a way for before and after for smoke and regression etc.

Project structure-



Codes used for this lesson-

Hooks:

```
package MyHooks;

import io.cucumber.java.After;
import io.cucumber.java.AfterStep;
import io.cucumber.java.Before;
import io.cucumber.java.BeforeStep;
import io.cucumber.java.Scenario;

public class AmazonHooks {

	@Before("@Smoke")
	public void setUpBrowser(Scenario sc) {
		System.out.println("launching chrome brower");
		System.out.println(sc.getName());
	}

//	@Before(order = 2)
//	public void setUpURL() {
//		System.out.println("launching url");
////	}

	@After("@Regression")
	public void tearDownClose(Scenario sc) {
		System.out.println("close the browser");
		System.out.println(sc.getName());
	}

//	@After(order = 1)
//	public void tearDownLogout() {
//		System.out.println("logout from the application");
//	}

//	@BeforeStep
//	public void takeScreenshot() {
//		System.out.println("takes screenshot after every step");
//	}
//
//	@AfterStep
//	public void refreshBrowser() {
//		System.out.println("refresh the browser after every step");
//	}
}
```

Runner:

```
package testRunners;

import io.cucumber.junit.Cucumber;
import io.cucumber.junit.CucumberOptions;
import org.junit.runner.RunWith;

@RunWith(Cucumber.class)
@CucumberOptions(plugin = { "pretty" }, features = {
"src/test/resources/AppFeatures/Search.feature" },
		// glue = {"/src/test/java/StepDefinitions/"} //this will
also work
		glue = { "StepDefinitions", "MyHooks" }, // this way of
defining also works
```

```
            tags = "@Smoke or @Regression")

//in features we can give path till the feature file itself but tomorrow
if n number of files are there and we want to run them
//then give the path till the package name
//glue tells where the step definitions are available.
//plugin = pretty means colorful and nice output.

public class AmazonSearchRunnerTest {

}
```

Feature file:

```
#Author: your.email@your.domain.com
#Keywords Summary :
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#Examples: Container for s table
#Background: List of steps run before each of the scenarios
#""" (Doc Strings)
#| (Data Tables)
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#<> (placeholder)
#""
## (Comments)
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Feature: Amazon Search
#this is the feature for which we want to write code and requirements
#one feature file can have multiple scenarios

@Smoke
Scenario: Search for a product apple macbook air
#here we give the scenario name
#below scenario (given, when, then, and) etc are known as steps
Given I have a search field on Amazon page
#given can be considered as pre-condition
When I search for product with name "apple" and price is 1000
#string is in double quotes
Then Product with name "apple" should be displayed
Then order id is 12345 and username is "naveen"

@Regression
Scenario: Search for a product iphone
Given I have a search field on Amazon page
When I search for product with name "iphone" and price is 2000
Then Product with name "iphone" should be displayed
Then order id is 5677 and username is "naveen automation"
```

Step def:

```
package StepDefinitions;

import io.cucumber.java.en.Given;
```

```
import io.cucumber.java.en.Then;
import io.cucumber.java.en.When;
import junit.framework.Assert;
import amazonImplementation.Product;
import amazonImplementation.Search;

public class SearchFeatureStepDef {

	Product product;
	Search search;

	@Given("I have a search field on Amazon page")
	public void i_have_a_search_field_on_amazon_page() {
		System.out.println("step 1 - i am on search page");
	}

	@When("^I search for product with name \"([^\"]+)\" and price is (\\d+)$")
	public void i_search_for_product_with_name_and_price_is(String productName, Integer
price) {
		System.out.println("step 2 - search product with name " + productName + " and
price is " + price);

		product = new Product(productName, price);
	}

	@Then("Product with name {string} should be displayed")
	public void product_with_name_should_be_displayed(String productName) {
		System.out.println("step 3 - product with " + productName + " : is displayed");
		search = new Search();
		String productNameReturned = search.displayProductName(product);
		System.out.println("returned product is " + productNameReturned);
		Assert.assertEquals(product.getProductName(), productNameReturned);
	}

	@Then("order id is {int} and username is {string}")
	public void order_id_is_and_username_is(Integer orderId, String userName) {
		// Write code here that turns the phrase above into concrete actions
		System.out.println("order id is " + orderId + " " + "and username is " + userName);
	}

}
```

Search java:

```
package amazonImplementation;

public class Search {

	public String displayProductName(Product product) { // here we will
take the product name returned from
		// product.java class
		if
(product.getProductList().contains(product.getProductName())) {
			return product.getProductName();
```

```
            } else {
                  return null;
            }
            // or we can simply write, because if above return is
satisfied that will be the
            // thing which will be returned to method
            // return null;
      }

}
```

Product java:

```
package amazonImplementation;

import java.util.ArrayList;
import java.util.List;

public class Product {

      private String productName;
      private int price;

      public Product(String productName, int price) {
            this.productName = productName;
            this.price = price;
      }

      public String getProductName() {
            return productName;
      }

      public void setProductName(String productName) {
            this.productName = productName;
      }

      public int getPrice() {
            return price;
      }

      public void setPrice(int price) {
            this.price = price;
      }

      // this method will list of products in the form of string
      public List<String> getProductList() {
            List<String> prodList = new ArrayList<>();
            prodList.add("apple");
            prodList.add("hp");
            prodList.add("samsung");
            prodList.add("bourbon");
            prodList.add("iphone");
            return prodList;
      }
```

```
}
```