

IDE used: Eclipse IDE

Server used : Tomcat (XAMPP)

Database used: MySQL (XAMPP)

1	<p>Write a Servlet a program to implement the session tracking mechanism using HttpSession for the following form</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"><p>HTML form</p><p>First name: <input type="text"/></p><p>Last name: <input type="text"/></p><p>E-mail: <input type="text"/></p><p><input type="radio"/> Male <input type="radio"/> Female</p><p><input type="button" value="Submit"/> <input type="button" value="Reset"/></p></div>
---	---

Source Code:

index.html

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
```

```
    <title>Sessiontracking</title>
```

```
  </head>
```

```
  <body>
```

```
    <center>
```

```
      <h1>HTML Form</h1>
```

```
      <form action="FirstServlet">
```

```

FirstName : <input type="text" name="fname" /><br><br>
LastName: <input type="text" name="lname" /><br><br>
Email: <input type="text" name="email" /><br><br>
Gender: <br>

<input type="radio" id="male" name="gender" value="male">
<label for="male">Male</label><br>

<input type="radio" id="female" name="gender" value="female">
<label for="female">Female</label><br><br>

<input type="submit" value="submit" /> &nbsp; <input type="reset"
value="reset" /><br>

</form>

</center>

</body>

</html>

```

FirstServlet.java

```

import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

```

```
import javax.servlet.http.HttpSession;
```

```
@WebServlet("/FirstServlet")
```

```
public class FirstServlet extends HttpServlet{
```

```
    public void doGet(HttpServletRequest req,HttpServletResponse rsp) throws  
    IOException, ServletException
```

```
    {
```

```
        try
```

```
        {
```

```
            rsp.setContentType("text/html");
```

```
            PrintWriter out = rsp.getWriter();
```

```
            String n=req.getParameter("fname");
```

```
            out.println("<center>");
```

```
            out.println("Welcome ,"+ n +". Thank you for the response");
```

```
            HttpSession session=req.getSession();
```

```
            session.setAttribute("uname",n);
```

```
            out.println("<br>");
```

```
            out.println("<br>");
```

```
            out.print("<a href='SecondServlet'>visit next page to track session and  
invalidate it</a>");
```

```
            out.println("<center>");
```

```
            out.close();
```

```
        } catch(IOException e){System.out.println(e);}
    }
}
```

SecondServlet.java

```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

@WebServlet("/SecondServlet")

public class SecondServlet extends HttpServlet{

    public void doGet(HttpServletRequest req, HttpServletResponse rsp)throws
IOException ,ServletException {

        try {

            rsp.setContentType("text/html");

            PrintWriter out = rsp.getWriter();

            HttpSession session=req.getSession(false);

            String n=(String)session.getAttribute("uname");

            out.println("Hello "+n);
```

```

session.invalidate();

    out.println("Your session invalidated");

    out.println("<center>");

    out.print("<a href='http://localhost:8080/sessiontracking/'>Click
here to redirect to HTML form</a>");

    out.println("<center>");

    out.close();

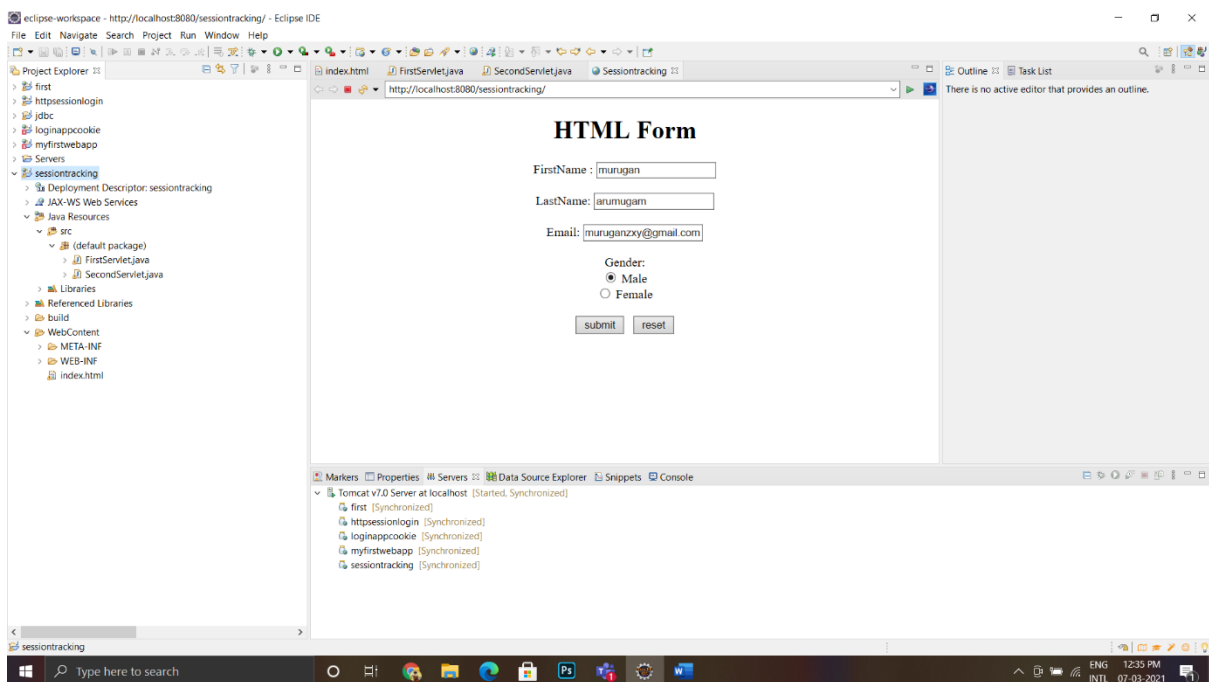
} catch(IOException e){System.out.println(e);}

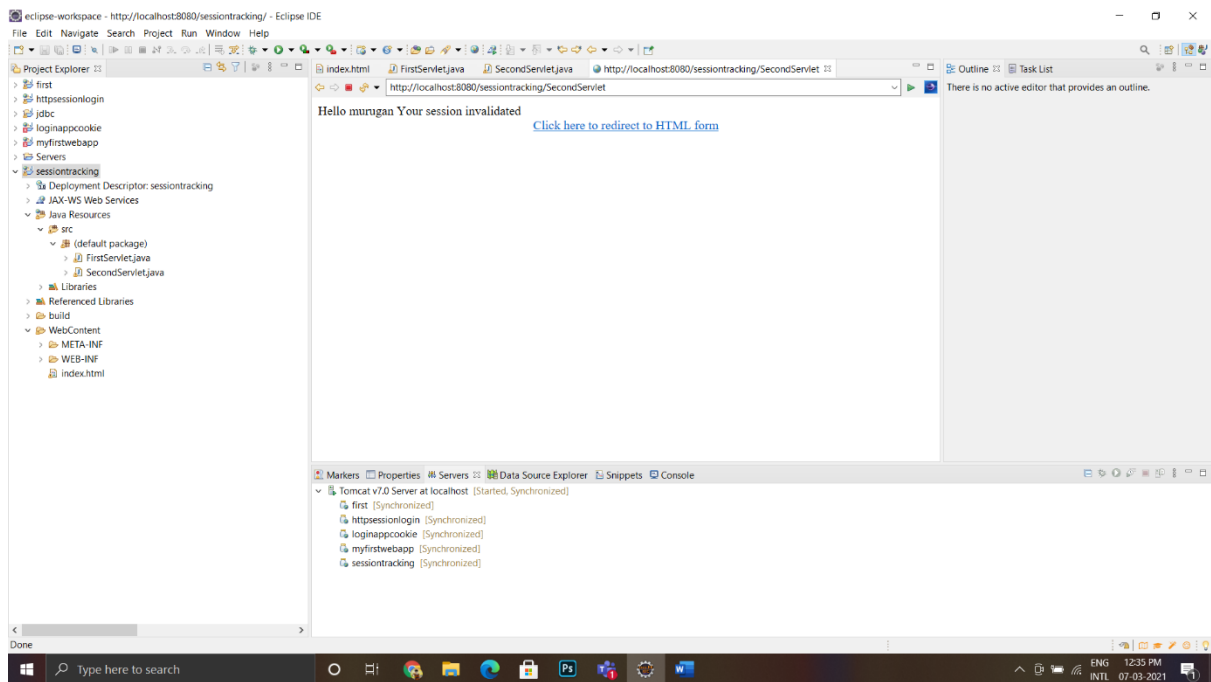
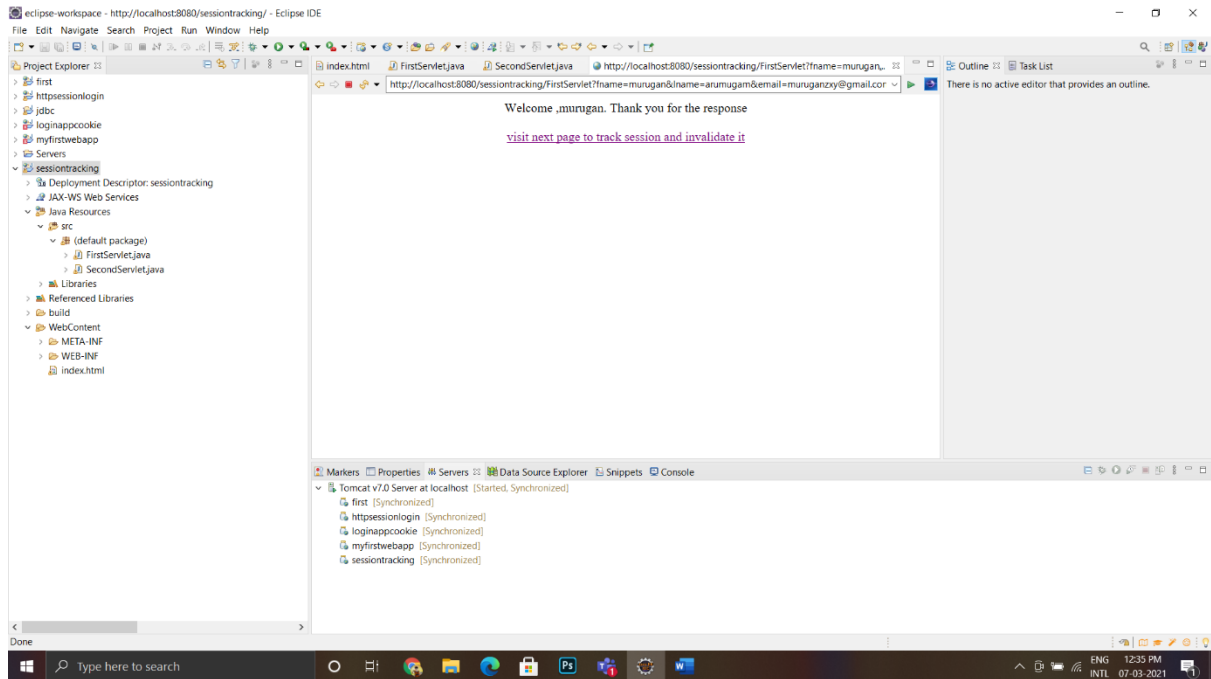
}

}

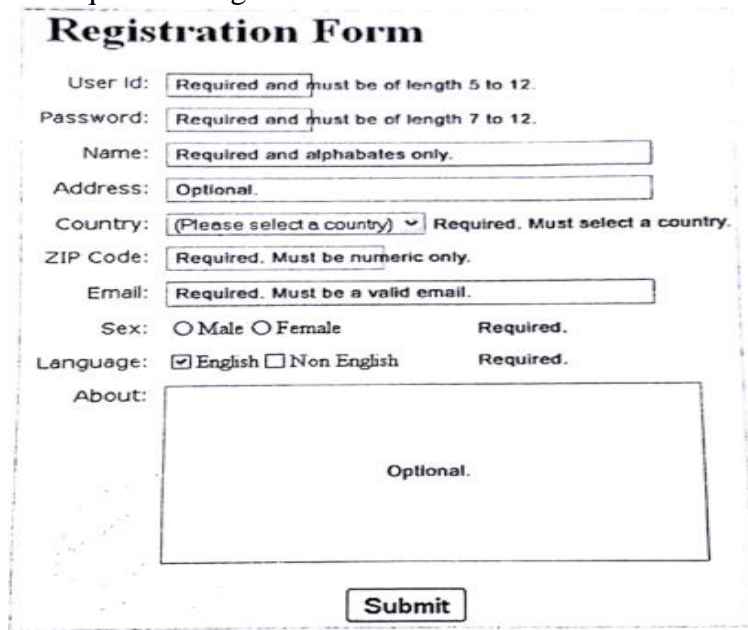
```

Output





- 2 Create a servlet program to implement the registration form to validate all the field as per the requirements given below .



The image shows a web form titled "Registration Form". It contains the following fields and requirements:

- User Id: Required and must be of length 5 to 12.
- Password: Required and must be of length 7 to 12.
- Name: Required and alphabates only.
- Address: Optional.
- Country: (Please select a country) Required. Must select a country.
- ZIP Code: Required. Must be numeric only.
- Email: Required. Must be a valid email.
- Sex: ☐ Male ☐ Female Required.
- Language: ☒ English ☐ Non English Required.
- About: Optional.

A "Submit" button is located at the bottom right of the form.

Source Code :

index.html

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
```

```
    <title>Form validation</title>
```

```
  </head>
```

```
  <body>
```

```
    <center>
```

```
      <h1>Registration Form</h1>
```

```
    </center>
```

```
    <form action="Validate" method="POST">
```

```
  <pre>
```

User ID : <input type="text" name="userid" />

Password : <input type="text" name="pwd" />

Name : <input type="text" name="fname" />

Address : <textarea id="add" name="address" rows="4" cols="50"></textarea>

Country : <select id="con" name="country">
 <option value="">Select your option</option>
 <option value="India">India</option>
 <option value="USA">USA</option>
 <option value="UK">Uk</option>
 <option value="UAE">UAE</option>
</select>

Zip Code : <input type="text" name="zipcode" />

Email : <input type="email" name="emailName" />

Sex : <input type="radio" id="male" name="gender" value="male"><label for="male">Male</label>

 <input type="radio" id="female" name="gender" value="female"><label for="female">Female</label>

Language :<input type="checkbox" id="l1" name="lan1" value="English"><label for="lan1">English</label>

<input type="checkbox" id="l2" name="lan2" value="Non English"><label for="lan2">Non English</label>

About : <textarea id="about" name="about" rows="4" cols="50"></textarea>

</pre>

<center> <input type="submit" value="submit" /> </center>

</form>

</body>

</html>

Validate.java

```
import java.io.IOException;
import java.io.PrintWriter;
import java.util.ArrayList;
import java.util.List;
import java.util.regex.Pattern;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
```

```

import javax.servlet.http.HttpServletResponse;

@WebServlet("/Validate")

public class Validate extends HttpServlet{

    public void doPost(HttpServletRequest req,HttpServletResponse rsp)throws
    IOException,ServletException

    {

        List<String> al = new ArrayList<String>();

        rsp.setContentType("text/html");

        PrintWriter out = rsp.getWriter();


        String id = req.getParameter("userid");

        String pwd = req.getParameter("pwd");

        String name = req.getParameter("fname");

        String country = req.getParameter("country");

        String zipcode = req.getParameter("zipcode");

        String email = req.getParameter("emailName");

        String emailRegex = "[a-zA-Z0-9_+&*-]+(?:\\." +
            "[a-zA-Z0-9_+&*-]+)*@" +
            "(?:[a-zA-Z0-9-]+\\.)+[a-z" +
            "A-Z]{2,7}$";

        Pattern pat = Pattern.compile(emailRegex);

        String gender = req.getParameter("gender");

        String lan1 = req.getParameter("lan1");
    }
}

```

```
String lan2 = req.getParameter("lan2");

if(id.equals("") || null == id )
{
    al.add("id should not be empty");
}

if(id.length() < 5 || id.length() > 12)
{

    al.add("userid should be 5 to 12 characters");

}

if(pwd.equals("") || null == pwd )
{
    al.add("password should not be empty");
}

if(pwd.length() < 7 || pwd.length() > 12)
{

    al.add("password should be 7 to 12 characters");

}

if (name.equals("") || null == name) {
```

```
        al.add("Name can't be empty.");
    }

    if(!name.matches("^[a-zA-Z]*$"))
    {
        al.add("Name should be in letters");
    }

    if(country.equals("") || null == country)
    {
        al.add("Country should be selected!!");
    }

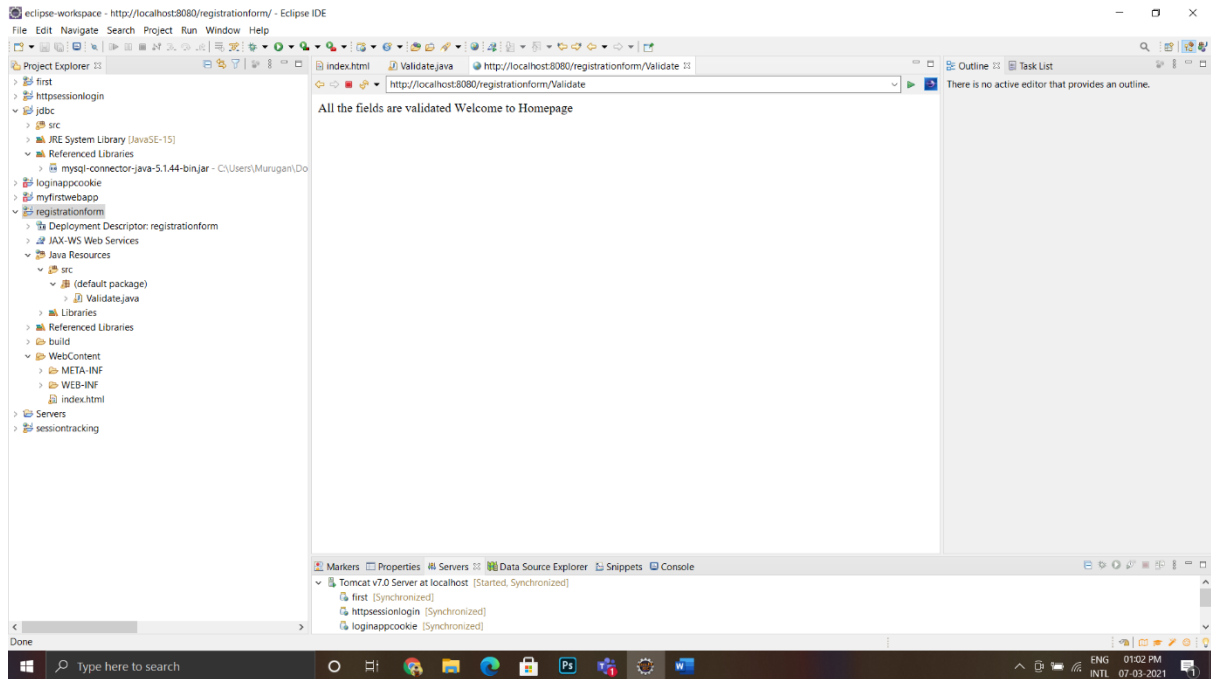
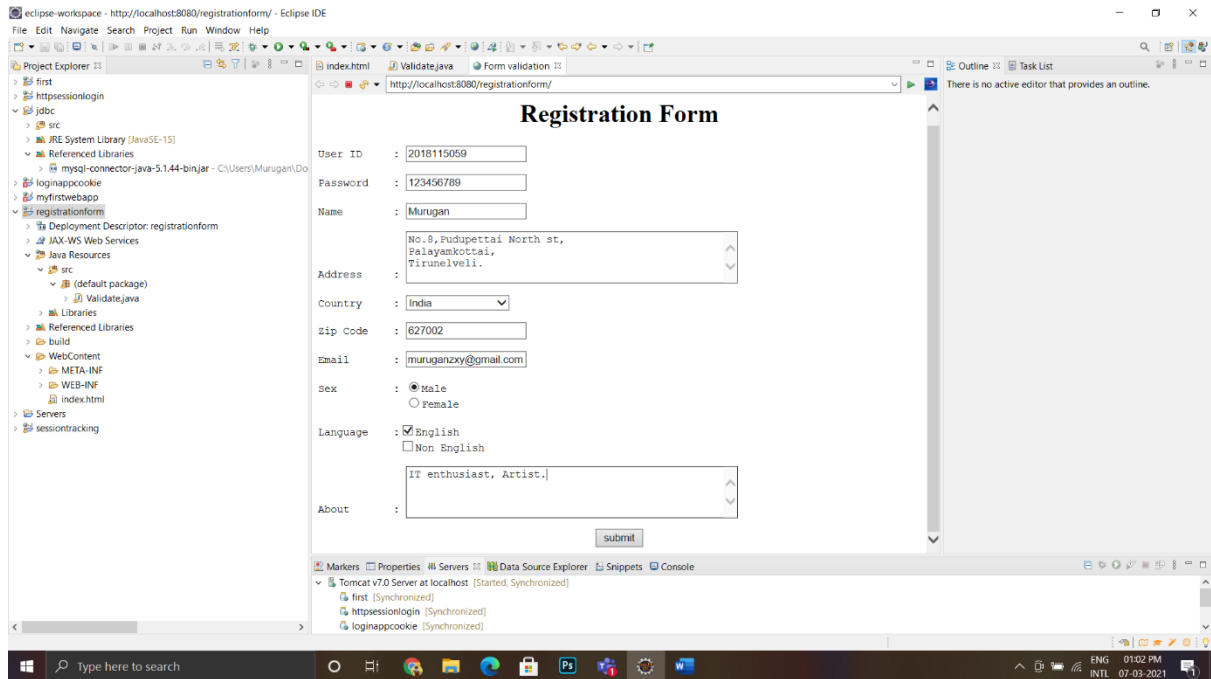
    if(zipcode.equals("") || null == zipcode || zipcode.matches("^[a-zA-Z]*$"))
    {
        al.add("zipcode should not be empty and should be a number");
    }

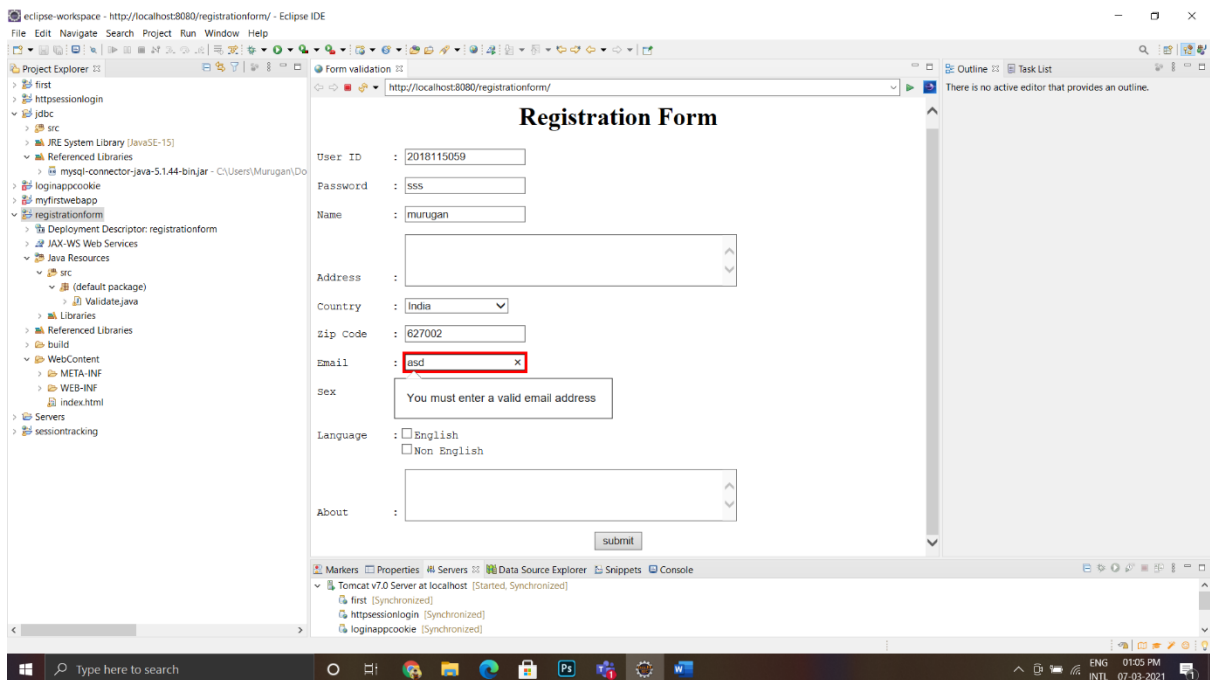
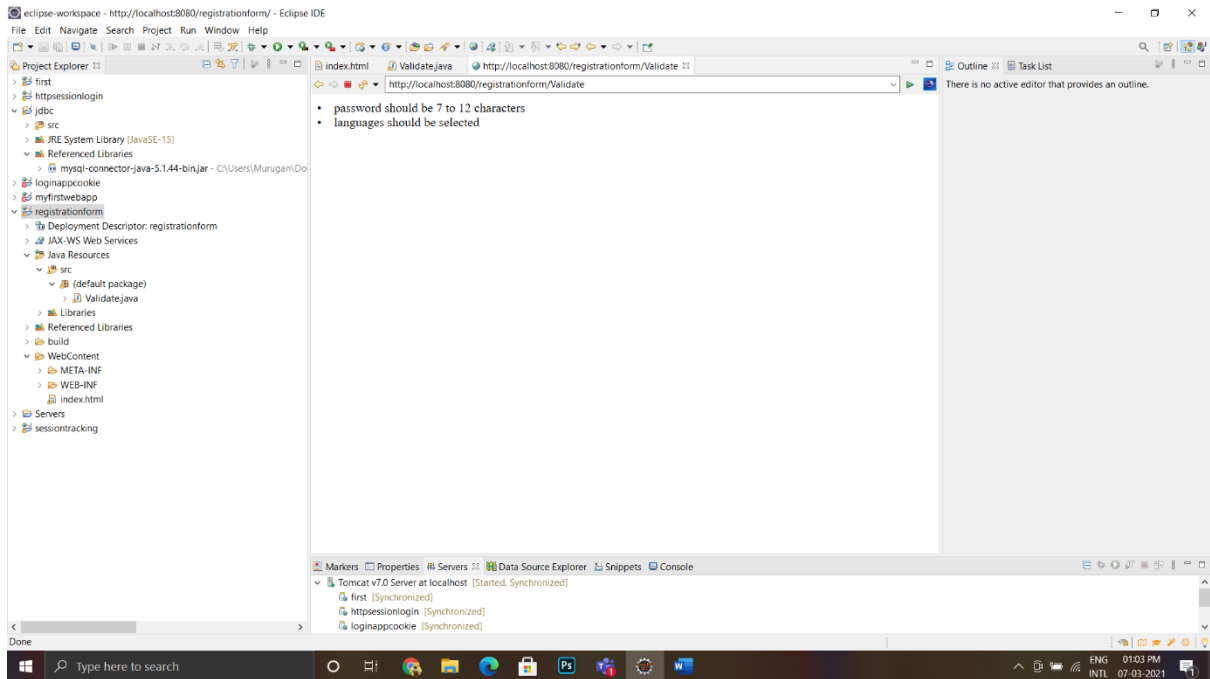
    if(!pat.matcher(email).matches() || email.equals(""))
    {
        al.add("email should not empty and should be valid email");
    }

    if(gender == null)
    {
        al.add("gender should be selected");
    }
}
```

```
    }  
    if(lan1 == null && lan2 == null)  
    {  
        al.add("languages should be selected");  
    }  
  
    for(String s: al) {  
        out.println("<li>" + s + "</li>");  
    }  
  
    if(al.isEmpty())  
    {  
        out.println("All the fields are validated Welcome to Homepage");  
    }  
}  
}
```

Output





3)

3) Develop a JSP application of a mark processing system showing the grade for a given mark and displaying the total number of students under each grade.

91-100	O
81-90	A+
71-80	A

61-70	B
51-60	C
<50	RA

Source code:

index.html

```
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>Mark Processing System</title>
  </head>
  <body>
    <center>
      <h1>JSP Application - Mark Processing System</h1>

      <h2>IP Lab Student Records</h2>
      <form action="insertgrade.jsp" method="post">
        <pre>
Roll No      : <input type="text" name="rollno" required />

Name         : <input type="text" name="fname" required />

Overall Mark : <input type="text" name="mark" required/>

        <input type="submit" value="submit" />
        </pre>
      </form>
    </center>
  </body>
</html>
```

insertgrade.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@page import="java.sql.*,java.util.*"%>
<%int no = Integer.parseInt(request.getParameter("mark"));%>
<%
String rollno = request.getParameter("rollno");
String name = request.getParameter("fname");
String grade = "";
// out.println(rollno);
// out.println(name);
// out.println(no);
if(no >= 91 && no <=100){
    grade = "O";
}
if(no >= 81 && no <=90) {
```



```

        grade = "A+";
    }
    if(no >= 71 && no <=80) {
        grade = "A";
    }
    if(no >= 61 && no <=70) {
        grade = "B";
    }
    if(no >= 51 && no <=60) {
        grade = "C";
    }
    if(no <= 50) {
        grade = "RA";
    }

    //    out.println(grade);
    try
    {
        Class.forName("com.mysql.jdbc.Driver");
        Connection conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/test",
            "root", "");
        Statement st=conn.createStatement();
        int i=st.executeUpdate("insert into
        grade(rollno,name,grade)values('"+rollno+"','"+name+"','"+grade+"')");
        out.println("Data is successfully inserted!");
        out.println("<br>");
        out.println("<a href='view.jsp'>"+<click here to view the student counts according
        to grade">"+</a><br><br><br>");
        out.println("");
        out.println("<a href='http://localhost:8080/markprocessingsystem/'>"+<click here
        to insert marks">"+</a>");
    }
    catch(Exception e)
    {
        System.out.print(e);
        e.printStackTrace();
    }

    %>

```

view.jsp

```

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@page import="java.sql.DriverManager"%>
<%@page import="java.sql.ResultSet"%>
<%@page import="java.sql.Statement"%>
<%@page import="java.sql.Connection"%>
<%@page import="java.sql.*,java.util.*"%>

<%
    Statement statement = null;
    ResultSet resultSet = null;
    try

```

```
{  
Class.forName("com.mysql.jdbc.Driver");  
Connection conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/test",  
"root", "");
```

```
statement=conn.createStatement();  
String sql ="SELECT COUNT(rollno) FROM grade where grade='A+'";  
ResultSet rs = statement.executeQuery(sql);
```

```
String Aplus="";  
while(rs.next()){  
Aplus = rs.getString(1);  
out.println("Grade A+: " +Aplus+" Students");  
}  
out.println("<br>");  
String sql1 = "SELECT COUNT(rollno) FROM grade where grade='O'";  
rs = statement.executeQuery(sql1);
```

```
String Ograde = "";  
while(rs.next()){  
Ograde = rs.getString(1);  
out.println("Grade O: " +Ograde+" Students");  
}  
out.println("<br>");
```

```
String sql2 = "SELECT COUNT(rollno) FROM grade where grade='A'";  
rs = statement.executeQuery(sql2);  
String Agrade="";  
while(rs.next()){  
Agrade = rs.getString(1);  
out.println("Grade A: " +Agrade+" Students");  
}  
out.println("<br>");
```

```
String sql3 = "SELECT COUNT(rollno) FROM grade where grade='B'";  
rs = statement.executeQuery(sql3);  
String Bgrade="";  
while(rs.next()){  
Bgrade = rs.getString(1);  
out.println("Grade B: " +Bgrade+" Students");  
}  
out.println("<br>");
```

```
String sql4 = "SELECT COUNT(rollno) FROM grade where grade='C'";  
rs = statement.executeQuery(sql4);
```

```
String Cgrade="";
while(rs.next()){
Cgrade = rs.getString(1);
out.println("Grade C: " +Cgrade+" Students");
}
out.println("<br>");
```

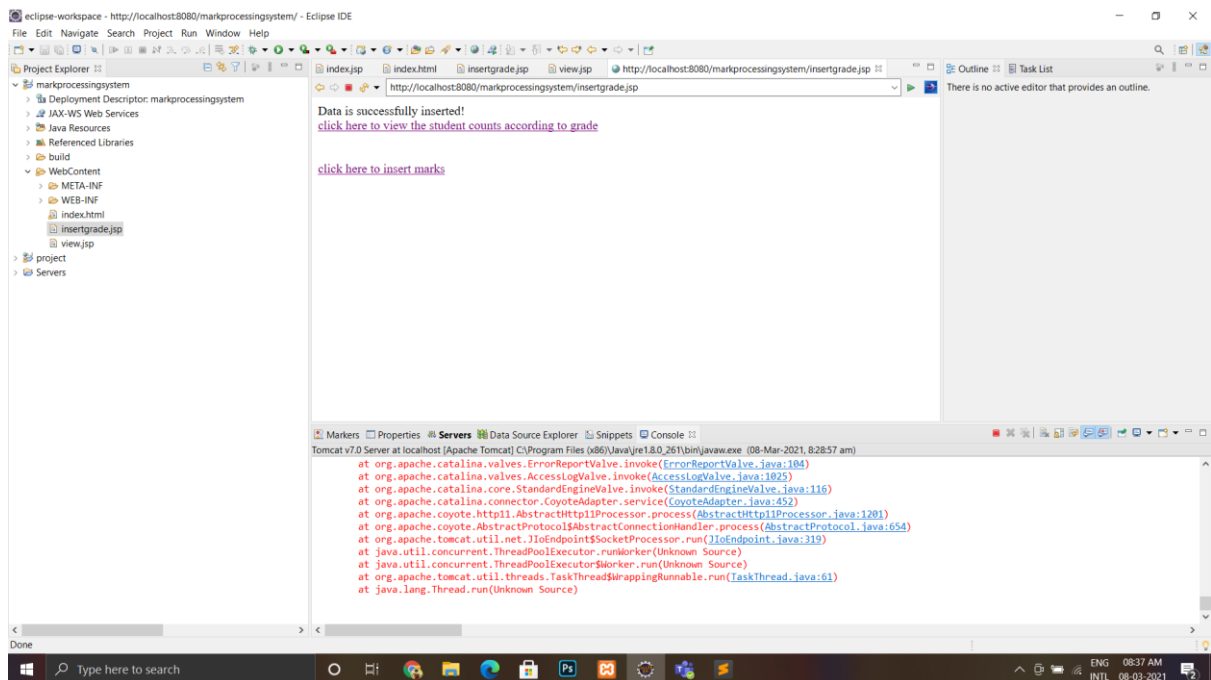
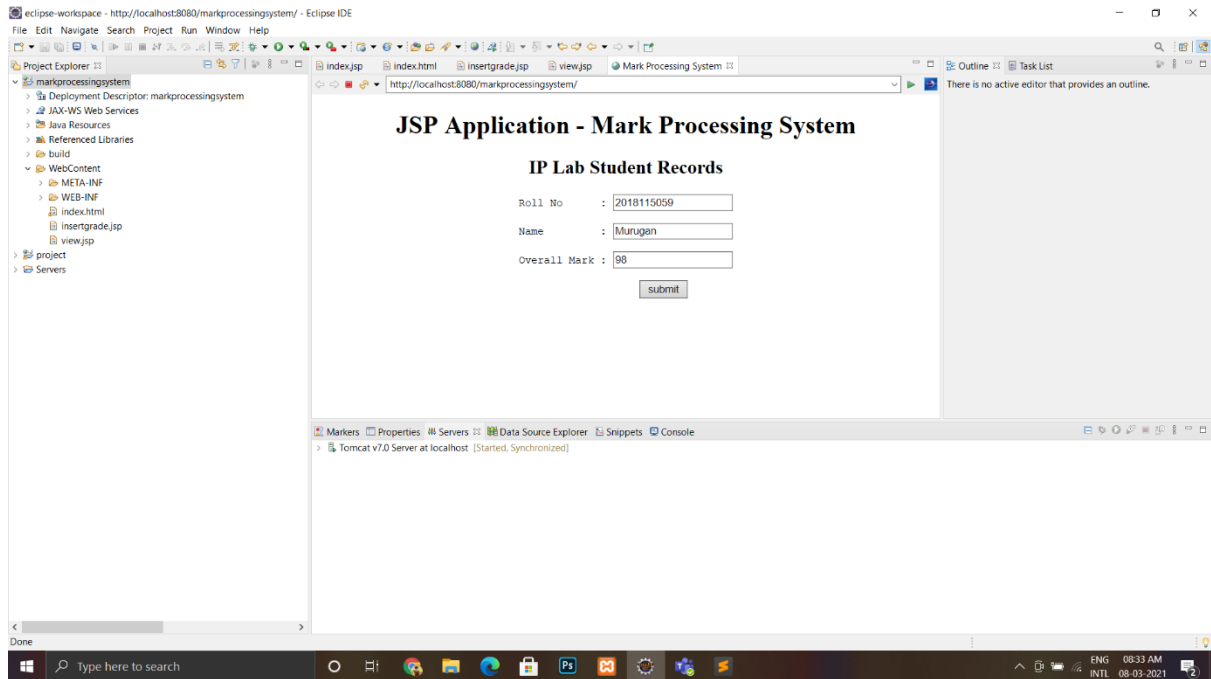
```
String sql5 = "SELECT COUNT(rollno) FROM grade where grade='RA'";
rs = statement.executeQuery(sql5);
String RAgrade="";
while(rs.next()){
RAgrade = rs.getString(1);
out.println("Grade RA: " +RAgrade+" Students");
}
out.println("<br>");
```

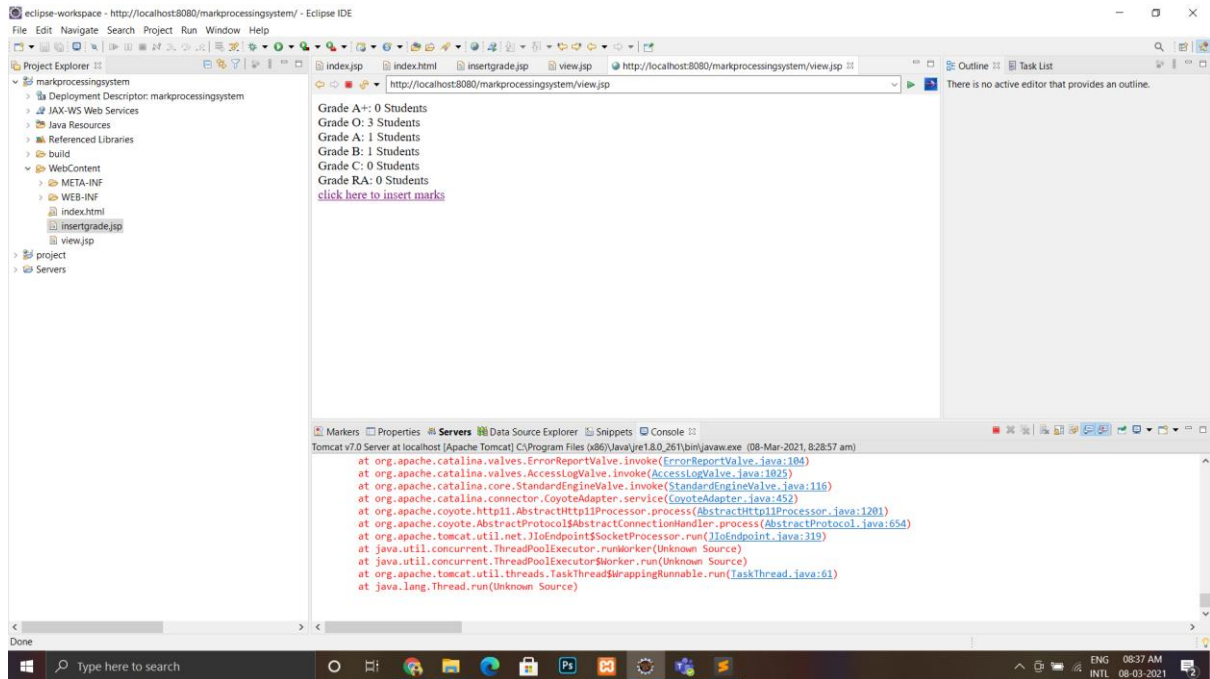
```
out.println("<a href='http://localhost:8080/markprocessingsystem/'>"+ "click here  
to insert marks"+ "</a>");
```

```
}
catch(Exception e)
{
System.out.print(e);
e.printStackTrace();
}
```

```
%>
```

Output:





4. Create a Student database for the 6th semester Results and establish JDBC connectivity using servlet/jsp code.

Source code:

index.html

```
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>Student Results</title>
  </head>
  <body>
    <center>
      <h1>IT Sixth sem Student Database system</h1>
      <form action="updateresult.jsp" method="POST">
        Roll no: <input type="text" name="rollno" />
        <br>
        <br>
        name: <input type="text" name="name" />
        <br>
        <br>
        Integrated Programming
        <br>
        <br>
        Theory Grade : <select name="tgrade1" id="tgrade1">
          <option value="">Select a grade</option>
          <option value="0">0</option>
          <option value="A+">A+</option>
          <option value="A">A</option>
```

```

                                <option value="B">B</option>
                                <option value="RA">RA</option>
                                </select>
                                <br>
                                <br>

                                <br>
                                <br>
                                Information Security
                                <br>
                                <br>
                                Theory Grade : <select name="tgrade2" id="tgrade2">
                                                <option value="">Select a grade</option>
                                                <option value="0">0</option>
                                                <option value="A+">A+</option>
                                                <option value="A">A</option>
                                                <option value="B">B</option>
                                                <option value="RA">RA</option>
                                                </select>
                                <br>
                                <br>

                                <br>
                                <br>
                                Parallel and Distributed Systems
                                <br>
                                <br>
                                Theory Grade : <select name="tgrade3" id="tgrade3">
                                                <option value="">Select a grade</option>
                                                <option value="0">0</option>
                                                <option value="A+">A+</option>
                                                <option value="A">A</option>
                                                <option value="B">B</option>
                                                <option value="RA">RA</option>
                                                </select>
                                <br>
                                <br>

                                <br>
                                <br>
                                Mobile Computing
                                <br>
                                <br>
                                Theory Grade : <select name="tgrade4" id="tgrade4">
                                                <option value="">Select a grade</option>
                                                <option value="0">0</option>
                                                <option value="A+">A+</option>
                                                <option value="A">A</option>
                                                <option value="B">B</option>
                                                <option value="RA">RA</option>
                                                </select>
                                <br>
                                <br>
```

```

        <br>
        <br>
        Integrated Programming Laboratory
        <br>
        <br>
        Lab Grade: <select name="lgrade1" id="lgrade1">
                    <option value="">Select a grade</option>
                    <option value="0">0</option>
                    <option value="A+">A+</option>
                    <option value="A">A</option>
                    <option value="B">B</option>
                    <option value="RA">RA</option>
                </select>
        <br>
        <br>

        <br>
        <br>
        Information Security and Mobile Computing Laboratory
        <br>
        <br>
        Lab Grade: <select name="lgrade2" id="lgrade2">
                    <option value="">Select a grade</option>
                    <option value="0">0</option>
                    <option value="A+">A+</option>
                    <option value="A">A</option>
                    <option value="B">B</option>
                    <option value="RA">RA</option>
                </select>
        <br>
        <br>
        <input type="submit" value="update" />
    </form>
</center>
</body>
</html>

```

updateresult.jsp

```

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@page import="java.sql.*,java.util.*"%>

<%
    String rollno = request.getParameter("rollno");
    String name = request.getParameter("name");
    String theorygrade1 = request.getParameter("tgrade1");
    String theorygrade2 = request.getParameter("tgrade2");
    String theorygrade3 = request.getParameter("tgrade3");
    String theorygrade4 = request.getParameter("tgrade4");

    String labgrade1 = request.getParameter("lgrade1");
    String labgrade2 = request.getParameter("lgrade2");

    try
    {
        Class.forName("com.mysql.jdbc.Driver");
        Connection conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/test",
            "root", "");
        Statement st=conn.createStatement();

```

```

int i=st.executeUpdate("insert into
integratedprogramming(rollno,name,tgrade1,tgrade2,tgrade3,tgrade4,lgrade1,lgrade2)
values('"+rollno+"','"+name+"','"+theorygrade1+"','"+theorygrade2+"','"+theorygrad
e3+"','"+theorygrade4+"','"+labgrade1+"','"+labgrade2+"')");
out.println("results updated is successfully inserted!");
out.println("<br>");
out.println("<a href='viewresults.jsp'>"+ "view the student results"+"</a>");
}
catch(Exception e)
{
System.out.print(e);
e.printStackTrace();
}

```

```
%>
```

viewresults.jsp

```

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@page import="java.sql.DriverManager"%>
<%@page import="java.sql.ResultSet"%>
<%@page import="java.sql.Statement"%>
<%@page import="java.sql.Connection"%>
<%

String driver = "com.mysql.jdbc.Driver";
String connectionUrl = "jdbc:mysql://localhost:3306/";
String database = "test";
String userid = "root";
String password = "";
try {
Class.forName(driver);
} catch (ClassNotFoundException e) {
e.printStackTrace();
}
Connection connection = null;
Statement statement = null;
ResultSet resultSet = null;
%>
<!DOCTYPE html>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>Results</title>
</head>
<body>
<h1>Retrieve Student Results</h1>
<table border="1">
<tr>
<td>Roll no</td>
<td>Name</td>
<td>Integrated Programming </td>
<td>Information Security</td>
<td>Parallel and Distributed Systems</td>

```

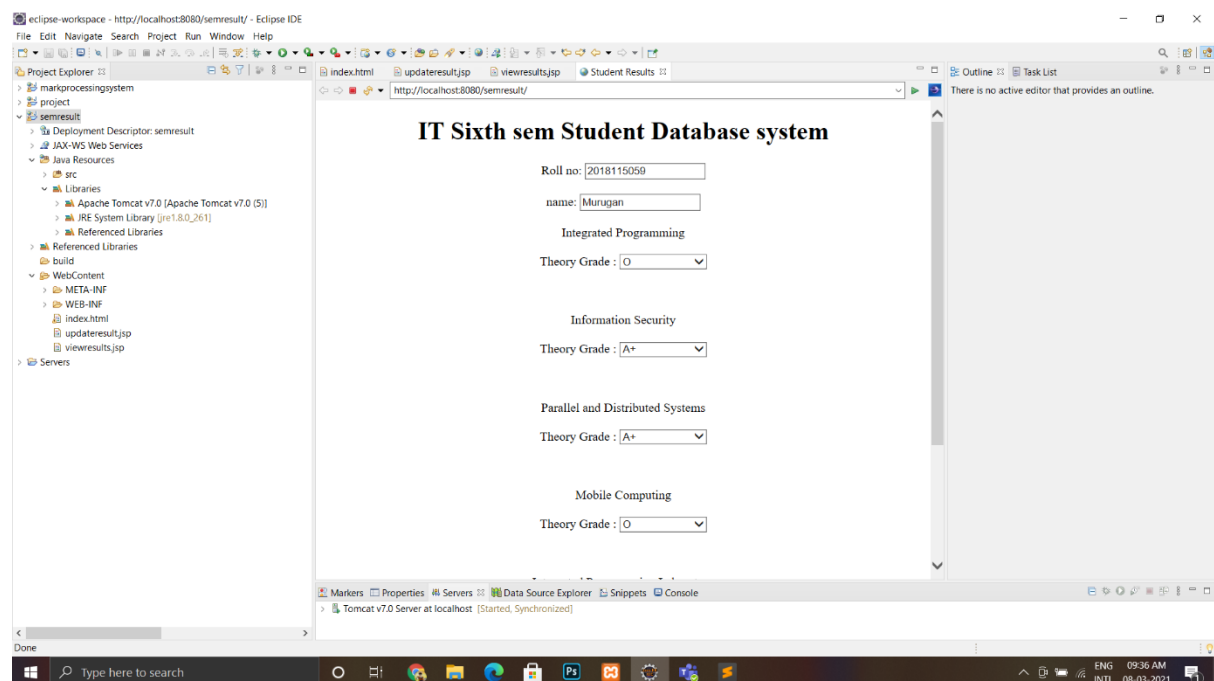


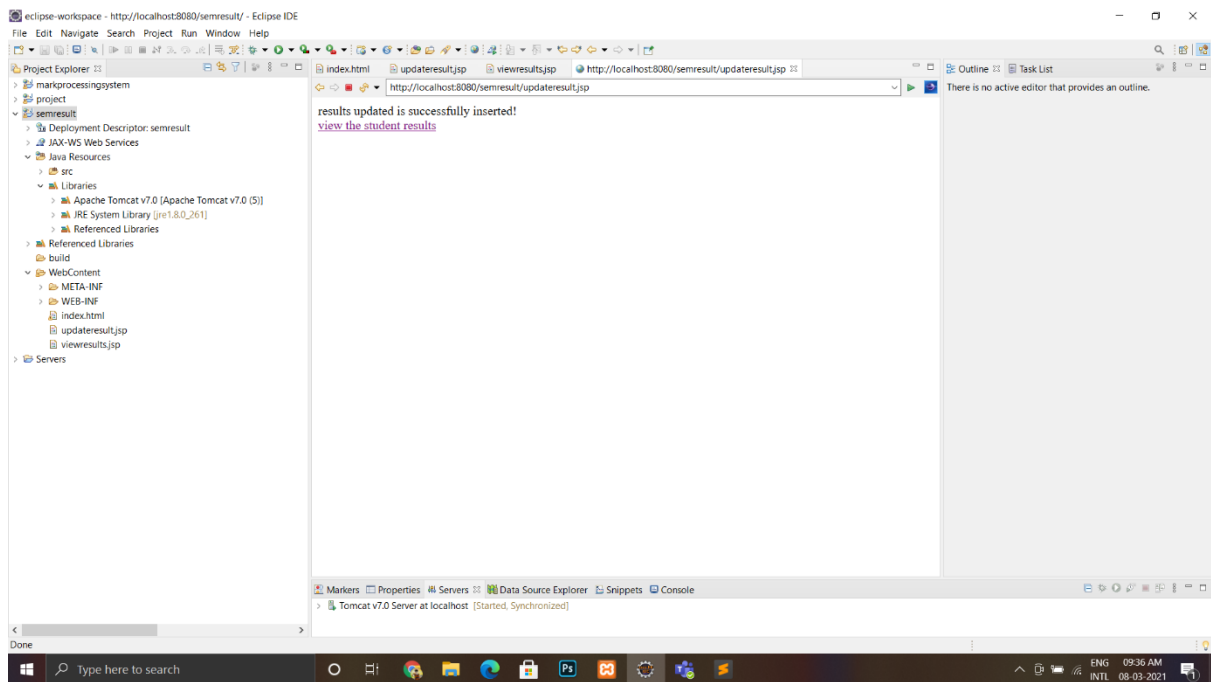
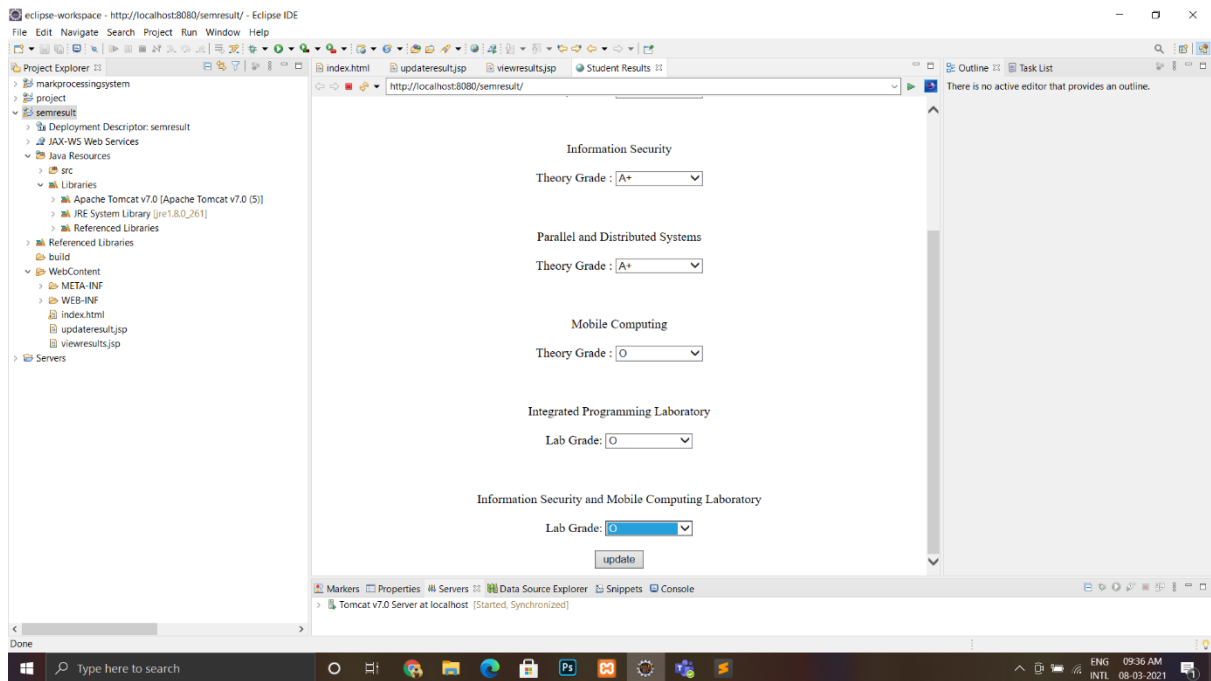
```

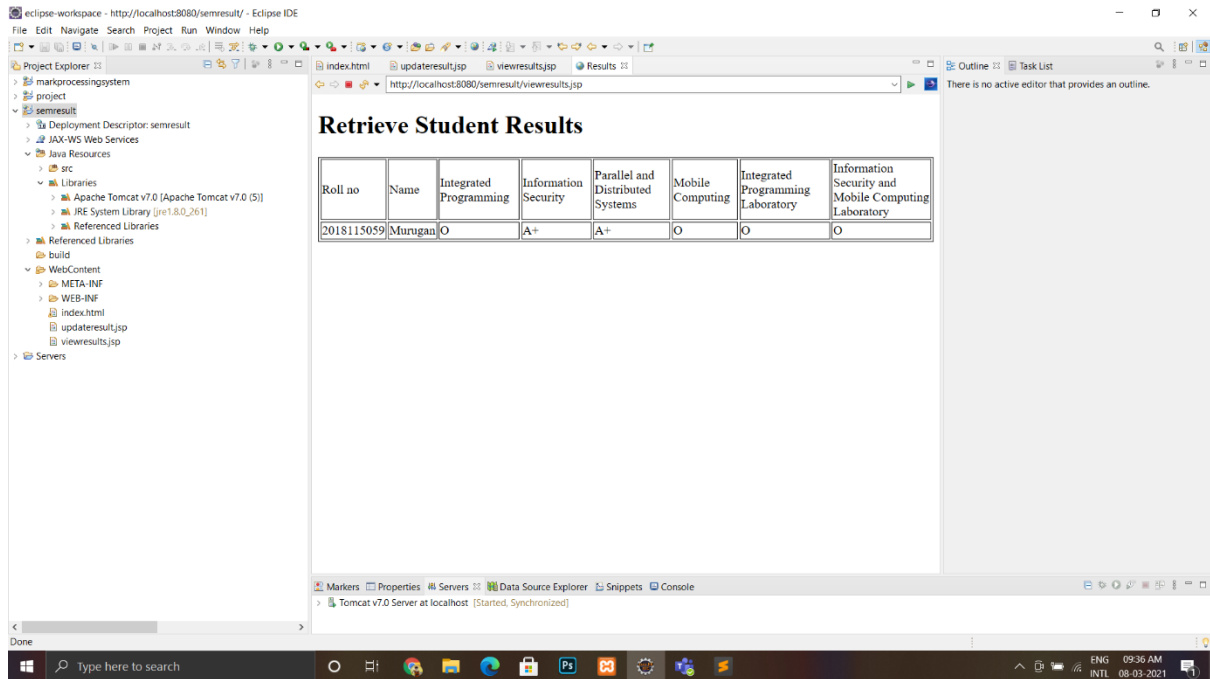
<td>Mobile Computing</td>
<td>Integrated Programming Laboratory</td>
<td>Information Security and Mobile Computing Laboratory</td>
</tr>
<%
try{
connection = DriverManager.getConnection(connectionUrl+database, userid,
password);
statement=connection.createStatement();
String sql ="select * from integratedprogramming";
resultSet = statement.executeQuery(sql);
while(resultSet.next()){
%>
<tr>
<td><%=resultSet.getString("rollno") %></td>
<td><%=resultSet.getString("name") %></td>
<td><%=resultSet.getString("tgrade1") %></td>
<td><%=resultSet.getString("tgrade2") %></td>
<td><%=resultSet.getString("tgrade3") %></td>
<td><%=resultSet.getString("tgrade4") %></td>
<td><%=resultSet.getString("lgrade1") %></td>
<td><%=resultSet.getString("lgrade2") %></td>
</tr>
<%
}
connection.close();
} catch (Exception e) {
e.printStackTrace();
}
%>
</table>
</body>
</html>

```

Output:







5 . Develop a servlet web application for onlineshop. The front-end of the application displays the

products available to add in the shopping cart. In the onlineshop web application, you create servlets, such as welcome, cartservlet, cartnxtservlet, and checkout. Let's first create the welcome servlet that displays the details of all products by retrieving the value of the products attribute. The products attribute returns the ArrayList in which the description and price of each product is displayed on the browser

Source code:

index.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>Online Shopping Web Application</title>
    </head>
    <body>
        <center>
            <h1>Add Products to Online Shopping List</h1>
            <form action="Welcome" method="POST">
                Product ID: <input type="text" name="id" />
                <br>
                <br>
                Product Name: <input type="text" name="name" />
                <br>
```

```
<br>
Product Description: <input type="text" name="desc" />
<br>
<br>
Product Price: <input type="text" name="price" />
<br>
<br>
<input type="submit" value="add" />
</form>
</center>
</body>
</html>
```

welcome.java

```
import java.io.IOException;

import java.io.PrintWriter;

import java.util.ArrayList;

import java.util.List;

import javax.servlet.ServletException;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;
```

```
@WebServlet("/Welcome")
```

```
public class Welcome extends HttpServlet{

    List<String> idl = new ArrayList<String>();

    List<String> namel = new ArrayList<String>();

    List<String> descl = new ArrayList<String>();

    List<String> pricel = new ArrayList<String>();
```

```
public void doPost(HttpServletRequest req,HttpServletResponse rsp) throws  
IOException , ServletException {
```

```
    rsp.setContentType("text/html");
```

```
    PrintWriter out = rsp.getWriter();
```

```
    String id = req.getParameter("id");
```

```
    String name = req.getParameter("name");
```

```
    String description = req.getParameter("desc");
```

```
    String price = req.getParameter("price");
```

```
    idl.add(id);
```

```
    namel.add(name);
```

```
    descl.add(description);
```

```
    pricel.add(price);
```

```
    req.getSession().setAttribute("Productidlist",idl);
```

```
    req.getSession().setAttribute("Productnamelist",namel);
```

```
    req.getSession().setAttribute("Productdesclist",descl);
```

```
    req.getSession().setAttribute("Productpricelist",pricel);
```

```
    out.println("Products Added");
```

```
    out.println("<a href='viewproducts'>View Products</a>");
```

```
        out.println("<br><a  
href='http://localhost:8080/onlineshoppingsystem/'>Click here to Add  
Products</a>");
```

```
    }
```

```
}
```

viewproducts.java

```
import java.io.IOException;  
import java.io.PrintWriter;  
import java.util.List;  
import javax.servlet.ServletException;  
import javax.servlet.annotation.WebServlet;  
import javax.servlet.http.HttpServlet;  
import javax.servlet.http.HttpServletRequest;  
import javax.servlet.http.HttpServletResponse;
```

```
@WebServlet("/viewproducts")
```

```
public class viewproducts extends HttpServlet{
```

```
    public void doGet(HttpServletRequest req,HttpServletResponse rsp) throws  
IOException,ServletException {
```

```
        List<String> proid= (List<String>)  
req.getSession().getAttribute("Productidlist");
```

```
List<String> pronaame= (List<String>)
req.getSession().getAttribute("Productnamelist");
```

```
List<String> prodes= (List<String>)
req.getSession().getAttribute("Productdesclist");
```

```
List<String> proprice= (List<String>)
req.getSession().getAttribute("Productpricelist");
```

```
rsp.setContentType("text/html");
```

```
PrintWriter out = rsp.getWriter();
```

```
out.print("<table border='1'>");
```

```
out.print("<tr>");
```

```
out.print("<td> Product ID </td>");
```

```
out.print("<td> Product Name </td>");
```

```
out.print("<td> Product Description </td>");
```

```
out.print("<td> Product Price</td>");
```

```
out.print("</tr>");
```

```
for(int i=0;i<proid.size();i++)
```

```
{
```

```
out.println("<tr>");
```

```
out.println("<td>" + proid.get(i) + "</td>");
```

```
out.println("<td>" + pronaame.get(i) + "</td>");
```

```

        out.println("<td>" + prodes.get(i) + "</td>");

        out.println("<td>" + proprice.get(i) + "</td>");

        out.println("<td>" + "<a href='Addtocart?listid="+ i +"> Addtocart  
</a>" + "</td>");

        out.println("</tr>");

    }

    out.println("</table>");

    out.println("<br><a  
href='http://localhost:8080/onlineshoppingsystem/'>Click here to Add  
Products</a>");

}
}

```

checkout.java

```

import java.io.IOException;

import java.io.PrintWriter;

import java.util.List;

import javax.servlet.ServletException;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

```



```

import javax.servlet.http.HttpServletResponse;

@WebServlet("/Checkout")

public class Checkout extends HttpServlet{

    public void doPost(HttpServletRequest req,HttpServletResponse rsp)throws
IOException,ServletException{

        List<String> proid= (List<String>)
req.getSession().getAttribute("Productidlist");

        List<String> prona= (List<String>)
req.getSession().getAttribute("Productnamelist");

        List<String> prodes= (List<String>)
req.getSession().getAttribute("Productdesclist");

        List<String> proprice= (List<String>)
req.getSession().getAttribute("Productpricelist");

        rsp.setContentType("text/html");

        PrintWriter out = rsp.getWriter();

        String id = req.getParameter("proid");

        String name = req.getParameter("pname");

        String des = req.getParameter("pdes");

        String price = req.getParameter("price");


        proid.remove(id);

        prona.remove(name);

        prodes.remove(des);

        proprice.remove(price);

```

```
        out.println("Successfully booked!!");

        out.println("<a href='viewproducts'>View Products</a>");

        out.println("<br><a
href='http://localhost:8080/onlineshoppingsystem/'>Click here to Add
Products</a>");

    }
}
```

addtocart.java

```
import java.io.IOException;
import java.io.PrintWriter;
import java.util.List;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

@WebServlet("/Addtocart")

public class Addtocart extends HttpServlet{
```

```
public void doGet(HttpServletRequest req, HttpServletResponse rsp) throws  
IOException, ServletException {
```

```
    List<String> proid= (List<String>)  
req.getSession().getAttribute("Productidlist");
```

```
    List<String> prona= (List<String>)  
req.getSession().getAttribute("Productnamelist");
```

```
    List<String> prodes= (List<String>)  
req.getSession().getAttribute("Productdesclist");
```

```
    List<String> proprice= (List<String>)  
req.getSession().getAttribute("Productpricelist");
```

```
    rsp.setContentType("text/html");
```

```
    PrintWriter out = rsp.getWriter();
```

```
    int i = Integer.parseInt(req.getParameter("listid"));
```

```
    out.println(i);
```

```
    out.println("<form action='Checkout' method='POST'>");
```

```
        out.println("<table border='1'>");
```

```
            out.println("<tr> <td>Product ID</td> <td> <input type='text'  
name='proid' value = '"+ proid.get(i) +"' /> </tr>");
```

```
            out.println("<tr> <td>Product Name </td> <td> <input  
type='text' name='pname' value = '"+ prona.get(i) +"' /> </tr>");
```

```
            out.println("<tr> <td>Description</td> <td> <input type='text'  
name='pdes' value = '"+ prodes.get(i) +"' /> </tr>");
```

```

        out.println("<tr> <td>Price</td> <td> <input type='text'
name='price' value = '"+ proprice.get(i) +"' /> </tr>");

        out.println("<tr> <td colspan='2'> <input type='submit' value =
'Checkout' /> </tr>");

        out.println("</table>");


    out.println("</form>");


    out.println("<br><a
href='http://localhost:8080/onlineshoppingsystem/'>Click here to Add
Products</a>");

    }

}

```

Output:

