Repo link : https://github.com/hindujar/Phase2practiceproject3.git

PRACTICE PROJECT

Aim:

To Develop an E-learning Application Using TDD with TestNG.

STEPS

Step 1:

SetUp Maven Project

Create a new Maven project and configure the necessary dependencies in your pom.xml file. For this example, we'll use TestNG for testing:

Step 2:

Create Test Classes:

Write your test classes and test methods. In this example, we'll create a test class for a Course entity:

Step 3:

Create the Course Class:

Create the Course class that your test class references:

Step 4:

Implement the Application:

With the tests in place, you can now start implementing the e-learning application by creating additional classes for managing courses, users, enrollments, and more.

Step 5:

Follow the TDD Process:

Continue following the TDD process by writing tests for new features or modifying existing ones as you add functionality to your e-learning application.

Remember that this is a basic outline, and a real-world e-learning application would involve more complex features, including database integration, user management, course content, and much more. TDD ensures that your application remains robust and reliable as it evolves

Source Code 1 :

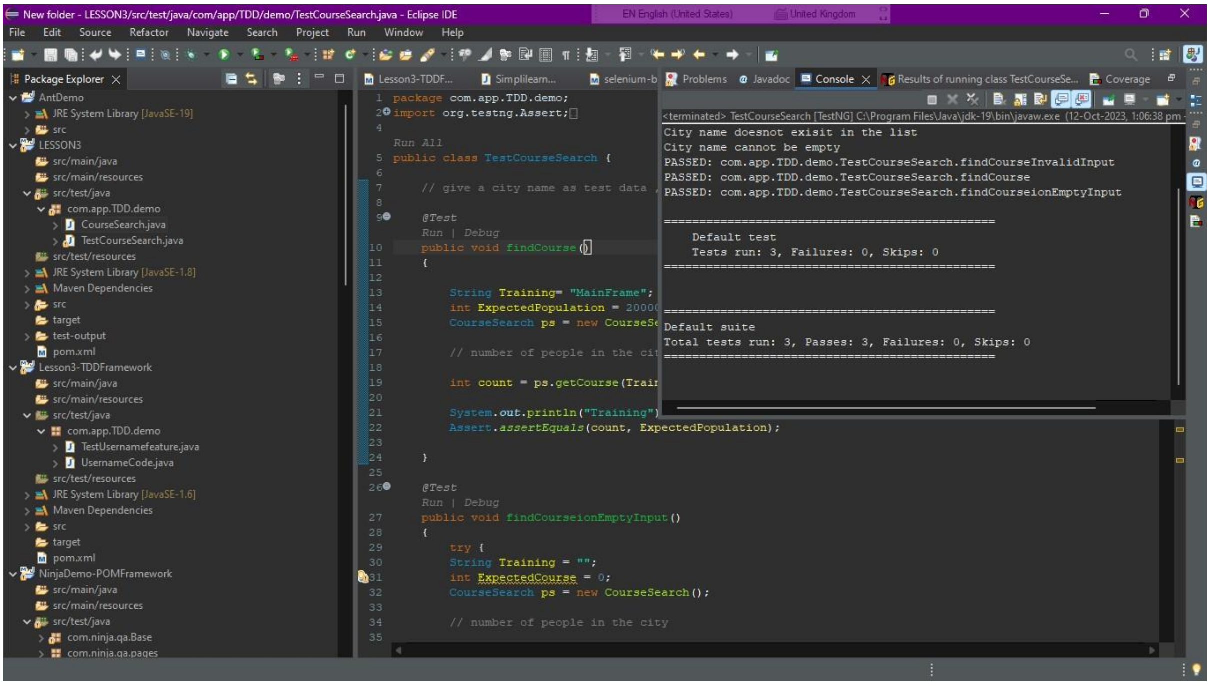
```
        package com.app.TDD.demo;

import java.util.HashMap;

import java.util.Map;


public class CourseSearch {


        private Map<String, Integer> getCoursedata() {


                Map<String, Integer> CourseMap = new HashMap<>();

                CourseMap.put("Data Science", 1000000);

                CourseMap.put("Cyber Security", 25000000);

                CourseMap.put("Cloud Computing", 2000000);

                CourseMap.put("Big Data", 500000);
                return CourseMap;
        }

        public int getCourse(String Training) {

                Map<String, Integer> CourseMap = null ;
                int count =0;

                if(Training.isEmpty())
                {
                    throw new NullPointerException("Course name cannot be
empty");
                }
                CourseMap = getCoursedata();

                if(!CourseMap.containsKey(Training))
                {
                    throw new NullPointerException("Course name doesnot
exist");
                }
                else {
                count = CourseMap.get(Training);
                }
                return count;
    }



}
```

Source Code 2:

```
package com.app.TDD.demo;
import org.testng.Assert;
import org.testng.annotations.Test;

public class TestCourseSearch {



    @Test
    public void findCourse()
    {

        String Training= "Cloud Computing";
        int ExpectedPopulation = 2000000;
        CourseSearch ps = new CourseSearch();

        // number of people in the city
        int count = ps.getCourse(Training);


        System.out.println("Training");
        Assert.assertEquals(count, ExpectedPopulation);


    }


    @Test
    public void findCourseionEmptyInput()
    {
        try {
        String Training = "";
        int ExpectedCourse = 0;
        CourseSearch ps = new CourseSearch();

        // number of people in the city


        int count = ps.getCourse(Training);
        }


        catch(NullPointerException e)
        {
            System.out.println("Training name cannot be empty");
        }




    }


    @Test
    public void findCourseInvalidInput()
    {
        try {
        String Training = "Hyderabad";
        int ExpectedCourse = 700000;
        CourseSearch ps = new CourseSearch();

        // number of people in the city

        int count = ps.getCourse(Training);
        }



        catch(NullPointerException e1)
        {
            System.out.println("City name doesnot exisit in the list");
        }
```

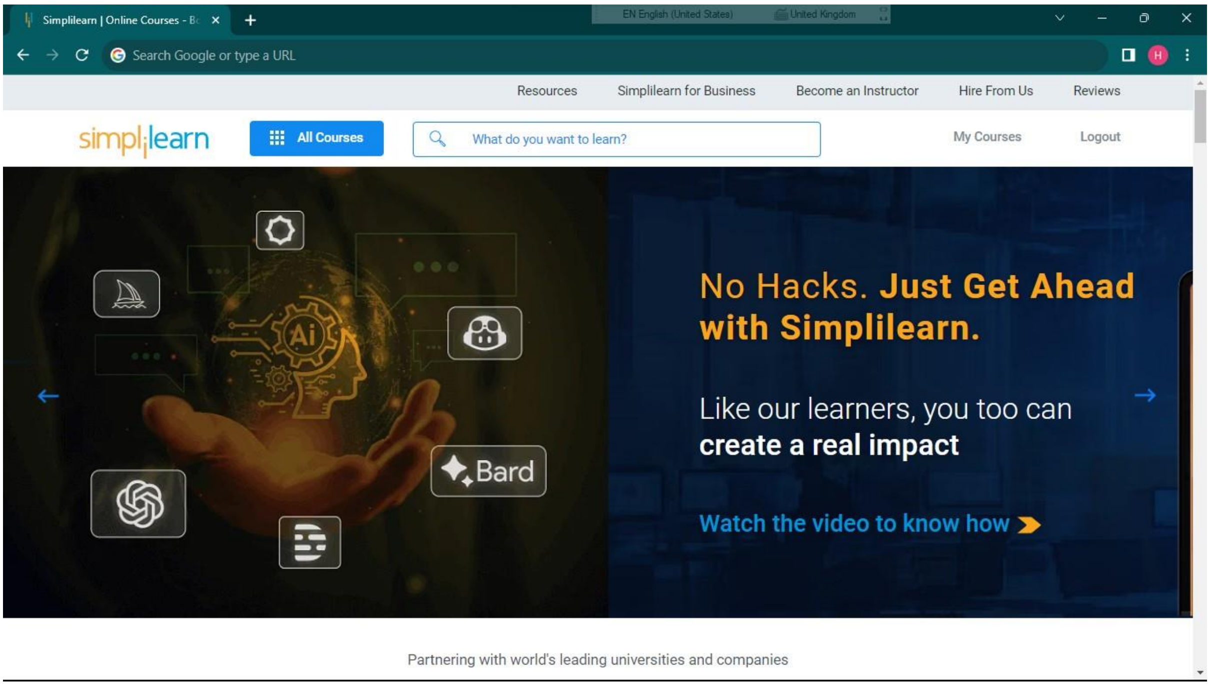
```
}}
```

Screen shot:



```
package com.app.TDD.demo;
import org.testng.Assert;

Run All
public class TestCourseSearch {

    // give a city name as test data

    @Test
    Run | Debug
    public void findCourse()
    {

        String Training= "MainFrame";
        int ExpectedPopulation = 20000
        CourseSearch ps = new CourseSe

        // number of people in the cit

        int count = ps.getCourse(Trair

        System.out.println("Training")
        Assert.assertEquals(count, ExpectedPopulation);

    }

    @Test
    Run | Debug
    public void findCourseionEmptyInput()
    {
        try {
        String Training = "";
        int ExpectedCourse = 0;
        CourseSearch ps = new CourseSearch();

        // number of people in the city
```

```
<terminated> TestCourseSearch [TestNG] C:\Program Files\Java\jdk-19\bin\javaw.exe (12-Oct-2023, 1:06:38 pm
City name doesnot exisit in the list
City name cannot be empty
PASSED: com.app.TDD.demo.TestCourseSearch.findCourseInvalidInput
PASSED: com.app.TDD.demo.TestCourseSearch.findCourse
PASSED: com.app.TDD.demo.TestCourseSearch.findCourseionEmptyInput

===============================================
    Default test
    Tests run: 3, Failures: 0, Skips: 0
===============================================


===============================================
Default suite
Total tests run: 3, Passes: 3, Failures: 0, Skips: 0
===============================================
```

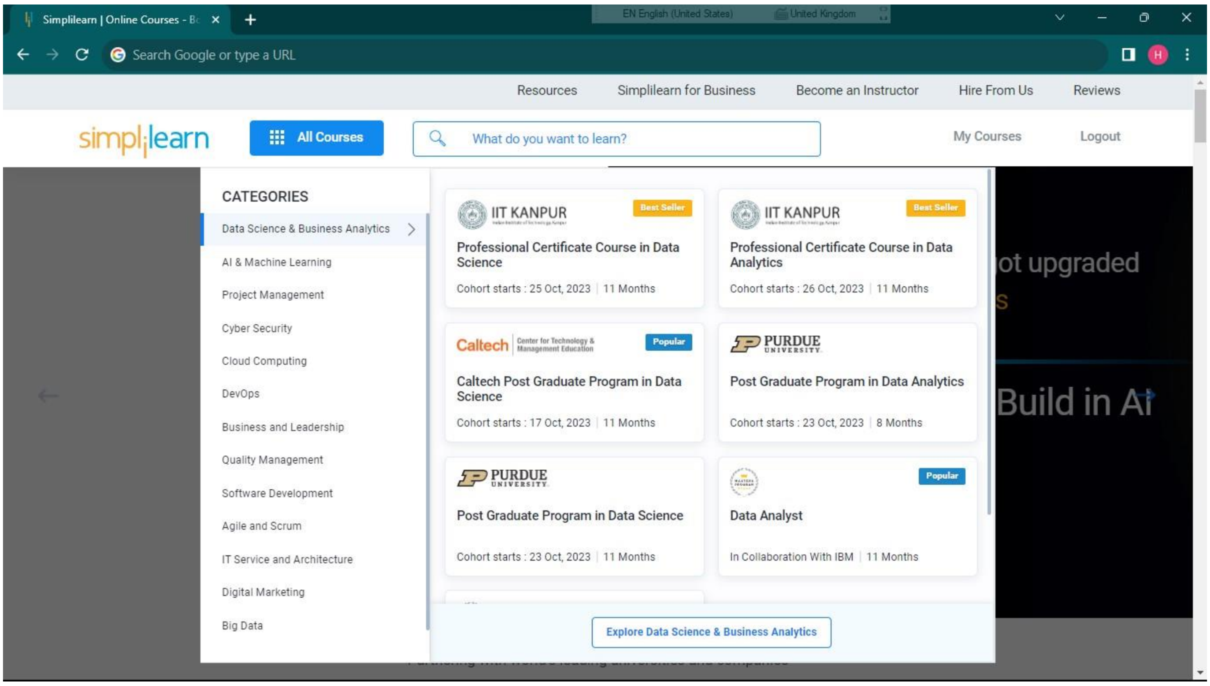


No Hacks. **Just Get Ahead with Simplilearn.**

Like our learners, you too can **create a real impact**

Watch the video to know how

Partnering with world's leading universities and companies



IIT KANPUR — Best Seller
Professional Certificate Course in Data Science
Cohort starts : 25 Oct, 2023 | 11 Months

IIT KANPUR — Best Seller
Professional Certificate Course in Data Analytics
Cohort starts : 26 Oct, 2023 | 11 Months

Caltech Center for Technology & Management Education — Popular
Caltech Post Graduate Program in Data Science
Cohort starts : 17 Oct, 2023 | 11 Months

PURDUE UNIVERSITY
Post Graduate Program in Data Analytics
Cohort starts : 23 Oct, 2023 | 8 Months

PURDUE UNIVERSITY
Post Graduate Program in Data Science
Cohort starts : 23 Oct, 2023 | 11 Months

Popular
Data Analyst
In Collaboration With IBM | 11 Months