Added code in feature file for column headers-

```
Feature: user registration

Scenario: user registration with different data
Given user is on registration page
When user enters the following details
       | naveen | automation | nav@gmail | 234324 | bangalore |
       | tom | manual | tom@yahoo | 23432 | pune |
       | robert | sdet | robert@michi | 234234 | london |
Then user registration is successful

Scenario: user registration with different data with column headers
Given user is on registration page
When user enters the following details with column headers
       |firstName | lastName | email | phone | location |
       | naveen | automation | nav@gmail | 234324 | bangalore |
       | tom | manual | tom@yahoo | 23432 | pune |
       | robert | sdet | robert@michi | 234234 | london |
Then user registration is successful
```

Step def updated-

```java
package StepDefinitions;

import java.util.List;
import java.util.Map;

import io.cucumber.datatable.DataTable;
import io.cucumber.java.en.Given;
import io.cucumber.java.en.Then;
import io.cucumber.java.en.When;

public class UserRegistration {

      @Given("user is on registration page")
      public void user_is_on_registration_page() {
        System.out.println("user navigates on registration page");
      }

      @When("user enters the following details")
      public void user_enters_the_following_details(DataTable dataTable)
{
           List<List<String>> userList=dataTable.asLists(String.class);//
this step will first take the String input.
           //as Lists returns List of List of Objects.
         //this for loop will print row by row data.
           for(List<String> e:userList) {
             System.out.println(e);
           }


      }

      @Then("user registration is successful")
      public void user_registration_is_successful() {
           System.out.println("user registration is successful");
      }

      @When("user enters the following details with column headers")
```

```java
        public void
user_enters_the_following_details_with_column_headers(DataTable
dataTable) {
        List<Map<String, String>> userMap=
dataTable.asMaps(String.class, String.class);
        System.out.println(userMap);
    }

}
```

Output-

```
<terminated> New_configuration [Cucumber Feature] C:\Program Files\Java\jdk1.8.0_202\bin\javaw.exe  (22-Jun-2023, 6:10:42 pm – 6:10:45 pm) [pid: 6528]
Scenario: user registration with different data # src/test/resources/AppFeatures/UserRegistration.feature:3
user navigates on registration page
  Given user is on registration page            # StepDefinitions.UserRegistration.user_is_on_registration_page()
[naveen, automation, nav@gmail, 234324, bangalore]
[tom, manual, tom@yahoo, 23432, pune]
[robert, sdet, robert@michi, 234234, london]
  When user enters the following details        # StepDefinitions.UserRegistration.user_enters_the_following_details
(io.cucumber.datatable.DataTable)
user registration is successful
  Then user registration is successful          # StepDefinitions.UserRegistration.user_registration_is_successful()

Scenario: user registration with different data with column headers # src/test/resources/AppFeatures/UserRegistration.feature:11
user navigates on registration page
  Given user is on registration page                        # StepDefinitions.UserRegistration.user_is_on_registration_page()
[{firstName=naveen, lastName=automation, email=nav@gmail, phone=234324, location=bangalore}, {firstName=tom, lastName=manual,
email=tom@yahoo, phone=23432, location=pune}, {firstName=robert, lastName=sdet, email=robert@michi, phone=234234, location=london}]
  When user enters the following details with column headers        #
StepDefinitions.UserRegistration.user_enters_the_following_details_with_column_headers(io.cucumber.datatable.DataTable)
user registration is successful
  Then user registration is successful                      # StepDefinitions.UserRegistration.user_registration_is_successful()

2 Scenarios (2 passed)
6 Steps (6 passed)
0m0.517s
```
Writable   Smart Insert   42 : 1 [1284]

This is the list of map-

```
  6
  7  [
  8   {firstname=naveen, lastname=automation, email=nav@gmail.com, phone=99999, city=Bangalore},
  9   {firstname=tom, lastname=peter, email=tom@gmail.com, phone=99999, city=London},
      {firstname=lisa, lastname=dsouza, email=lisa@gmail.com, phone=8887777, city=SFO}
 10  ]
 11
```

Added below line of code in step def to see output-

```java
34
35⊖    @When("user enters the following details with column headers")
36     public void user_enters_the_following_details_with_column_headers(DataTable dataTable) {
37         List<Map<String, String>> userMap= dataTable.asMaps(String.class, String.class);
38         System.out.println(userMap);
39         System.out.println(userMap.get(0).get("firstName")); //get(0) will go to the 0th guy in list of maps. first row of the list.
40         //To retrieve value from map use the get method and pass in the key, get("firstname").
41     }
42
43 }
44
```
Console ✕

Output-

```
Scenario: user registration with different data with column headers # src/test/resources/AppFeatures/UserRegistration.feature:11
user navigates on registration page
  Given user is on registration page                        # StepDefinitions.UserRegistration.user_is_on_registration_page()
[{firstName=naveen, lastName=automation, email=nav@gmail, phone=234324, location=bangalore}, {firstName=tom, lastName=manual,
email=tom@yahoo, phone=23432, location=pune}, {firstName=robert, lastName=sdet, email=robert@michi, phone=234234, location=london}]
naveen
  When user enters the following details with column headers        #
StepDefinitions.UserRegistration.user_enters_the_following_details_with_column_headers(io.cucumber.datatable.DataTable)
user registration is successful
  Then user registration is successful                      # StepDefinitions.UserRegistration.user_registration_is_successful()

2 Scenarios (2 passed)
6 Steps (6 passed)
0m0.529s
```

Added new line of code-

```
34
35⊝    @When("user enters the following details with column headers")
36     public void user_enters_the_following_details_with_column_headers(DataTable dataTable) {
37         List<Map<String, String>> userMap= dataTable.asMaps(String.class, String.class);
38     //  System.out.println(userMap);
39     //  System.out.println(userMap.get(0).get("firstName")); //get(0) will go to the 0th guy in list
40         //To retrieve value from map use the get method and pass in the key, get("firstname").
41
42         //using for loop to print the values of all columns
43         for(Map<String, String> e:userMap) {
44             System.out.println(e.get("firstName"));
45             System.out.println(e.get("lastName"));
46             System.out.println(e.get("email"));
47             System.out.println(e.get("phone"));
48             System.out.println(e.get("location"));|
49         }
50     }
51
52 }
53
```
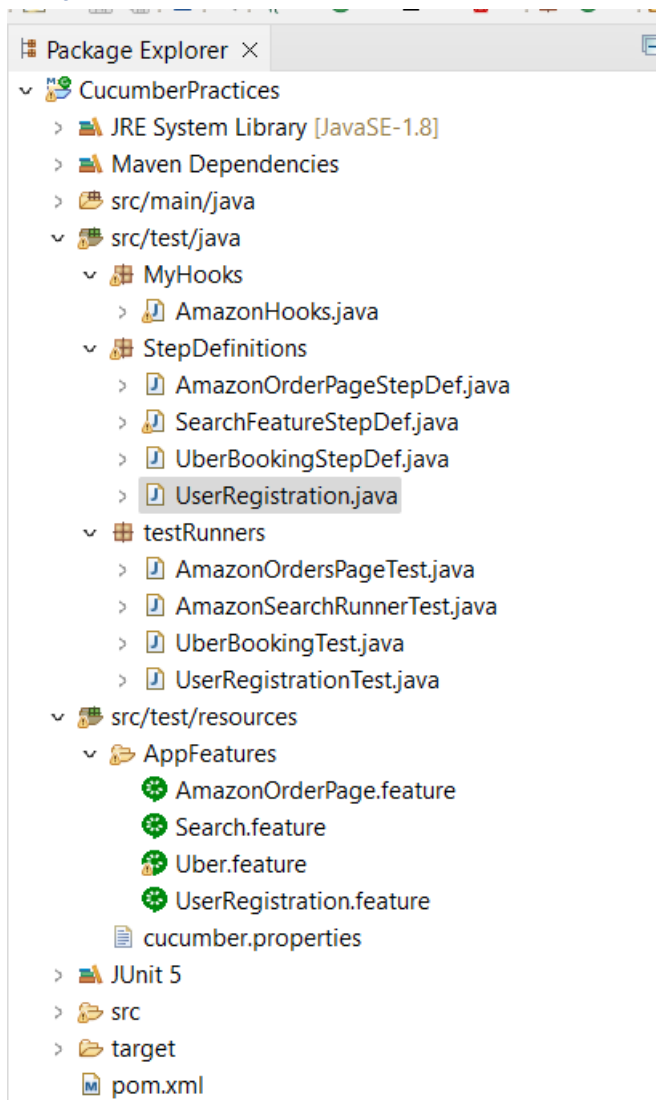
Output-

```
Scenario: user registration with different data with column headers # :
user navigates on registration page
  Given user is on registration page                                # :
naveen
automation
nav@gmail
234324
bangalore
tom
manual
tom@yahoo
23432
pune
robert
sdet
robert@michi
234234
london
  When user enters the following details with column headers        #
StepDefinitions.UserRegistration.user_enters_the_following_details_with
user registration is successful
```

Project structure-

Codes-

Feature:

```gherkin
Feature: user registration

Scenario: user registration with different data
Given user is on registration page
When user enters the following details
        | naveen | automation | nav@gmail | 234324 | bangalore |
        | tom | manual | tom@yahoo | 23432 | pune |
        | robert | sdet | robert@michi | 234234 | london |
Then user registration is successful

Scenario: user registration with different data with column headers
Given user is on registration page
When user enters the following details with column headers
        |firstName | lastName | email | phone | location |
        | naveen | automation | nav@gmail | 234324 | bangalore |
        | tom | manual | tom@yahoo | 23432 | pune |
        | robert | sdet | robert@michi | 234234 | london |
Then user registration is successful
```

Step def:

```java
package StepDefinitions;

import java.util.List;
import java.util.Map;

import io.cucumber.datatable.DataTable;
import io.cucumber.java.en.Given;
import io.cucumber.java.en.Then;
import io.cucumber.java.en.When;

public class UserRegistration {

	@Given("user is on registration page")
	public void user_is_on_registration_page() {
	  System.out.println("user navigates on registration page");
	}

	@When("user enters the following details")
	public void user_enters_the_following_details(DataTable dataTable)
{
		List<List<String>> userList=dataTable.asLists(String.class);//
this step will first take the String input.
		//as Lists returns List of List of Objects.
	  //this for loop will print row by row data.
	  for(List<String> e:userList) {
	    System.out.println(e);
	  }


	}

	@Then("user registration is successful")
	public void user_registration_is_successful() {
		System.out.println("user registration is successful");
	}

	@When("user enters the following details with column headers")
	public void
user_enters_the_following_details_with_column_headers(DataTable
dataTable) {
		List<Map<String, String>> userMap=
dataTable.asMaps(String.class, String.class);
	//	System.out.println(userMap);
	//	System.out.println(userMap.get(0).get("firstName")); //get(0)
will go to the 0th guy in list of maps. first row of the list.
		//To retrieve value from map use the get method and pass in the
key, get("firstname").

		//using for loop to print the values of all columns
		for(Map<String, String> e:userMap) {
			System.out.println(e.get("firstName"));
			System.out.println(e.get("lastName"));
			System.out.println(e.get("email"));
			System.out.println(e.get("phone"));
			System.out.println(e.get("location"));
		}
	}

}
```