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KANDIVALI (E)

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OF

USIT5P6 – Enterprise Java Practical

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CLASS/DIVISION: TYIT-A SEMESTER: V

ROLL NO: 40

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Nirmala Memorial Foundation College of Commerce and Science

Affiliated to university of Mumbai

Accredited by NAAC with B++ CGPA:2.80

CERTIFICATE

This is to certify that Mr. **SANKALP SHATANAND SHUKLA**

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Semester V has completed the necessary practicals in **USIT5P6**

Enterprise Java Practical during the academic year **2022-23**.

Professor in Charge

Head of Department

Seal & Date: _____

Nirmala Memorial Foundation College of Commerce and Science

TYIT –Semester – V

Course –Enterprise Java (EJ)

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Practical No 1(a)

Aim: Create a simple calculator application using servlet.

Source Code:

Calculator.html

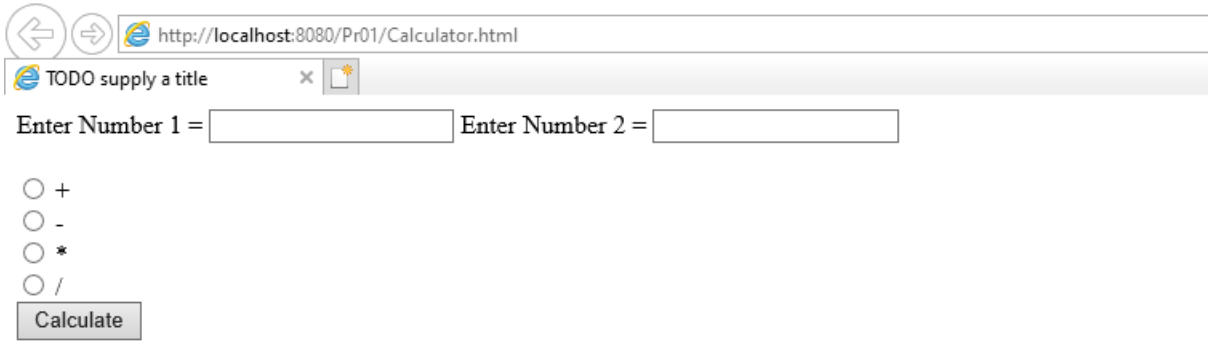
```
<html>
  <head>
    <title>TODO supply a title</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body>
    <form name="Calculator" method="post"
action="http://localhost:8080/Pr01/CalculatorServlet">
        Enter Number 1 = <input type="text" name="t1" value="">
        Enter Number 2 = <input type="text" name="t2" value="">
        <div>
        <br><input type="radio" name="r1" value="Add">  +
        <br><input type="radio" name="r1" value="Subtract">  -
        <br><input type="radio" name="r1" value="Multiplication">  *
        <br><input type="radio" name="r1" value="Division">  /
        <br><input type="Submit" value="Calculate">
        </div>
    </form>
  </body>
</html>
```

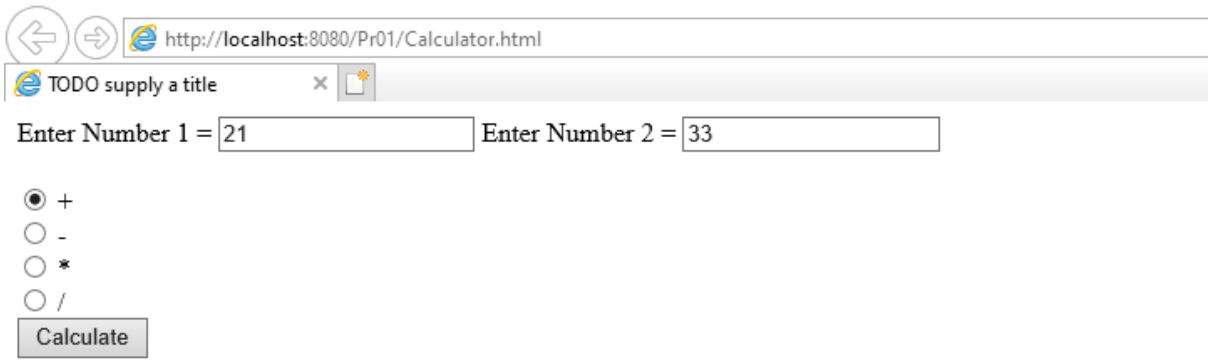
CalculatorServlet.java

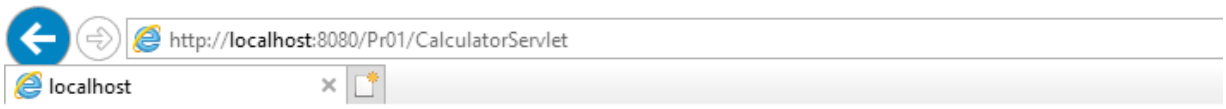
```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
@WebServlet(urlPatterns = {"/CalculatorServlet"})
public class CalculatorServlet extends HttpServlet {

  protected void processRequest(HttpServletRequest request, HttpServletResponse
response)
```

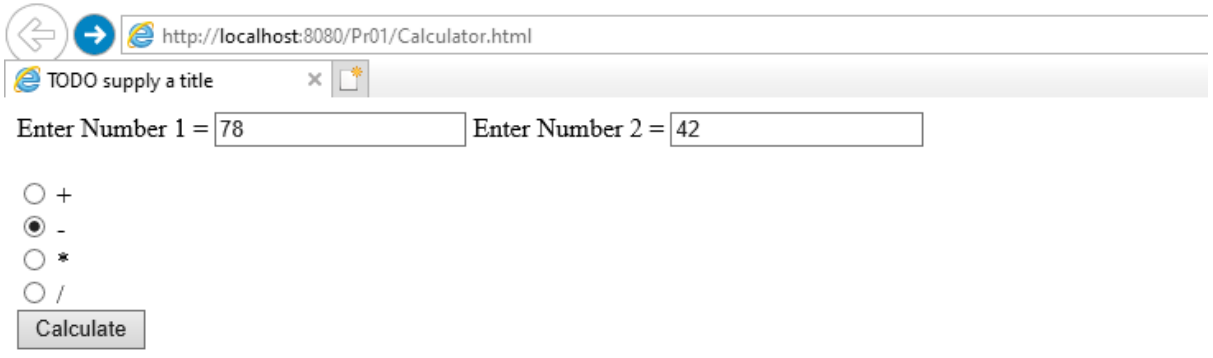
```
        throws ServletException, IOException {
    response.setContentType("text/html;charset=UTF-8");
    try (PrintWriter out = response.getWriter()) {
        String s1 = request.getParameter("t1");
        int num1 = Integer.parseInt(s1);

        String s2 = request.getParameter("t2");
        int num2 = Integer.parseInt(s2);

        String op = request.getParameter("r1");
        if(op.equals("Add")){
            int sum = num1 + num2;
            out.println("Addition = "+ sum);
        }
        else if(op.equals("Subtract")){
            int sub = num1 - num2;
            out.println("Subtraction = "+ sub);
        }
        else if(op.equals("Multiplication")){
            int mult = num1 * num2;
            out.println("Multiplication = "+ mult);
        }
        else if(op.equals("Division")){
            double div = num1 / num2;
            out.println("Division = "+ div);
        }
    }
  }
}
```

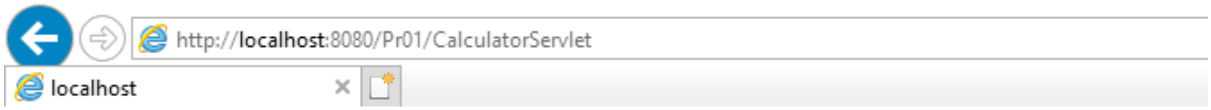
Output:




http://localhost:8080/Pr01/Calculator.html
TODO supply a title
Enter Number 1 = 21
Enter Number 2 = 33
+
-
*
/
Calculate


http://localhost:8080/Pr01/CalculatorServlet
localhost
Addition = 54


http://localhost:8080/Pr01/Calculator.html
TODO supply a title
Enter Number 1 = 78
Enter Number 2 = 42
+
-
*
/
Calculate

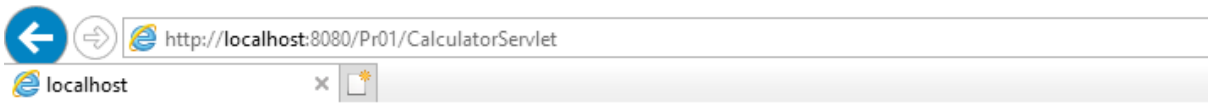


Subtraction = 36

Enter Number 1 = 15 Enter Number 2 = 11

- ○ +
- ○ -
- ◉ *
- ○ /

Calculate

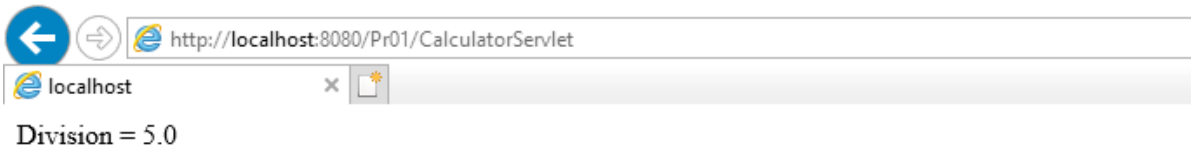


Multiplication = 165

Enter Number 1 = 55 Enter Number 2 = 11

- ○ +
- ○ -
- ○ *
- ◉ /

Calculate



Practical No 1(b)

Aim: Create a servlet for login page. If the username and password are correct then it says message “Hello” else a message “login failed”.

Source Code:

Login.html

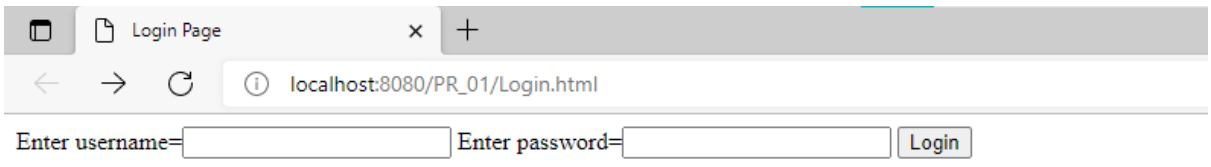
```
<html>
   <head>
      <title>Login Page</title>
      <meta charset="UTF-8">
      <meta name="viewport" content="width=device-width, initial-scale=1.0">
   </head>
   <body>
      <form name="Login" method="post"
action="http://localhost:8080/PR_01/LoginServlet">
         Enter username=<input type="text" name="t1" value="">
         Enter password=<input type="text" name="t2" value="">
         <input type="submit" value="Login">
      </form>
   </body>
</html>
```

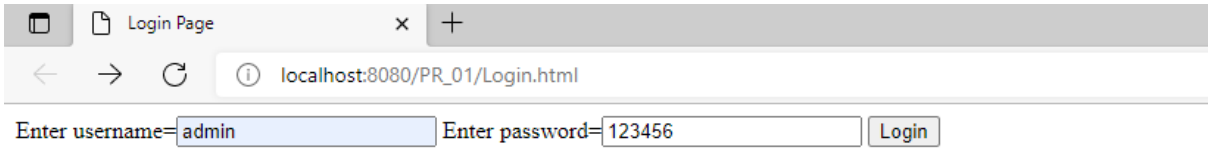
LoginServlet.java

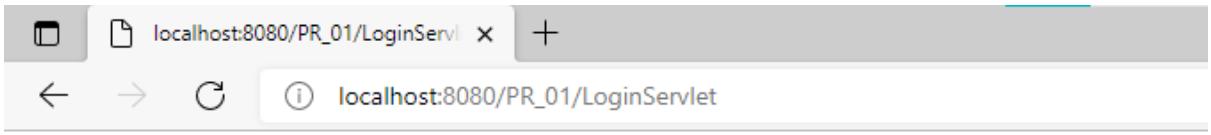
```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
```

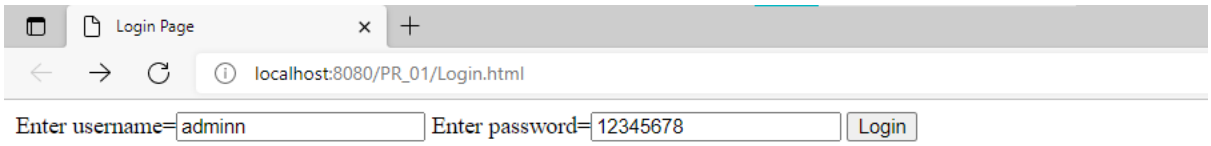
```
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;


@WebServlet(urlPatterns = {"/LoginServlet"})
public class LoginServlet extends HttpServlet {

   protected void processRequest(HttpServletRequest request, HttpServletResponse
response)
         throws ServletException, IOException {
      response.setContentType("text/html;charset=UTF-8");
      try (PrintWriter out = response.getWriter()) {

         String uname=request.getParameter("t1");
         String pswd=request.getParameter("t2");
         if(uname.equals("admin")&&pswd.equals("123456"))
         {
            out.println("Hello!!");
         }
         else
         {
            out.println("Login Failed");
         }
      }
   }
}
```

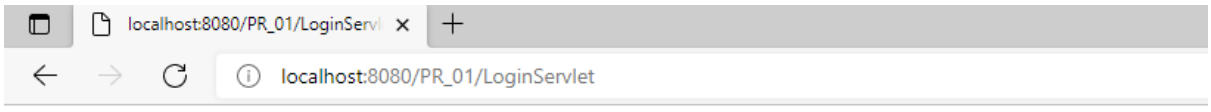
Output:




Login Page
localhost:8080/PR_01/Login.html
Enter username=
admin
Enter password=
123456
Login


localhost:8080/PR_01/LoginServl
localhost:8080/PR_01/LoginServlet
Hello!!


Login Page
localhost:8080/PR_01/Login.html
Enter username=
adminn
Enter password=
12345678
Login


localhost:8080/PR_01/LoginServl
localhost:8080/PR_01/LoginServlet
Login Failed

Practical No 2(a)

Aim: Create a registration servlet in Java using JDBC. Accept the details such as Username, Password, Email, and Country from the user using HTML Form and store the registration details in the database.

Source Code:

Registration.html

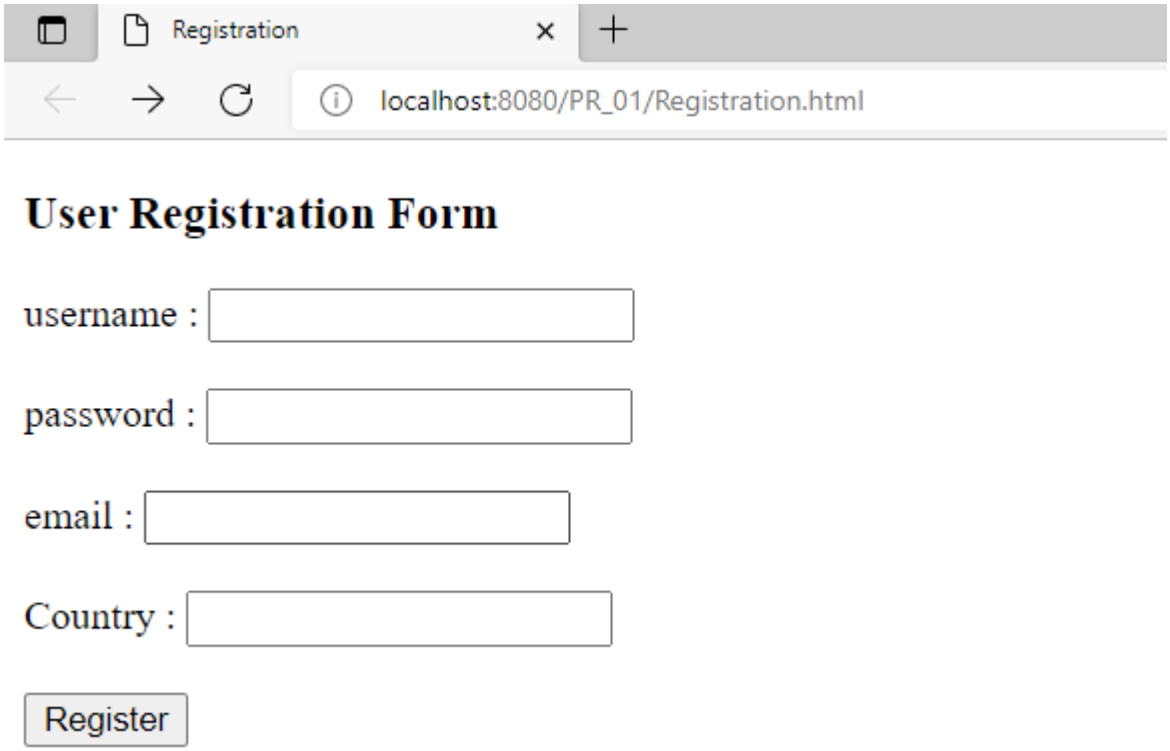
```
<html>
  <head>
    <title>Registration</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body>
    <h3>User Registration Form</h3>
    <form name="Register" method="post"
action="http://localhost:8080/PR_01/RegistrationServlet">
      username : <input type="text" name="t1" value=""><br><br>
      password : <input type="text" name="t2" value=""><br><br>
      email : <input type="text" name="t3" value=""><br><br>
      Country : <input type="text" name="t4" value=""><br><br>
      <input type="submit" value="Register">
    </form>
  </body>
</html>
```

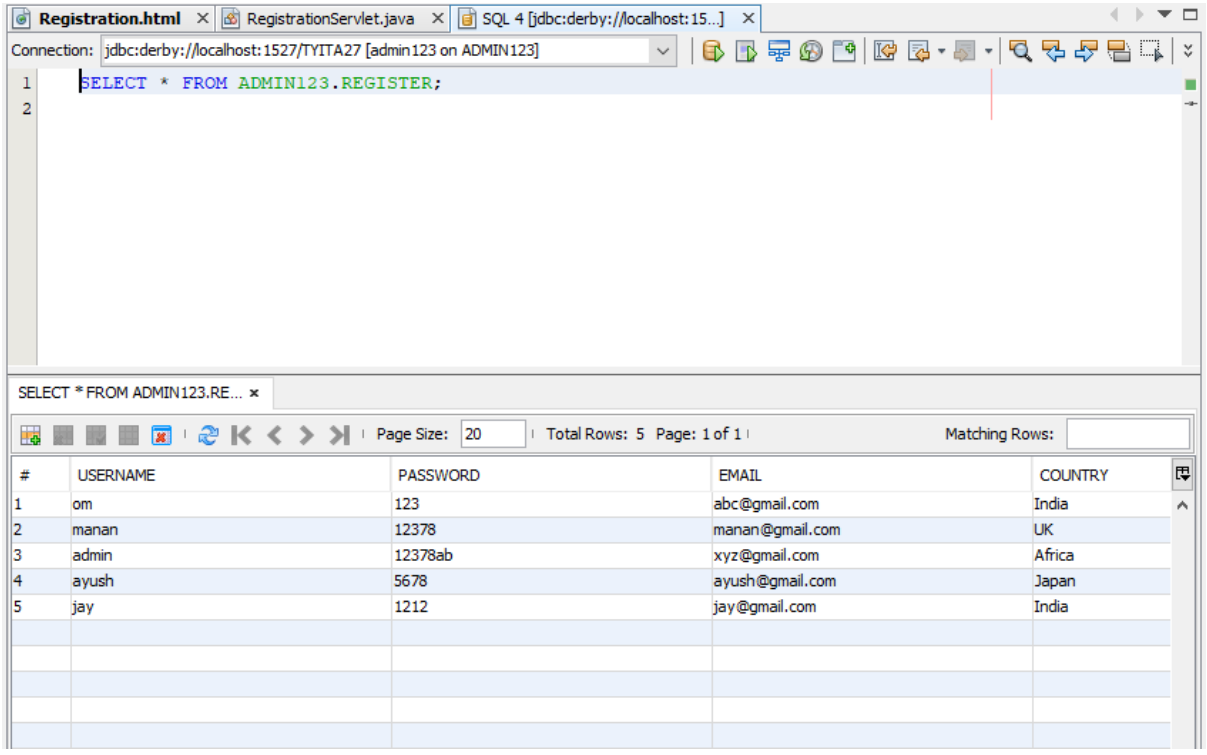
RegistrationServlet.java

```
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.*;
import java.sql.SQLException;
import java.util.logging.Level;
import java.util.logging.Logger;
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(urlPatterns = {"/RegistrationServlet"})
public class RegistrationServlet extends HttpServlet {
   protected void processRequest(HttpServletRequest request, HttpServletResponse
response)
         throws ServletException, IOException, ClassNotFoundException, SQLException {
      response.setContentType("text/html;charset=UTF-8");
      try (PrintWriter out = response.getWriter()) {
         Class.forName("org.apache.derby.jdbc.ClientDriver");
         Connection con =
DriverManager.getConnection("jdbc:derby://localhost:1527/TYIT_A40", "Sankalp", "1234");

         String s1 = request.getParameter("t1");
         String s2 = request.getParameter("t2");
         String s3 = request.getParameter("t3");
         String s4 = request.getParameter("t4");

         String query = "insert into register values(?,?,?,?)";
         PreparedStatement pstmt = con.prepareStatement(query);
         pstmt.setString(1, s1);
         pstmt.setString(2, s2);
         pstmt.setString(3, s3);
         pstmt.setString(4, s4);

         int i = pstmt.executeUpdate();
         out.println("Record Added");
      }
   }
}
```

Output:


Registration
localhost:8080/PR_01/Registration.html
User Registration Form
username :
password :
email :
Country :
Register


Registration.html
RegistrationServlet.java
SQL 4 [jdbc:derby://localhost:15...]
Connection: jdbc:derby://localhost:1527/TYITA27 [admin123 on ADMIN123]
SELECT * FROM ADMIN123.REGISTER;
SELECT * FROM ADMIN123.RE...
Page Size: 20
Total Rows: 5 Page: 1 of 1
Matching Rows:
USERNAME PASSWORD EMAIL COUNTRY
1 om 123 abc@gmail.com India
2 manan 12378 manan@gmail.com UK
3 admin 12378ab xyz@gmail.com Africa
4 ayush 5678 ayush@gmail.com Japan
5 jay 1212 jay@gmail.com India

Practical No 2(b)

Aim: Using Request Dispatcher interface create a Servlet which will validate the password entered by the user, if the user has entered “Servlet” as password, then he will be forwarded to Welcome Servlet else the user will stay on the index.html page and an error message will be displayed.

Source Code:

Login.html

```
<html>
   <body>
      <form name=”Login” method=”post”
action=”http://localhost:8080/pr02b/LoginServlet”>
         Username : <input type=”text” name=”t1” value=””/>
         Password : <input type=”text” name=”t2” value=””/>
         <input type=”submit” value=”Submit”>
      </form>
   </body>
</html>
```

LoginServlet.java

```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.RequestDispatcher;
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(urlPatterns = {“/LoginServlet”})
public class LoginServlet extends HttpServlet {
```

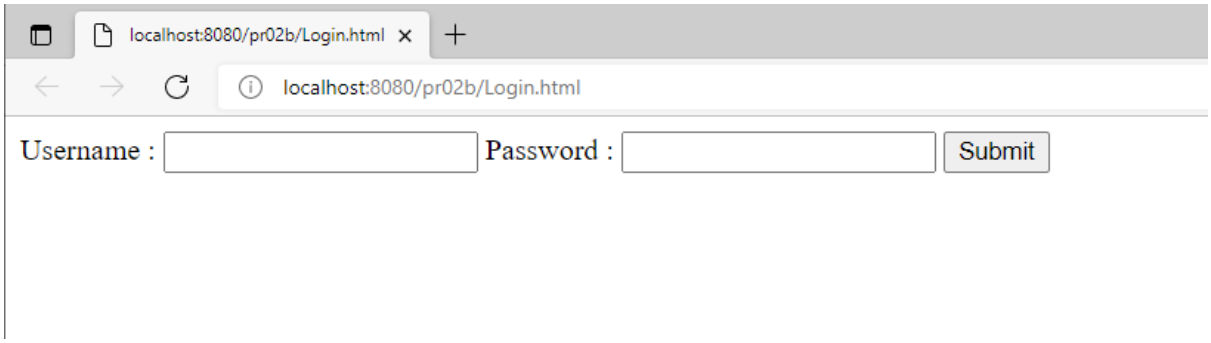
```
   protected void processRequest(HttpServletRequest request,
HttpServletResponse response)
          throws ServletException, IOException {
       response.setContentType(“text/html;charset=UTF-8”);
       try (PrintWriter out = response.getWriter()) {

          String uname = request.getParameter(“t1”);
          String pswd = request.getParameter(“t2”);

          RequestDispatcher rd =
request.getRequestDispatcher(“/WelcomeServlet”);

          if (pswd.equalsIgnoreCase(“servlet”)) {
             rd.forward(request, response);
          } else {
             RequestDispatcher rd1 =
request.getRequestDispatcher(“\\Login.html”);
             rd1.include(request, response);
             out.println(“Please reenter credentials”);
          }
       }
   }
}
```

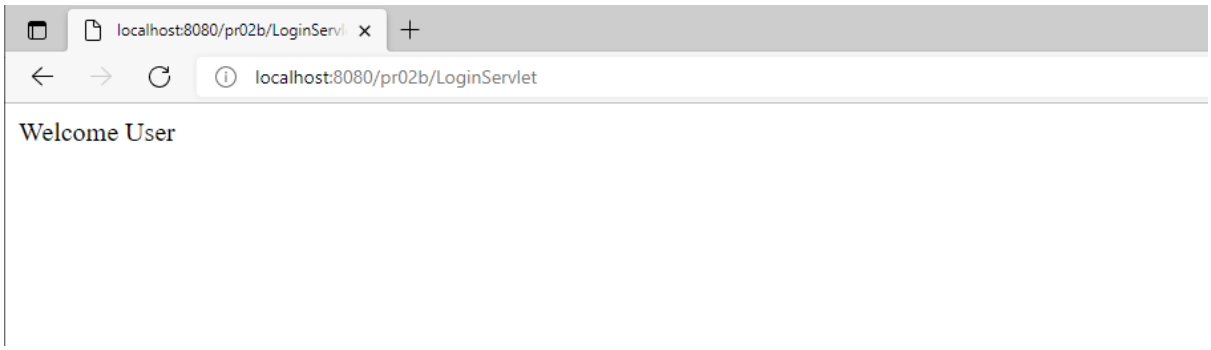
WelcomeServlet.java

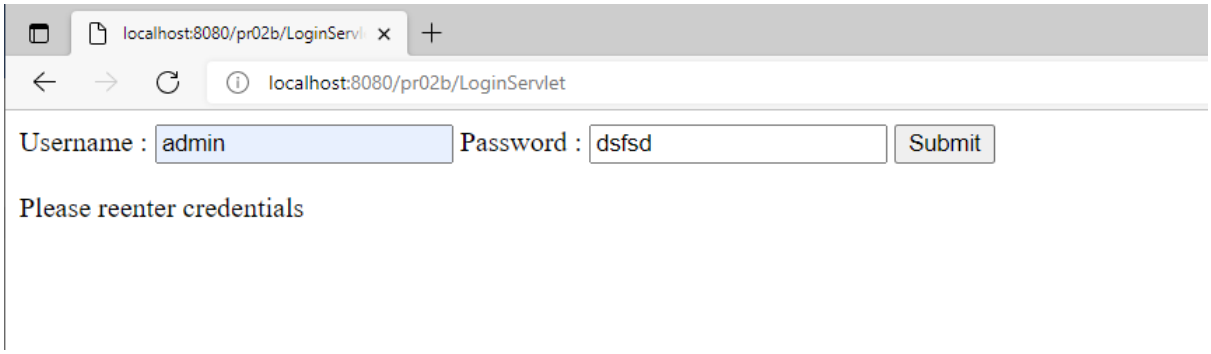
```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

@WebServlet(urlPatterns = {“/WelcomeServlet”})
```

```
public class WelcomeServlet extends HttpServlet {

   protected void processRequest(HttpServletRequest request,
HttpServletResponse response)
         throws ServletException, IOException {
      response.setContentType("text/html;charset=UTF-8");
      try (PrintWriter out = response.getWriter()) {

         out.println("Welcome User");
      }

   }
}
```

Output:







Practical No 3(a)

Aim: Create a servlet that uses cookies to store the number of times a user has visited servlet.

Source Code:

CheckVisit.html

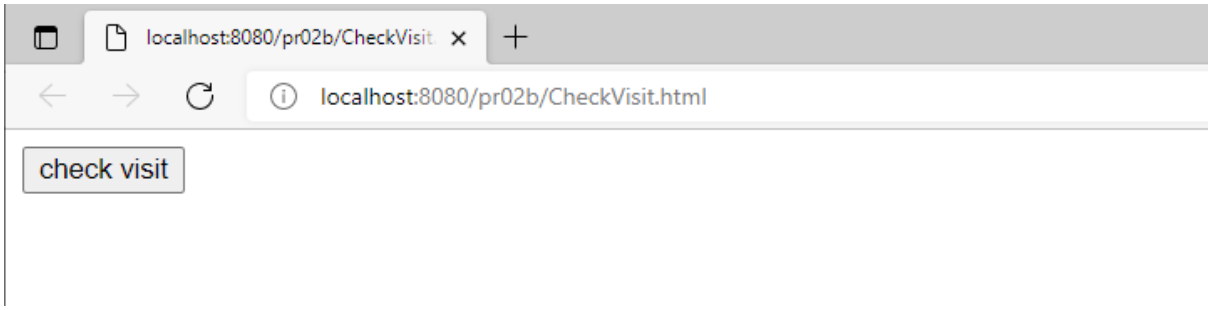
```
<html>
   <body>
      <form name="check visit" method="post"
action="http://localhost:8080/pr02b/java">
         <input type="Submit" value="check visit">
      </form>
   </body>
</html>
```

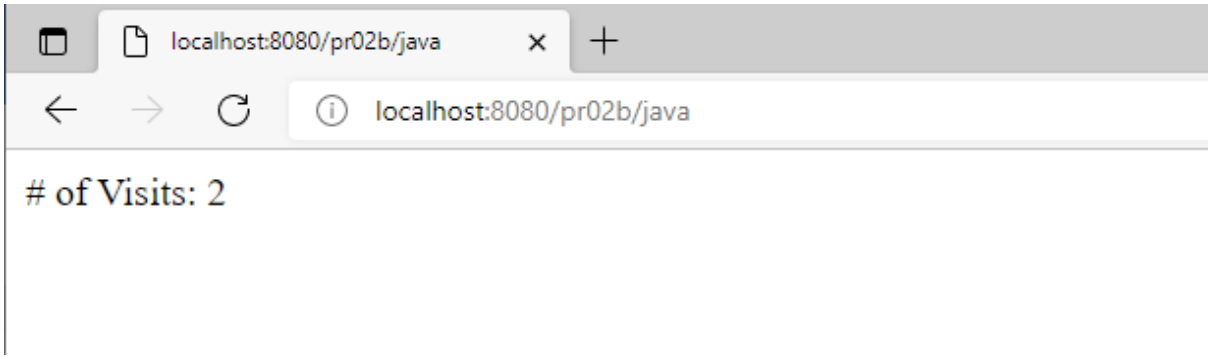
VisitCookie.java

```
package VisitCookie;

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;

@WebServlet(name = "java", urlPatterns = {"/java"})
public class VisitCookie extends HttpServlet {
 int hitcount = 0;

   protected void processRequest(HttpServletRequest request,
HttpServletResponse response)
          throws ServletException, IOException {
       response.setContentType("text/html;charset=UTF-8");
       try (PrintWriter out = response.getWriter()) {

String cvisit = String.valueOf(hitcount);
          Cookie c = new Cookie("Visit", cvisit);
          response.addCookie(c);

          int j = Integer.parseInt(c.getValue());

          if (j == 1) {
             out.println("User has visited this page for the first time");
          }
          else {
             out.println("# of visits : " + j);
          }
          ++hitcount;
       }
   }
}
```

Output:





Practical No 3(b)

Aim: Create a servlet demonstrating the use of session creation and destruction. Also check whether the user has visited this page first time or has visited earlier also using sessions.

Source Code:

Index.html

```
<!DOCTYPE html>
<html>
  <head>
    <title>Session</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
```

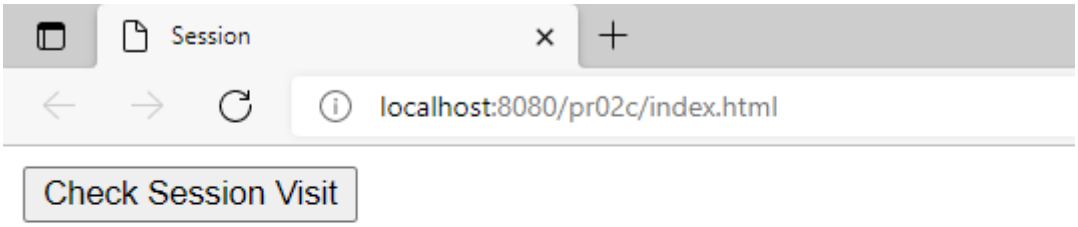
```
  <body>
    <form name="Check Session Visit" method="post"
action="http://localhost:8080/pr02c/SessionVisitServlet">
      <input type="Submit" value="Check Session Visit">
    </form>
  </body>
</html>
```

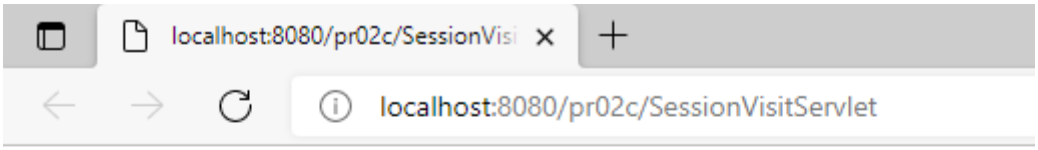
SessionVisitServlet.java

```
import java.io.IOException;
import java.io.PrintWriter;
import java.util.Date;
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(urlPatterns = {"/SessionVisitServlet"})
public class SessionVisitServlet extends HttpServlet {

  HttpSession session;
  int countVisit = 0;

  protected void processRequest(HttpServletRequest request,
HttpServletResponse response)
      throws ServletException, IOException {
    response.setContentType("text/html;charset=UTF-8");
    try (PrintWriter out = response.getWriter()) {
      /* TODO output your page here. You may use following sample code. */

      session = request.getSession(true);
      out.println("<BR></BR> Sesion is created : " + session.getId());
```

```
        out.println("<BR></BR> Session Creation Time : " + new
Date(session.getCreationTime()));

        if (countVisit == 0) {
            session.setAttribute("Visit", String.valueOf(countVisit));
            out.println("<BR></BR> Welcome! It's your first " +
session.getAttribute("Visit") + " visit..");
        } else {
            session.setAttribute("Visit", String.valueOf(countVisit));
            out.println("<BR></BR> You Visited this page " +
session.getAttribute("Visit") + " times");
        }
        ++countVisit;
    }
    session.invalidate();
    //countVisit = 0;
  }
}
```

Output:

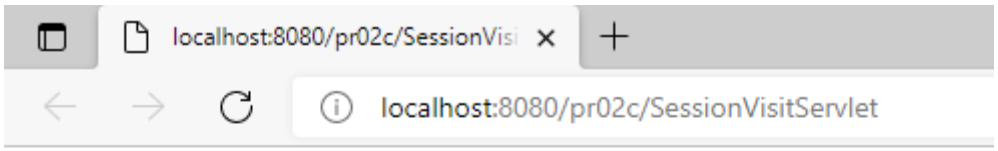




Sesion is created : 7e656a2c5ee40ffbadaf134fc924

Session Creation Time : Fri Jul 29 08:30:54 IST 2022

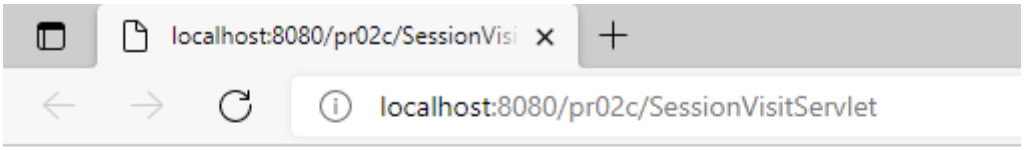
Welcome! It's your first 0 visit..



Sesion is created : 7e89e55acbf8aa8392f88e97d1a2

Session Creation Time : Fri Jul 29 08:33:23 IST 2022

You Visited this page 1 times



Sesion is created : 7e8d69d5b8eab70c6e5c123d62c4

Session Creation Time : Fri Jul 29 08:33:37 IST 2022

You Visited this page 2 times

Practical No 4(a)

Aim: Create a registration and login JSP application to register and authenticate the user based on username and password using JDBC.

Source Code:

Register.html

```
<html>
   <body>
      <form name ="User Registration" method="post"
action="http://localhost:8080/PR%204/Login.jsp">
         First Name : <input type="text" name="t1" value=""><BR></BR>
         Last Name : <input type="text" name="t2" value=""><BR></BR>
         User Name : <input type="text" name="t3" value=""><BR></BR>
         Password : <input type="text" name="t4" value=""><BR></BR>
         Confirm Password : <input type="text" name="t5" value=""><BR></BR>
         <input type="submit" value="Register Me">
      </form>
   </body>
</html>
```

Register.jsp

```
<%@page import="java.sql.*"%>
<%@page import="javax.servlet.Registration"%>
<%@page import="java.sql.Connection"%>
<%@page import="java.sql.DriverManager"%>
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
   <body>
      <%
```

```
        Class.forName("org.apache.derby.jdbc.ClientDriver");
        Connection con =
DriverManager.getConnection("jdbc:derby://localhost:1527/TYIT_A40",
"Sankalp", "1234");

        String fn = request.getParameter("t1");
        String lastn = request.getParameter("t2");
        String usern = request.getParameter("t3");
        String pswd = request.getParameter("t4");
        String cpswd = request.getParameter("t5");

        if (!(pswd.equals(cpswd))) {
           out.println("Password and Confirm Password are not matching");
        }

        PreparedStatement pstmt = con.prepareStatement("insert into Register
" + "values(?,?,?,?,?)");

        pstmt.setString(1, fn);
        pstmt.setString(2, lastn);
        pstmt.setString(3, usern);
        pstmt.setString(4, pswd);
        pstmt.setString(5, cpswd);

        int i=pstmt.executeUpdate();
        out.println("Registration Succesfully");
        %>
</html>
```

Login.html

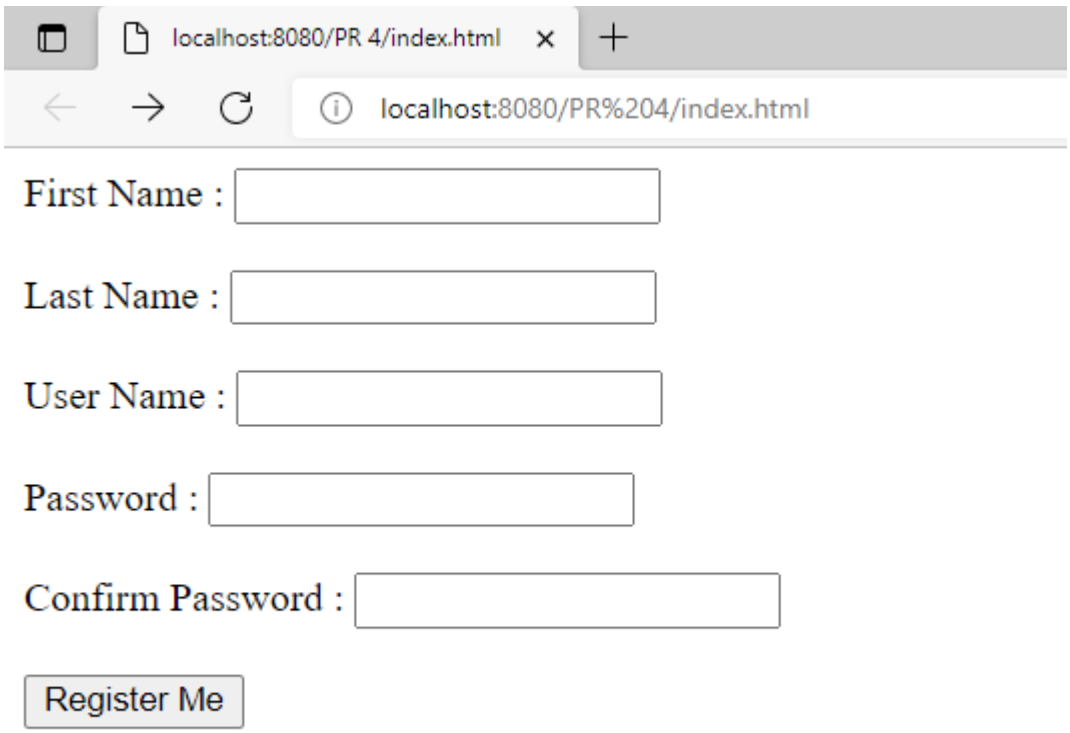
```
<html>
   <body>
      <form name ="User Registration" method="post"
action="http://localhost:8080/PR%204/Login.jsp">
```

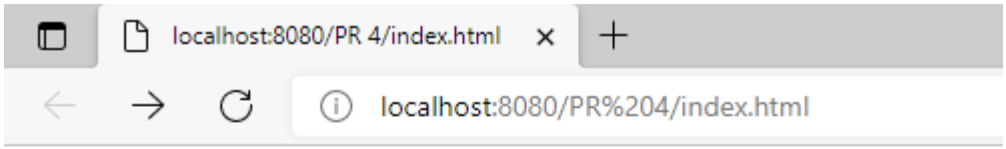
```
        User Name : <input type="text" name="t1" value=""><BR></BR>
        Password : <input type="text" name="t2" value=""><BR></BR>
        <input type="submit" value="Login">
      </form>
   </body>
</html>
```

Login.jsp

```
<%--
   Document   : Login
   Created on : Aug 2, 2022, 8:26:22 AM
   Author     : comp83
--%>

<%@page import="java.sql.*"%>
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
   <body>
      <%
         Class.forName("org.apache.derby.jdbc.ClientDriver");
         Connection con =
DriverManager.getConnection("jdbc:derby://localhost:1527/tyita26",
"ompatel", "ompatel");

         String usern = request.getParameter("t1");
         String pswd = request.getParameter("t2");

         PreparedStatement pstmt=con.prepareStatement("select * from
register "+"where username=? and password=?");

         pstmt.setString(1, usern);
         pstmt.setString(2, pswd);
```

```
        ResultSet rs=pstmt.executeQuery();

        if(rs.next()){
           out.println("Login Successfully");
        }
        else{
           out.println("Invalid Credentials");
        }

     %>
  </body>
</html>
```





First Name : Om

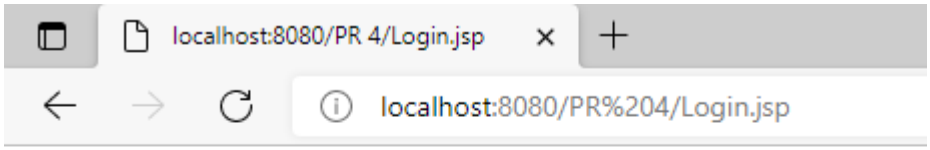
Last Name : Patel

User Name : OmPatel110

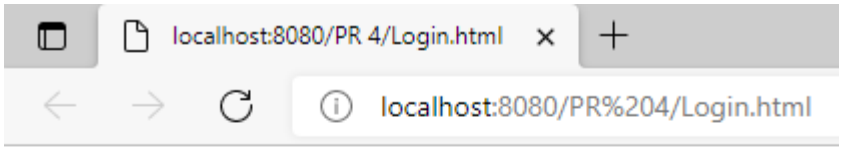
Password : 1234

Confirm Password : 1234

Register Me



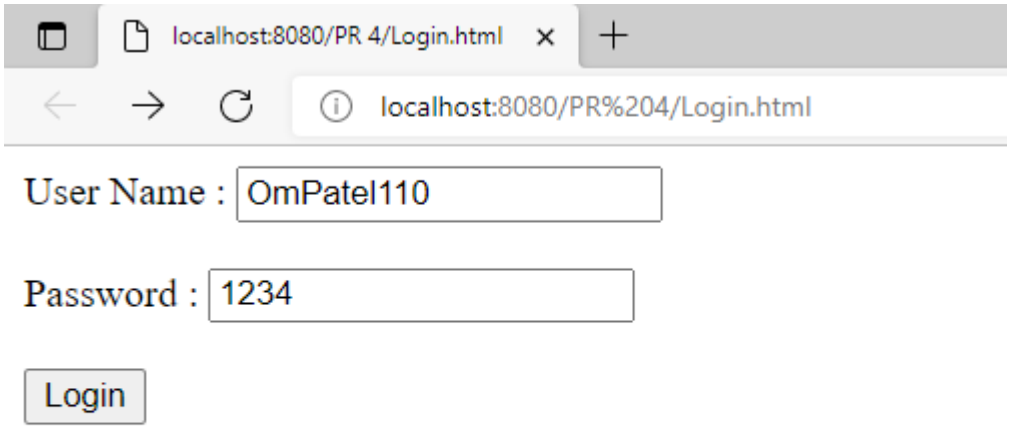
Registration Succesfully

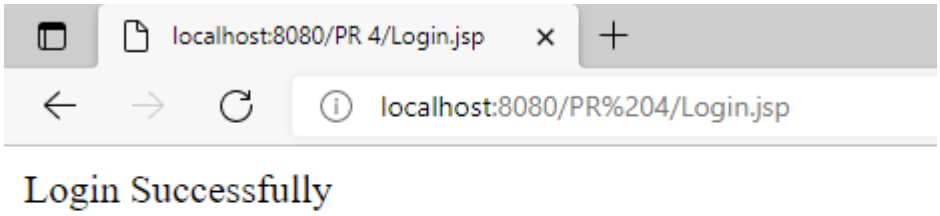


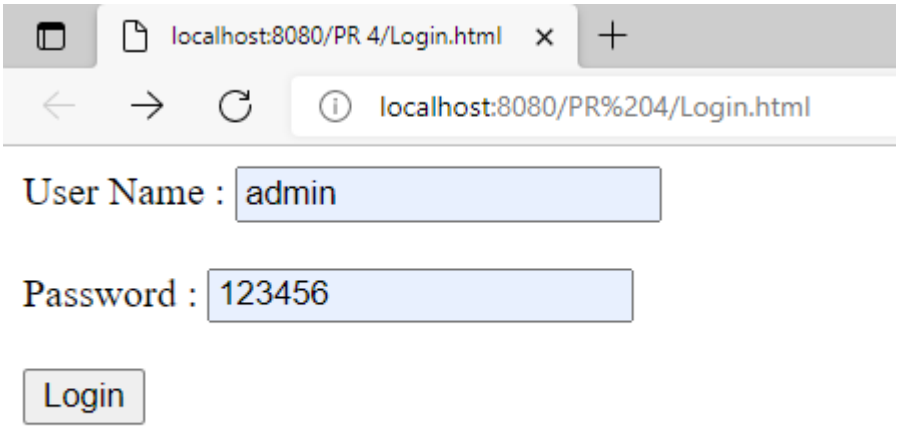
User Name :

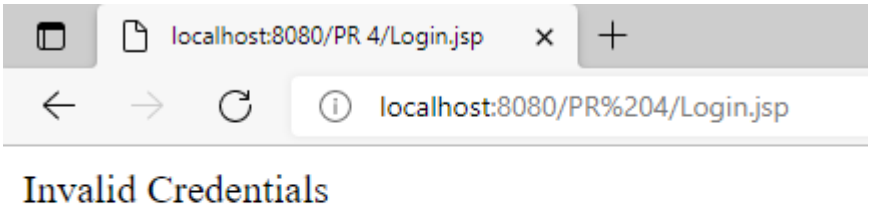
Password :

Login


localhost:8080/PR 4/Login.html
localhost:8080/PR%204/Login.html
User Name : OmPatel110
Password : 1234
Login


localhost:8080/PR 4/Login.jsp
localhost:8080/PR%204/Login.jsp
Login Successfully


localhost:8080/PR 4/Login.html
localhost:8080/PR%204/Login.html
User Name : admin
Password : 123456
Login



Practical No 4(b)

Aim: Develop a simple JSP application to display values obtained from the use of intrinsic objects of various types.

Source Code:

Index.html

```
<html>
   <head>
      <title>JSP page</title>
      <meta charset="UTF-8">
      <meta name="viewport" content="width=device-width, initial-scale=1.0">
   </head>
   <body>

   </body>
</html>
```

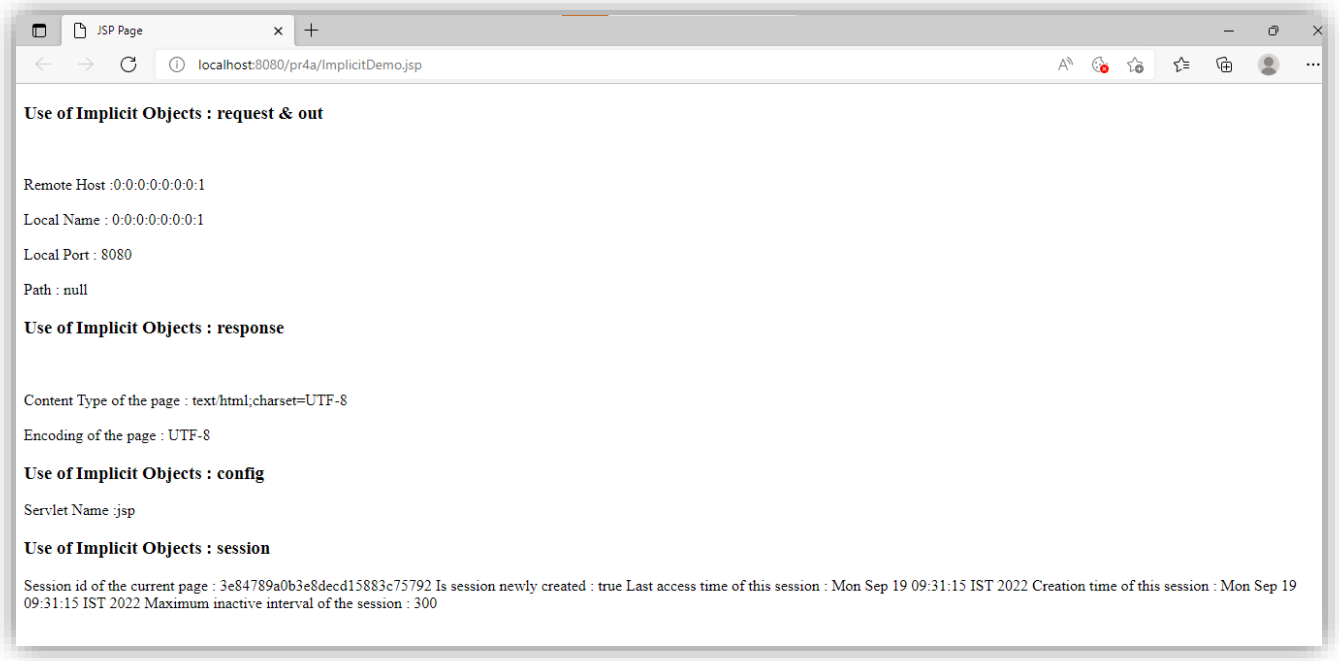
ImplicitDemo.jsp

```
<%@page import="java.util.Date"%>
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
   <head>
```

```
            <meta http-equiv="Content-Type" content="text/html;
charset=UTF-8">
            <title>JSP Page</title>
        </head>
        <body>
            <h3>Use of Implicit Objects : request & out </h3>
            <%
            String str=request.getRemoteHost();
            out.println("<BR></BR>Remote Host :" + str);
            String localname=request.getLocalName();
            out.println("<BR></BR>Local Name : " + localname);
            int localport=request.getLocalPort();
            out.println("<BR></BR>Local Port : " + localport);
            String path=request.getPathInfo();
            out.println("<BR></BR>Path : " + path);
            %>
            <h3>Use of Implicit Objects : response </h3>
            <%
                out.println("<BR></BR>Content Type of the page : " +
response.getContentType());
                out.println("<BR></BR>Encoding of the page : " +
response.getCharacterEncoding());
                //response.getRedirect("https://www.google.co.in/");
            %>
            <h3>Use of Implicit Objects : config </h3>
            <%
                out.println("Servlet Name :" + config.getServletName());
            %>
            <h3>Use of Implicit Objects : session </h3>
            <%
                out.println("Session id of the current page : " + session.getId());
                out.println("Is session newly created : " + session.isNew());
                out.println("Last access time of this session : " + new
Date(session.getLastAccessedTime()));
```

```
            out.println("Creation time of this session : " + new
Date(session.getCreationTime()));
            session.setMaxInactiveInterval(300);
            out.println("Maximum inactive interval of the session : " +
session.getMaxInactiveInterval());
        %>
      </body>
    </html>
```

Output:



Practical No 5(a)

Aim: Create an HTML page with fields, eno, name, age, desg, salary. Now on submit this data to a JSP page which will update the employee table of database with matching eno.

Source Code:

Index.html

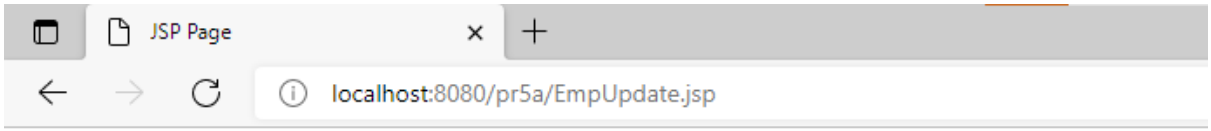
```
<html>
   <head>
      <title>Update Records</title>
      <meta charset="UTF-8">
      <meta name="viewport" content="width=device-width, initial-scale=1.0">
   </head>
   <body>
      <h1>Employee Details</h1>
      <form name="f1" method="post"
action="http://localhost:8080/pr5a/EmpUpdate.jsp">
         Employee No=<input type="text" name="t1" value=""><br></br>
         Employee Name=<input type="text" name="t2" value=""><br></br>
         Age=<input type="text" name="t3" value=""><br></br>
         Designation=<input type="text" name="t4" value=""><br></br>
         Salary=<input type="text" name="t5" value=""><br></br>
         <input type="submit" value="update">
      </form>
   </body>
</html>
```

EmpUpdate.jsp

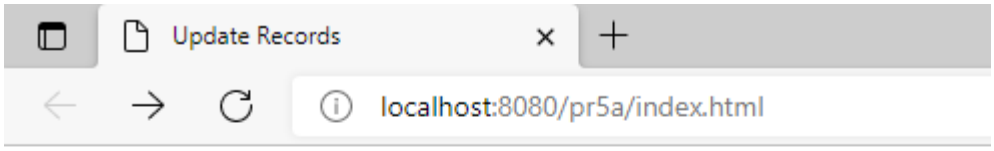
```
<%@page import="java.sql.*"%>
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
```

```
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>JSP Page</title>
  </head>
  <body>
    <%
      Class.forName("org.apache.derby.jdbc.ClientDriver");
      Connection
con=DriverManager.getConnection("jdbc:derby://localhost:1527/”TYIT_A40",
"Sankalp", "admin");

      String en=request.getParameter("t1");
      String ename=request.getParameter("t2");
      int age=Integer.parseInt(request.getParameter("t3"));
      String des=request.getParameter("t4");
      int sal=Integer.parseInt(request.getParameter("t5"));

      PreparedStatement ps=con.prepareStatement("UPDATE EMPLOYEE SET
EMP_NAME = ?,AGE = ?,DESIGNATION = ?,SAL = ? where EMP_NO = ?");
      ps.setString(1, ename);
      ps.setInt(2, age);
      ps.setString(3, des);
      ps.setInt(4, sal);
      ps.setString(5, en);

      int i = ps.executeUpdate();
      out.println(+i+"Row Updated");
    %>
  </body>
</html>
```

Output:



1Row Updated



Employee Details

Employee No= 14

Employee Name= xxx

Age= 11

Designation= xxx

Salary= 1111

update

Practical No 6(a)

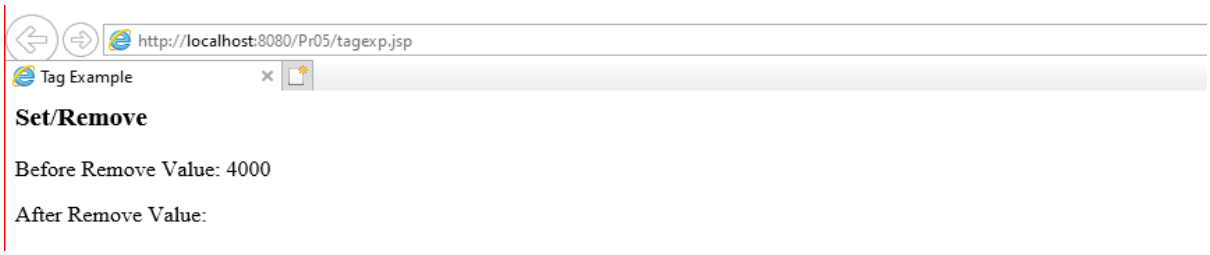
Aim: Create a JSP page to demonstrate the use of Expression language.

Source Code:

TagExample.jsp

```
<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>

<html>
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
      <title>Tag Example</title>
   </head>
   <body>
      <h3>Set/Remove</h3>
      <c:set var="salary" scope="session" value="${2000*2}"/>
      <p>Before Remove Value: <c:out value= "${salary}"/></p>
      <c:remove var="salary"/>
       <p> After Remove Value:<c:out value= "${salary}"/></p>
```

Output:



Practical No 6(b)

Aim: Create a JSTL application to demonstrate the use of JSTL.

Source Code:

Index.html

```
<html>
   <head>
      <title>TODO supply a title</title>
      <meta charset="UTF-8">
      <meta name="viewport" content="width=device-width, initial-scale=1.0">
   </head>
   <body>
      <div>TODO write content</div>
   </body>
</html>
```

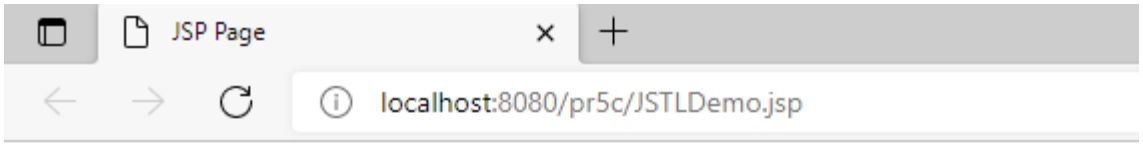
JSTLDemo.jsp

```
<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
<%@ taglib prefix="fmt" uri="http://java.sun.com/jsp/jstl/fmt" %>
<%@ taglib prefix="fn" uri="http://java.sun.com/jsp/jstl/functions" %>
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
      <title>JSP Page</title>
   </head>
   <body>
      <h2>1. Core Tags</h2>
   <c:set var = "number" scope = "session" value = "22" />
```

```
<h3>Use of 'if'</h3>
<c:if test = "${number%2==0}">
   <c:out value = "Even Number" />
</c:if>

<h3>Use of 'forEach'</h3>
<c:forEach var = "i" begin = "1" end = "5">
   Item <c:out value = "${i}"/><p>
</c:forEach>

<h3>Use of 'forToken'</h3>
<c:forTokens items = "Java#LA#AWP#SPM#IOT" delims = "#" var = "name">
   <c:out value = "${name}"/><p>
</c:forTokens>

<h3>Use of Choose/when/otherwise</h3>
<c:set var = "salary" scope = "session" value = "${2000*2}"/>
<p>Your salary is : <c:out value = "${salary}"/></p>

<c:choose>
   <c:when test="${salary <=0}">
      Salary is very low.
   </c:when>

   <c:when test="${salary > 1000}">
      Salary is good.
   </c:when>

   <c:otherwise>
      No comments....
   </c:otherwise>
</c:choose>

      <h3>2. Formatting Tags</h3>
      <h2>Number Format</h2>
```

```
        <c:set var="balance" value="120000.2309"/>
            <p>Formatted Number (1):<fmt:formatNumber value="${balance}"
type="currency" /></p>
            <p>Formatted Number (2):<fmt:formatNumber type="number"
maxIntegerDigits="3" value="${balance}" /></p>
            <p>Formatted Number (3):<fmt:formatNumber type="number"
maxFractionDigits="3" value="${balance}" /></p>
            <p>Formatted Number (4):<fmt:formatNumber type="percent"
minFractionDigits="10" value="${balance}" /></p>
            <p>Currency in USA :
            <fmt:setLocale value="en_US"/>
            <fmt:formatNumber value="${balance}" type="currency"/>
            </p>

            <h2>3. Functional Tags</h2>
            <c:set var="string1" value="This if first String."/>
            <p>Length of String(1) : ${fn:length(string1)}</p>
            <c:if test="${fn:contains(string1, 'is')}">
               <p>Found substring</p>
            </c:if>
            <c:set var="string2" value="${fn:substringBefore(string1,'first')}"/>
            <p>Final sub string before first : ${string1}</p>    </body>
</html>
```

Output:



1. Core Tags

Use of 'if'

Even Number

Use of 'forEach'

Item 1

Item 2

Item 3

Item 4

Item 5

Use of 'forToken'

Java

LA

AWP

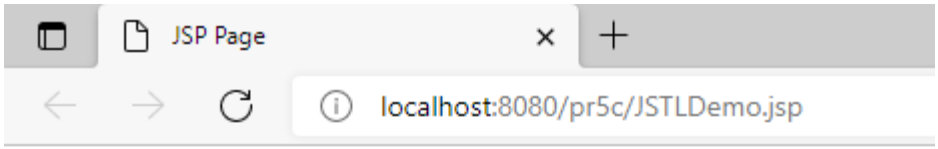
SPM

IOT

Use of Choose/when/otherwise

Your salary is : 4000

Salary is good.



LA

AWP

SPM

IOT

Use of Choose/when/otherwise

Your salary is : 4000

Salary is good.

2. Formatting Tags

Number Format

Formatted Number (1):$120,000.23

Formatted Number (2):000.231

Formatted Number (3):120,000.231

Formatted Number (4):12,000,023.0900000000%

Currency in USA : $120,000.23

3. Functional Tags

Length of String(1) : 21

Found substring

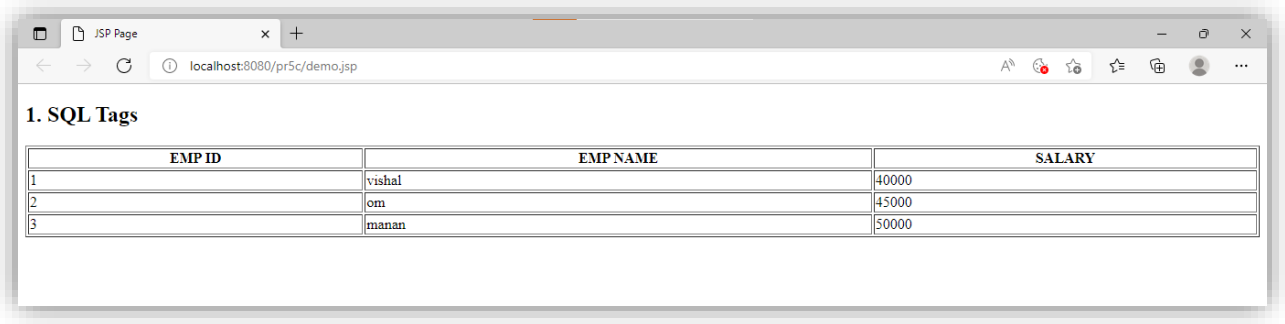
Final sub string before first : This if first String.

Demo.jsp(sql tags)

```
<%@ taglib prefix="sql" uri="http://java.sun.com/jsp/jstl/sql" %>
<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
```

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>JSP Page</title>
  </head>
  <body>
    <h2>1. SQL Tags</h2>
        <sql:setDataSource var="snapshot"
driver="org.apache.derby.jdbc.ClientDriver"
url="jdbc:derby://localhost:1527/OMPATEL" user="OMPATEL"
password="OMPATEL"/>

        <sql:query dataSource="${snapshot}" var="result">
          SELECT * FROM EMPLOYEE
          </sql:query>

          <table border="1" width="100%">
            <tr>
              <th>EMP ID</th>
              <th>EMP NAME</th>
              <th>SALARY</th>
            </tr>

            <c:forEach var="row" items="${result.rows}">
              <tr>
                <td><c:out value="${row.emp_id}" /></td>
                <td><c:out value="${row.emp_name}" /></td>
                <td><c:out value="${row.salary}" /></td>
              </tr>
            </c:forEach>
          </table>
  </body>
</html>
```

Output:



Practical No 7(a)

Aim: Write a program to demonstrate the use of java bean using <useBean> tag.

Source Code:

StudentBean.java

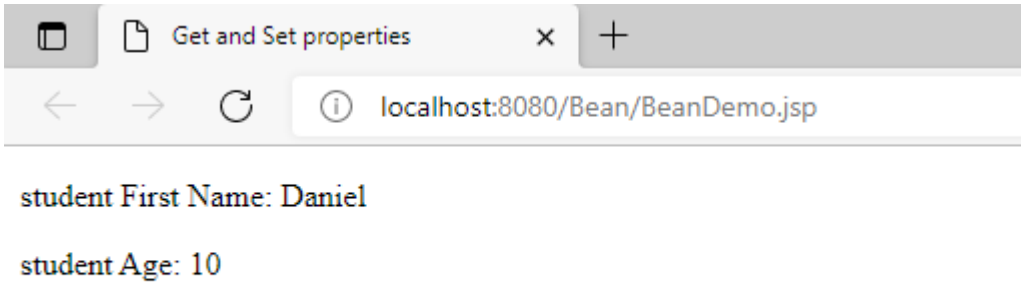
```
public class StudentBean implements java.io.Serializable{

   public StudentBean() {
   }

   private String SName;
   private int age;

   public String getSName() {
      return SName;
   }

   public void setSName(String SName) {
      this.SName = SName;
   }
```

```
    public int getAge() {
        return age;
    }

    public void setAge(int age) {
        this.age = age;
    }

}
```

BeanDemo.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>
        <jsp:useBean id="students" class="Test.StudentBean">
            <jsp:setProperty name="students" property="SName" value="Daniel" />
            <jsp:setProperty name="students" property="age" value="10" />
        </jsp:useBean>
        <p>student First Name:
        <jsp:getProperty name="students" property="SName"/>
        </p>
        <p>student Age:
            <jsp:getProperty name="students" property="age"/>
        </p>
    </body>
</html>
```

Output:


Get and Set properties
localhost:8080/Bean/BeanDemo.jsp
student First Name: Daniel
student Age: 10