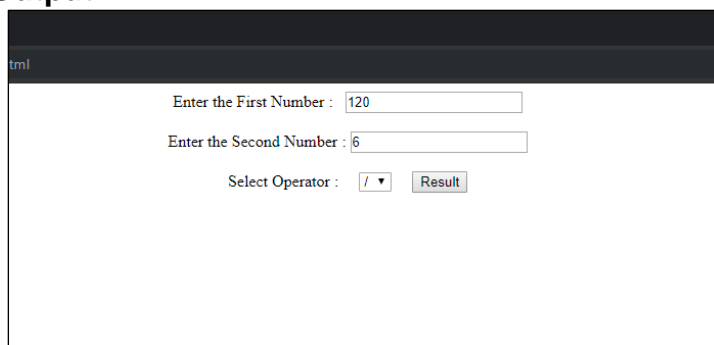


```
import java.io.IOException;
import java.io.PrintWriter;
```

```
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
public class CalculatorServlet extends HttpServlet {
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        PrintWriter out = response.getWriter();
        {
            String n1=request.getParameter("n1");
            String n2=request.getParameter("n2");
            String res=request.getParameter("s1");
            if(res.equals("Addition"))
            {
                out.println("Addition is : "+(Integer.parseInt(n1)+Integer.parseInt(n2)));
            }
            if(res.equals("Substraction"))
            {
                out.println("Substraction is : "+(Integer.parseInt(n1)-Integer.parseInt(n2)));
            }
            if(res.equals("Product"))
            {
                out.println("Product is : "+(Integer.parseInt(n1)*Integer.parseInt(n2)));
            }
            if(res.equals("Division"))
            {
                out.println("Division : "+(Integer.parseInt(n1)/Integer.parseInt(n2)));
            }
        }
    }
}
```

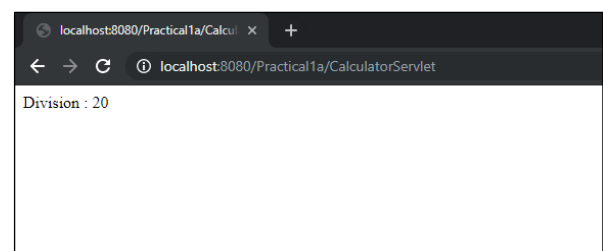
Output:



Enter the First Number :

Enter the Second Number :

Select Operator :



PRACTICAL NO 1B

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

Code :

Login.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 bgcolor="red">
        <center>
            <form method="GET" action="LoginServlet">
                <h3>Login Page</h3><br>
                <b><label>Username </label>
                <input type="text" name="n1"><br><br>
                <label>Password </label>
                <input type="password" name="n2"><br><br>
                <input type="submit" value="submit"></b>
            </form>    </center>    </body>    </html>
```

LoginServlet.java

```
import java.io.IOException;    import java.io.PrintWriter;
import java.sql.Connection;    import java.sql.DriverManager;
import java.sql.ResultSet;    import java.sql.SQLException;
import java.sql.Statement;    import java.util.logging.Level;
import java.util.logging.Logger; import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
```

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

public class LoginServlet extends HttpServlet {

    protected void doGet(HttpServletRequest request, HttpServletResponse response)

        throws ServletException, IOException {

    response.setContentType("text/html;charset=UTF-8");

    PrintWriter out = response.getWriter();

    String a=request.getParameter("n1");

    String b=request.getParameter("n2");

    String c;

    if("ABC".equals(a) && "abc".equals(b))

    {

        c="LOGIN SUCCESSFULLY";

        out.println("<body bgcolor=red>");

        out.println("<center><h2>"+c+"</h2></center>");

    }

    else

    {

        c="LOGIN FAILED";

        out.println("<body bgcolor=blue>");

        out.println("<center><h2>"+c+"</h2></center>");

    }

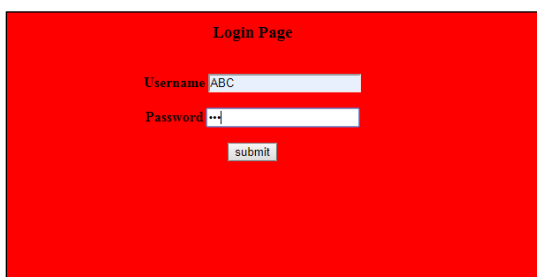
    out.println("</body>");

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

    }

}
```

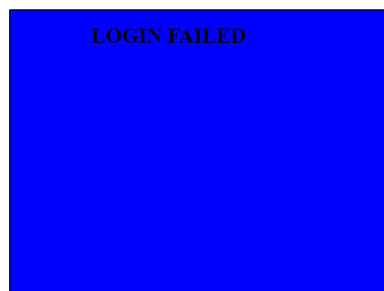
Output :



Login Page

Username

Password



PRACTICAL NO 1C

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.

Code :

Registration.jsp

```
<!DOCTYPE html>

<html>

  <head>

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

    <title>JSP Page</title>

  </head>

  <body>

    <center>

      <form method="GET" action="LoginRegistrationServlet">

        <h3>Registration Form</h3><br>

        <b><label>Username &nbsp;</label>

        <input type="text" name="n1"><br><br>

        <label>Password &nbsp;&nbsp;</label>

        <input type="password" name="n2"><br><br>

        <b><label>Email &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;</label>

        <input type="text" name="n3"><br><br>

        <b><label>Country &nbsp;&nbsp;&nbsp;&nbsp;</label>

        <input type="text" name="n4"><br><br>

        <input type="submit" value="Register"></b>

      </form>

    </center>

  </body>

</html>
```

RegistrationServlet.java

```
import java.io.IOException;

import java.io.PrintWriter;

import java.sql.*;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

public class RegistrationServlet extends HttpServlet {

    protected void doGet(HttpServletRequest request, HttpServletResponse response)

        throws ServletException, IOException {

        response.setContentType("text/html;charset=UTF-8");

        PrintWriter out = response.getWriter();

        String a=request.getParameter("n1");

        String b=request.getParameter("n2");

        String c=request.getParameter("n3");

        String d=request.getParameter("n4");

        try{

            Class.forName("com.mysql.jdbc.Driver");

            Connection con=DriverManager.getConnection("jdbc:mysql://localhost/prem","root","root");

            PreparedStatement ps=con.prepareStatement("insert into detail values(?,?,?,?)");

            ps.setString(1,a);

            ps.setString(2,b);

            ps.setString(3,c);

            ps.setString(4,d);

            ps.execute();

            out.println("Record Inserted");

            ps.close();

            con.close();

        }

        catch(ClassNotFoundException | SQLException e) { }
```

}

}

Output :

/Registration.jsp

Registration Form

Username

Password

Email

Country

GlassFish Server Open Source Edition | localhost8888/RegistrationForm | +

localhost:8888/RegistrationForm/RegistrationServlet?n1=ABC&n2=2345&n3=abc%40gmail.com

Record Inserted

```
mysql> use prem
Database changed
mysql> select * from detail;
+-----+-----+-----+-----+
| username | password | email | country |
+-----+-----+-----+-----+
| hb | vhw | gv | bhynaj |
| NULL | NULL | NULL | NULL |
| ABC | dvfc | dfffd | dfd |
| ABC | 2345 | abc@gmail.com | india |
+-----+-----+-----+-----+
4 rows in set (0.03 sec)
```

PRACTICAL NO 2A

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

Code:

Index.html

```
<html>

  <head>

    <title>TODO supply a title</title>

  </head>

<body>

  <form method="POST" action="CookieCounter1">

    <center> <input type="submit" value="Go To Servlet page to Visit Counter"></center>

  </form>

</body>

</html>
```

CookieCounter1.java

```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.Cookie;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
public class CookieCounter1 extends HttpServlet
{
  static int count=1;

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



```
Cookie myCookie=new Cookie("noOfVisit",intialCount);

response.addCookie(myCookie);

int CookieValue=Integer.parseInt(myCookie.getValue());

if(CookieValue==1)

{
    out.println("Welcome");
}

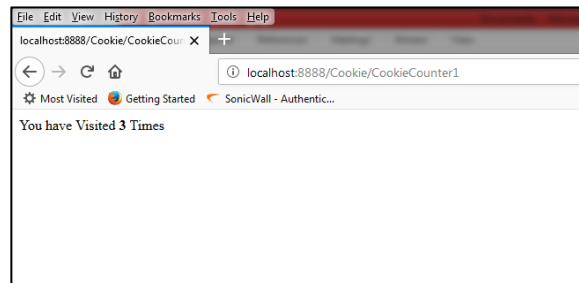
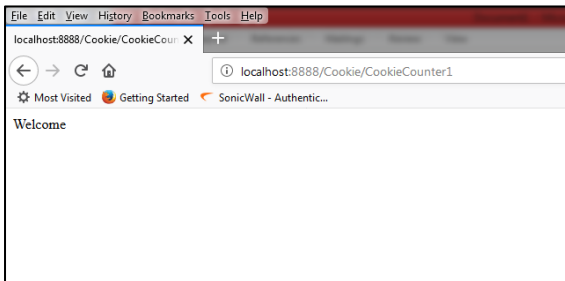
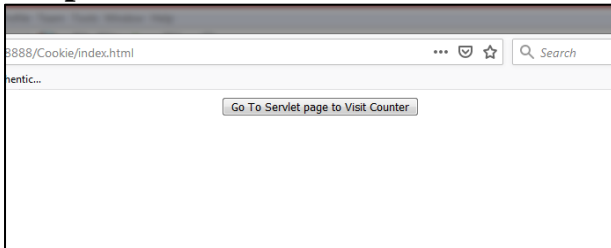
else

{
    out.println("You have Visited <b>"+count+"</b> Times");
    count++;
}

}

}
```

Output:-



PRACTICAL NO 2B

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.

Code :

html.jsp

```
<html>

<head>

<title>Session</title>

</head>

<body>

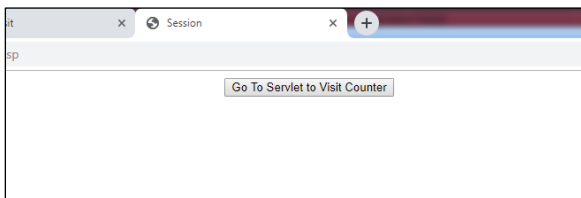
<form method="GET" action="SessionCounter">

<center><input type="submit" value="Go To Servlet to Visit Counter"></center>

</form>

</body>

</html>
```



SessionCounter.java

```
import java.io.IOException;    import java.io.PrintWriter;

import javax.servlet.ServletException; import javax.servlet.http.HttpServlet;

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

import javax.servlet.http.HttpSession;

public class SessionCounter extends HttpServlet {

    @Override

    public void doGet(HttpServletRequest request, HttpServletResponse response)

        throws ServletException, IOException {

        response.setContentType("text/html;charset=UTF-8");

        try (PrintWriter out = response.getWriter()) {
```

```

HttpSession mysession=request.getSession(true);

Integer visitcount;

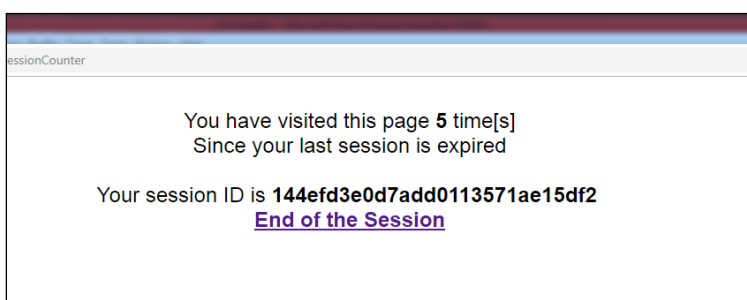
if(!mysession.isNew())
{
    visitcount=(Integer)mysession.getAttribute("sessionVisit");

    if(visitcount==null)
    {
        visitcount=1;
    }
    else
    {
        visitcount=visitcount+1;
    }
}
else
{
    visitcount=1;
}

mysession.setAttribute("sessionVisit",visitcount);

out.println("<!DOCTYPE html>");
out.println("<html>");
out.println("<head>");
out.println("<title>Session Visit</title>");
out.println("</head>");
out.println("<font face=Arial size=5><center><body><br>You have visited this page<b>"
+visitcount+"</b> time[s]<br>");
out.println("Since your last session is expired<br><br>");
out.println("Your session ID is <b>"+mysession.getId());
out.println("<b><a href='SessionEnd'><br>End of the Session</a>");
out.println("</center></body>");
out.println("</html>");
}
}
}

```



SessionEnd.jsp

```
import java.io.IOException;

import java.io.PrintWriter;

import static java.lang.ProcessBuilder.Redirect.to;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

import javax.servlet.http.HttpSession;

public class SessionEnd extends HttpServlet {

    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. */

            HttpSession session=request.getSession(false);

            out.println("<font face=Arial size=5><center>" + session.getAttribute("sessionVisit") + " Times you have visited  
<br>");

            if(session!=null)

            {

                session.invalidate();

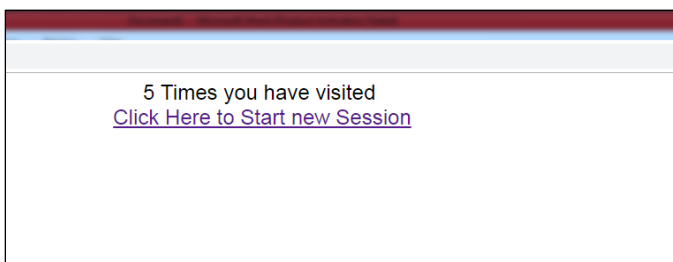
                out.println("<a href='\"SessionCounter\"'>Click Here to Start new Session</a>");

            }

        }

    }

}
```



PRACTICAL NO 3

Aim: Develop Simple Servlet Question Answer Application using Database.

Code :

Session.jsp

```
<!DOCTYPE html>

<html> <head>

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

    <title>JSP Page</title>

</head>

<body>

    <form method="GET" action="QuestionAnsServlet">

        <h3>Question And Answer</h3>

        <label>Q.1 EJava is Interesting Subject ?</label><br>

        <input type="radio" name="First" value="Yes">Yes

        <input type="radio" name="First" value="No">No<br><br>

        <label>Q.2 Which is your favourite Subject ?</label><br>

        <input type="radio" name="Second" value="Maths">Maths

        <input type="radio" name="Second" value="Java">Java<br><br>

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

    </form>    </body>    </html>
```

QuestionAnsServlet.java

```
import java.io.IOException;

import java.io.PrintWriter;

import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;

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

public class QuestionAnsServlet extends HttpServlet {

    protected void doGet(HttpServletRequest request, HttpServletResponse response)

        throws ServletException, IOException {
```

```

response.setContentType("text/html;charset=UTF-8");

PrintWriter out = response.getWriter();

String a=request.getParameter("First");

String b=request.getParameter("Second");

String c;

if(a.equals("Yes") && b.equals("Java"))
{
    c="correct Answer";
}
else
{
    c="incorrect answer";
}

out.println("<html><head><title>QuesAns</title></head><body>");
out.println(c);
}
}

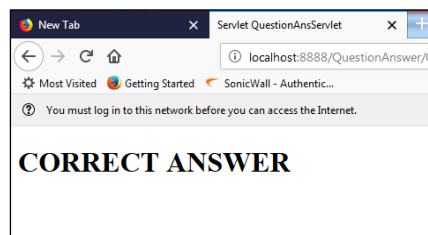
```

Output:

Question And Answer

Q.1 EJava is Interesting Subject ?
☒ Yes ☐ No

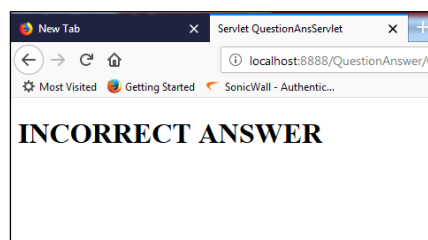
Q.2 Which is your favourite Subject ?
☐ Maths ☒ Java



Question And Answer

Q.1 EJava is Interesting Subject ?
☐ Yes ☒ No

Q.2 Which is your favourite Subject ?
☐ Maths ☒ Java



PRACTICAL NO 4A

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

Code :

Prac4a.jsp

```
<%@page import="java.io.PrintWriter"%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

    <head>

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

        <title>JSP Implicit Object Demo</title>

    </head>

    <body>

        <% PrintWriter wr=response.getWriter();

        wr.println("Use of Response Object writer example");

        %>

        <br><br>

        <strong>Use of Request Object-locale Example :</strong>

        <%=request.getLocale().toString()%><br><br>

        <strong>Use of Out prints :</strong>

        <%out.print("This is an example");%><br><br>

        <strong>Use of Config Object-Servlet Name :</strong>

        <%=config.getServletName()%><br><br>

        <strong>Use of Application Object-server Info :</strong>

        <%=application.getServerInfo()%><br><br>

        <strong>Use of Page Object-page name :</strong>
```

```
<%=page.getClass().getName()%><br><br>
```

```
<strong>Use of Session Object-creation time :</strong>
```

```
<%=session.getCreationTime()%><br><br>
```

```
<%=pageContext.setAttribute("Test","Test Value");%>
```

```
<strong>Use of PageContext Object-class name :</strong>
```

```
<%=pageContext.getClass().getName()%><br><br>
```

```
</body>
```

```
</html>
```

Web.xml

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee"
```

```
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
```

```
    xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-app_3_1.xsd" version="3.1">
```

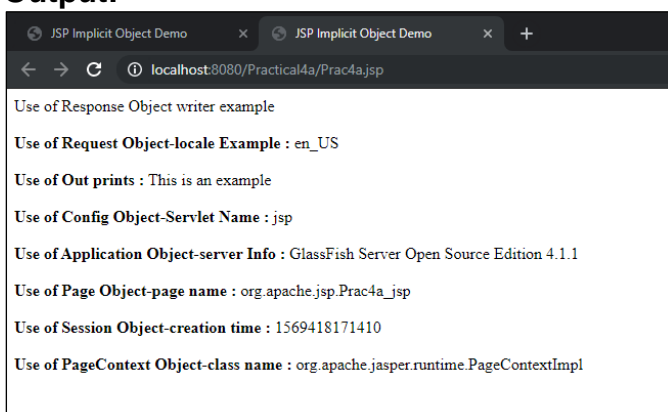
```
<welcome-file-list>
```

```
<welcome-file>Prac4a.jsp</welcome-file>
```

```
</welcome-file-list>
```

```
</web-app>
```

Output:



PRACTICAL NO 4B

Aim: Develop a simple JSP application to pass values from one page to another with validations. (Name-txt, age-txt, hobbies-checkbox, email-txt, gender-radio button).

Code :

Register.jsp

```
<!DOCTYPE html>

<html>

  <head>

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

    <title>Registration Form</title>

  </head>

  <body>

    <form action="validate.jsp" method="post"><center>

      <font face="Imprint MT Shadow" size="3">

        <h3>Registration Form</h3><br><br>

        <table border="0">

          <tr >

            <td width="100">Full Name </td>

            <td><input type="text" name="n1"></td>

          </tr>

          <tr>

            <td>Age</td>

            <td><input type="text" name="n1" size="5"></td>

          </tr>

          <tr>

            <td>Email</td>

            <td><input type="text" name="n1"></td>

          </tr>

          <tr>

            <td>Gender </td>
```

```

        <td><input type="radio" name="r1">Male
        <input type="radio" name="r1">Female</td>
    </tr>
    <tr>
        <td>Hobbies</td>
        <td><input type="checkbox" name="c1">Acting
            <input type="checkbox" name="c1">Dancing
            <input type="checkbox" name="c1">Singing</td>
    </tr>
    <tr>
        <td colspan="2" align="center" ><input type="submit" value="Register"></td>
    </tr>
</table>
</center>
</form>
</body>
</html>

```

Validate.jsp

```

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%!
    int ageInNumber;

    private static final String EMAIL_ReGEX="^[\\w-\\+](\\.[\\w]+)*@[\\w-](\\.[\\w]+)*\\.([a-z]{2,})$";

%>
<%
String name=request.getParameter ("n1");
String age=request.getParameter ("n2");
String email=request.getParameter ("n3");
String gender=request.getParameter ("r1");
String hob[]=request.getParameterValues("c1");

if(name.isEmpty() || age. isEmpty() || email.isEmpty() || gender. isEmpty())

```

```
{
out.println("<font color=red>Please fill all the fields</font><br>");
}

if(!email.matches(EMAIL_ReGEX))
{
out.println("<font color=red>Correct your Email Address</font><br>");
}

try
{
    ageInNumber=Integer.parseInt(age.trim());
}
catch(NumberFormatException e)
{
    out.println("<font color=red>Age must be in Numbers</font><br>");
}

if(ageInNumber<=18 || ageInNumber>=60)
{
    out.println("<font color=red>Age must be in Between 18 to 60</font><br>");
}

%>

<!DOCTYPE html>

<html>

    <head>

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

        <title>validate</title>

    </head>

    <body><font face="Imprint MT Shadow" size="3">

        Your Entered Information is as follows:<br>

        Full name: &nbsp;&nbsp;&nbsp;&nbsp;&nbsp;<b><%=name%></b><br>

        Age: &nbsp;&nbsp;&nbsp;&nbsp;<b><%=age%></b><br>

        Email: &nbsp;&nbsp;&nbsp;&nbsp;<b><%=email%></b><br>
```

Gender: <%=gender%>

Hobbies:

<%

if(hob!=null && hob.length!=0)

{

for(int i=0;i<hob.length;i++)

{

out.println(hob[i]);

}

}

%>

</body>

</html>

Output :

Registration Form

Full Name

Age

Email

Gender ☒ Male ☐ Female

Hobbies ☐ Acting ☐ Dancing ☐ Singing

valid: x valid: x valid: x valid: x va

← → ↻ localhost:8084/JSPApplication/validate.jsp

Your Entered Information is as follows:

Full name: **abc**

Age: **30**

Email: **acb@gmail.com**

Gender: **Male**

Hobbies: **Acting Dancing**

valid: x valid: x valid: x valid: x valid: x va

← → ↻ localhost:8084/JSPApplication/validate.jsp

Please fill all the fields

Correct your Email Address

Age must be in Numbers

Your Entered Information is as follows:

Full name:

Age:

Email:

Gender: **null**

Hobbies:

PRACTICAL NO 4C

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

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>JSP Page</title>
    </head>
    <body>
        <form action="dbRegistration.jsp" method="post">
            Firsrname<input type="text" name="fname">
            Lastname<input type="text" name="sname">
            zipcode<input type="text" name="zip">
            username<input type="text" name="uid">
            password<input type="password" name="pwd">
            confirmpassword<input type="password" name="pwd1">
            town<input type="text" name="town">
            country<input type="text" name="country">
            <input type="submit" name="submit">
        </form>
    </body>
</html>
```

login.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>

    <form ACTION="dbLogin.jsp" method="post">

        ENter User Name:<input type="text" name="uid">

        ENter User Password:<input type="text" name="upass">

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

    </body>

</html>
```

dbRegistration.jsp

```
<%@page import="java.sql.SQLException"%>

<%@page import="com.mysql.jdbc.PreparedStatement"%>

<%@page import="java.sql.*"%>

<%@page import="javax.sql.*"%>

<%@page import="java.sql.DriverManager"%>

<%@page import="java.sql.ResultSet"%>

<%@page import="java.sql.Connection"%>

<%@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>

        <%

            String uid=request.getParameter("uid");

            String fname=request.getParameter("fname");

            String sname=request.getParameter("sname");

            String pwd=request.getParameter("pwd");
```

```
String pwd1=request.getParameter("pwd1");

String town=request.getParameter("town");

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

String zipcode=request.getParameter("zip");

String connectionURL="jdbc:mysql://localhost:3306/reg";

Connection connection=null;

ResultSet rs;


try{

    Class.forName("com.mysql.jdbc.Driver");

    connection=DriverManager.getConnection("jdbc:mysql://localhost:3306/reg","root","root");

    PreparedStatement pst=null;

    connection.prepareStatement("insert into register values(?,?,?,?,?,?,?)");

    pst.setString(1,uid);

    pst.setString(2,fname);

    pst.setString(3,sname);

    pst.setString(4,pwd);

    pst.setString(5,pwd1);

    pst.setString(6,town);

    pst.setString(7,country);

    pst.setString(8,zipcode);

    int numROwsChanged=pst.executeUpdate();

    out.println("<h1>Welcome:");

    out.println(""+fname+"</h1>");

    pst.close();

}

catch(ClassNotFoundException e)

{

    out.println("couldn't load database driver:" + e.getMessage());

}

catch(SQLException e)

{

    out.println(e.getMessage());

}

catch(Exception e)
```

```

        {                out.println("Database Error");                }

    finally{

        try

        {                if(connection!=null)connection.close();                }

        catch(SQLException ignored)

        {                out.println(ignored);                }

        }

    response.sendRedirect("login.jsp");

    %>

</body>

</html>

```

dbLogin.jsp

```

<%@page contentType="text/html" pageEncoding="UTF-8"%>

<%@page import="java.sql.*"%>

<%@page import="javax.sql.*"%>

<!DOCTYPE html>

<html>

    <head>

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

        <title>JSP Page</title>

    </head>

    <body>

        <%

            String userid=request.getParameter("uid");

            String pwd=request.getParameter("upass");

            Class.forName("com.mysql.jdbc.Driver");

            String connUrl="jdbc:mysql://localhost:3306/reg";

            java.sql.Connection con=DriverManager.getConnection(connUrl,"root","root");

            Statement st=con.createStatement();

            ResultSet rs=st.executeQuery("select * from register where uid='"+userid+"'");

            if(rs.next())

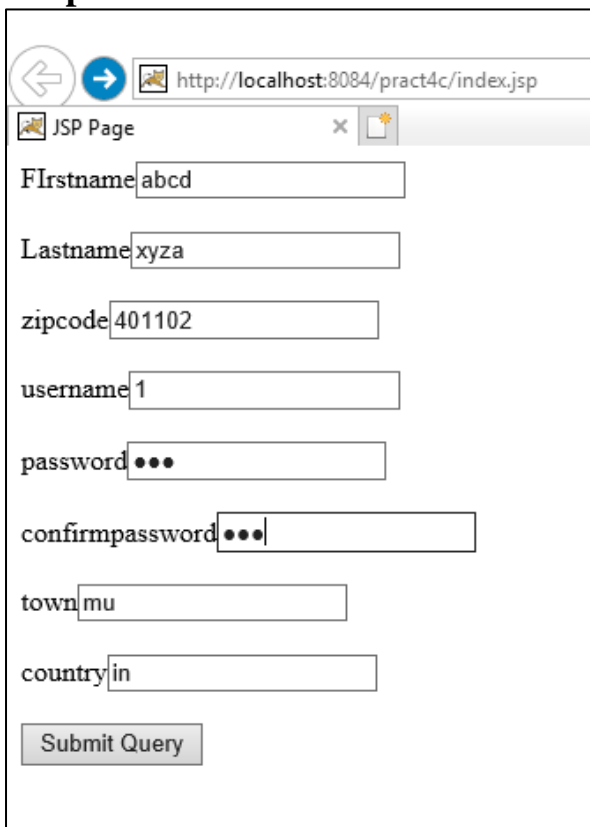
            {

```



```
if(rs.getString(4).equals(pwd))  
{  
    out.println("<h4> Login Successful, Welcome to jsp</h4>");  
}  
else  
{  
    out.println("<h4>Username or passwprd wrong.</h4>");  
    out.println("<h4><a href=login.jsp><h4>Click here to try Again</a></h4>");  
}  
}  
else  
{out.println("Database Error");}  
%>  
  
</body>  
  
</html>
```

Output:



The screenshot shows a web browser window with the address bar displaying `http://localhost:8084/pract4c/index.jsp`. The page title is "JSP Page". The form contains the following fields and values:

- Firstname: abcd
- Lastname: xyza
- zipcode: 401102
- username: 1
- password: ●●●
- confirmpassword: ●●●
- town: mu
- country: in

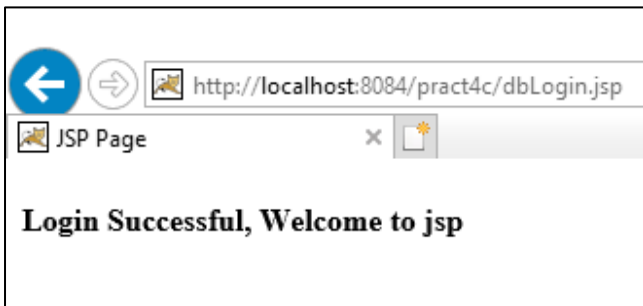
At the bottom of the form is a button labeled "Submit Query".



http://localhost:8084/pract4c/login.jsp

JSP Page

ENter User Name: ENter User Password:



http://localhost:8084/pract4c/dbLogin.jsp

JSP Page

Login Successful, Welcome to jsp

```
mysql> desc register;
```

Field	Type	Null	Key	Default	Extra
uid	char(40)	YES		NULL	
fname	char(40)	YES		NULL	
sname	char(40)	YES		NULL	
pwd	char(40)	YES		NULL	
pwd1	char(40)	YES		NULL	
town	char(40)	YES		NULL	
country	char(40)	YES		NULL	
zipcode	char(40)	YES		NULL	

```
3 rows in set (0.12 sec)
```

```
mysql> select * from register;
```

uid	fname	sname	pwd	pwd1	town	country	zipcode
1	abcd	xyza	456	456	mu	in	401102

```
1 row in set (0.00 sec)
```

```
mysql>
```

PRACTICAL NO 5A

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.

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>MY LOGIN FOR EDITING</title>

</head>

<body bgcolor="pink">

<h1>LOGIN FOR EDITING YOUR DETAILS</h1>

<form action="loginCheck.jsp" method="post">

<table bgcolor="red">

<tr><td>User Name:</td><td><input type="text" name="uid" /></td></tr>

<tr><td>Password:</td><td><input type="password" name="pwd" /></td></tr>

<tr><td colspan="2" align="center"><input type="submit" /></td></tr>

</table>

</form>

</body>

</html>
```

Logincheck.jsp

```
@page import= "java.sql.*,javax.sql.*"%>

<%

String userid=request.getParameter("uid");

session.setAttribute("userid",userid);

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

Class.forName("org.apache.derby.jdbc.ClientDriver");
```

```

java.sql.Connection con = DriverManager.getConnection("jdbc:derby://localhost:1527/PQR","PQR","PQR");

Statement st=con.createStatement();

ResultSet rs=st.executeQuery("select * from register where uid='"+userid+"'");

if(rs.next())

{

if(rs.getString(4).equals(pwd))

{

response.sendRedirect("editRegister.jsp");

}

else

{

response.sendRedirect("index.jsp");

}

}

else

{

out.println("Database Error");

}

%>

```

editRegister.jsp :

```

<%@page contentType="text/html" pageEncoding="UTF-8" %>

<%@page import="java.sql.*,javax.sql.*" %>

<%

String userid=session.getAttribute("userid").toString();

//String pwd=session.getAttribute("pwd").toString();

Class.forName("org.apache.derby.jdbc.ClientDriver");

java.sql.Connection con = DriverManager.getConnection("jdbc:derby://localhost:1527/PQR","PQR","PQR");

Statement st=con.createStatement();

ResultSet rs=st.executeQuery("select * from register where uid='"+userid+"'");

if(rs.next())

{

```

```

%>

<html>

<head><title>Registration Example</title>

</head>

<body bgcolor="PINK">

<form action="updateDetails.jsp" method="post">

<table cellpadding="4" cellspacing="2" border="0" bgcolor="Red">

<tr>

<th colspan="2"><font size="5">EDIT REGISTRATION DETAILS</font></th><br>

</tr>

<tr> <td> <b>First Name<sup>*</sup></b> </td>

<td>

<input type="text" name="fname" value="<%=rs.getString(1) %>" size=15 maxlength=20"/> </td> </tr> Roll No : 41

<tr> <td> <b>Last Name<sup>*</sup></b></td>

<td>

<input type="text" name="sname" value="<%=rs.getString(2) %>" size=15 maxlength=20 </td> </tr>

<tr><td> <b>Zip Code<sup>*</sup></b> </td>

<td>

<input type="text" name="zip" value="<%=rs.getString(7) %>" size=5 maxlength=6"/>

</td> </tr>

<tr> <td> <b>User Name<sup>*</sup> </b> </td>

<td>

<input type="text" name="uid" value="<%=rs.getString(1) %>" size=15 maxlength=20"/>

</td> </tr>

<tr> <td> <b>Password<sup>*</sup></b></td>

<td>

<input type="password" name="pwd" value="<%=rs.getString(3) %>" size=15 maxlength=20"/>

</td> </tr>

<tr> <td> <b>Confirm Password<sup>*</sup></b> </td>

<td>

```

```

<input type="password" name="pwd" value="<%=rs.getString(4) %>" size=15 maxlength=20"/>
</td></tr>
<tr><td><b>Town <sup>*</sup></b></td>
<td>
<input type="text" name="town" value="<%=rs.getString(5) %>" size=15 maxlength=20"/>
</td> </tr>
<tr><td><b>Country<sup>*</sup></b></td>
<td>
<input type="text" name="country" value="<%=rs.getString(6) %>" size=15 maxlength=20"/>
</td> </tr> Roll No : 41

```

```

<tr><td align="center" colspan="2"><hr>
<input type="submit" value="submit">
</td></tr>
</table>
<% }
else
{
out.println("Database Error");
} %>
</form>
</body>
</html>

```

UpdateDetails.jsp

```

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@page import="java.sql.*;javax.sql.*" %>
<%
String uid=request.getParameter("uid");
String fname=request.getParameter("fname");
String sname=request.getParameter("sname");
String pwd=request.getParameter("pwd");

```

```

String pwd1=request.getParameter("pwd1");
String town=request.getParameter("town");
String country=request.getParameter("country");
String zip=request.getParameter("zip");
session.setAttribute("userid",uid);
Class.forName("org.apache.derby.jdbc.ClientDriver");
java.sql.Connection con = DriverManager.getConnection("jdbc:derby://localhost:1527/PQR","PQR","PQR");
String sql="update register set fname=?,sname=?,pwd=?,pwd1=?,town=?,country=?,zip=? where uid=?";
PreparedStatement pst=con.prepareStatement(sql);
pst.setString(1,fname);
pst.setString(2,sname);
pst.setString(3,pwd);
pst.setString(4,pwd1);
pst.setString(5,town);
pst.setString(6,country);
pst.setString(7,zip);
pst.setString(8,uid);
pst.executeUpdate();
Statement st=con.createStatement();
ResultSet rs=st.executeQuery("select * from register where fname='"+fname+"'"); Roll No : 41
if(rs.next())
{
%>
<html>
<head><title> Save Changes</title>
</head>
<body bgcolor="PINK">
<form action="UpdateDeatails.jsp" method="post">
<table cellpadding="4" cellspacing="2" border="0" bgcolor="Red">
<tr>
<th colspan="2"><font size="5">YOU HAVE MADE THE FOLLOWING CHANGES</font></th><br>

```

```

</tr>

<tr><td><b>First Name<sup>*</sup></b></td>

<td> <%=rs.getString(1) %> </td>

</tr>

<tr><td> <b>Last Name<sup>*</sup></b></td>

<td><%=rs.getString(2) %> </td>

</tr>

<tr><td><b>Zip Code<sup>*</sup></b></td>

<td> <%=rs.getString(7) %> </td></tr>

<tr> <td><b>User Name<sup>*</sup></b> </td>

<td><%=rs.getString(8) %> </td>

</tr>

<tr><td><b>Password<sup>*</sup></b></td>

<td> <%=rs.getString(3) %> </td>

</tr>

<tr> <td> <b>Town <sup>*</sup></b></td>

<td> <%=rs.getString(5) %> </td>

</tr> Roll No : 41

<tr><td> <b>Country<sup>*</sup></b></td>

<td><%=rs.getString(6) %></td></tr>

</table>

<%

}

Else {

out.println("Database Error");

}

%>

</form>

</body>

</html>

```


Output:

LOGIN FOR EDITING YOUR DETAILS

User Name:	<input type="text" value="abc"/>
Password:	<input type="password" value="..."/>
<input type="button" value="Submit Query"/>	

EDIT REGISTRATION DETAILS

First Name*	<input type="text" value="abc"/>
Last Name*	<input type="text" value="abc"/>
Zip Code*	<input type="text" value="400104"/>
User Name*	<input type="text" value="abb"/>
Password*	<input type="password" value="..."/>
Confirm Password*	<input type="password" value="..."/>
Town*	<input type="text" value="mumbai"/>
Country*	<input type="text" value="india"/>
<input type="button" value="submit"/>	

YOU HAVE MADE THE FOLLOWING CHANGES

First Name*	abc
Last Name*	asd
Zip Code*	400104
User Name*	abc
Password*	abc
Town*	mumbai
Country*	india

PRACTICAL NO 5B

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

Code :

Index.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>

<%
    application.setAttribute("author","Tushar");
    session.setAttribute("country","India");
%>

<!DOCTYPE html>

<html>

    <head>

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

        <title>JSP Page</title>

    </head>

    <body>

        <form action="show.jsp" method="POST">

            <center>User FirstName:<input type="text" name="ufname"><br><br>

            User LastName:<input type="text" name="lfname"><br><br>

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

        </form>

    </body>

</html>
```

Show.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>

  <b> Welcome </b> <b><i>${param.ufname} ${param.ulname}</i></b><br>

  <p>

    Author name:<b> ${applicationScope.author}</b> </p>

  <p> Author counting: <b> ${sessionScope.country}</b> </p>

  Is 1 less than 2 ? <b>${1<2}</b><br>

  Does 5 equals 5? <b>${5==5}</b><br>

  Is 6 greater than 7 ? <b>${6>7}</b><br>

  <p>Now for some math :<br>

    6+7=${6+7}<br>

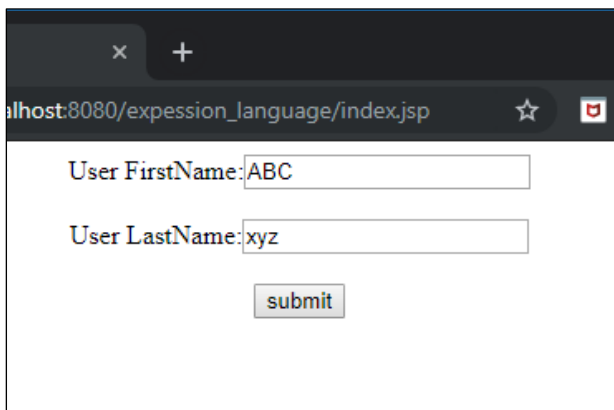
    8*9=${8*9}<br>

  <p> You appear to be using the following browser. <b>${header ["user-agent"]}</b>

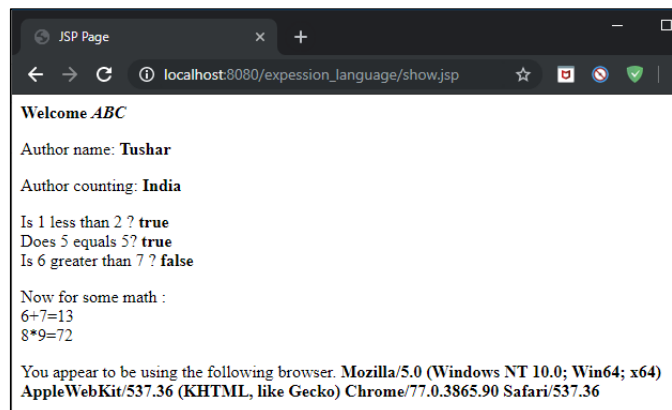
</body>

</html>
```

Output:



A screenshot of a web browser showing a form at the URL `localhost:8080/expresson_language/index.jsp`. The form contains two text input fields: "User FirstName:" with the value "ABC" and "User LastName:" with the value "xyz". Below the fields is a "submit" button.



A screenshot of a web browser showing the output of the JSP page at the URL `localhost:8080/expresson_language/show.jsp`. The output displays the following information:

- Welcome *ABC*
- Author name: **Tushar**
- Author counting: **India**
- Is 1 less than 2 ? **true**
- Does 5 equals 5? **true**
- Is 6 greater than 7 ? **false**
- Now for some math :
6+7=13
8*9=72
- You appear to be using the following browser. **Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/77.0.3865.90 Safari/537.36**

PRACTICAL NO 5C

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

Code :

Index.html

```
<%@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><center>

        <form action="jstldemo.jsp" method="post">

            First Name:<input type="text" name="n1"><br><br>

            Last Name:<input type="text" name="n2"><br><br>

            <input type="submit" name="CheckJSTLDEMO"><br><br>

        </form></center>

    </body>

</html>
```

Jstldemo.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>

<!DOCTYPE html>

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

<html>

    <head>

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

        <title>JSP Page</title>

    </head>

    <body>

        First Name:<b><c:out value="${param.n1}"></c:out></b><br><br>
```

Last Name:<c:out value="\\${param.n2}"></c:out>

Use of IF Statement

<c:set var="mycount" value="25"/>

<c:if test="\\${mycount==25}">

<c:out value="Your count is 25"/>

</c:if>

Use of Foreach Statement

<c:forEach var="count" begin="101" end="105">

<c:out value="\\${count}"/>

</c:forEach>

Exception catching Example

<p><c:catch var="myException">

<%int number=10/0;%>

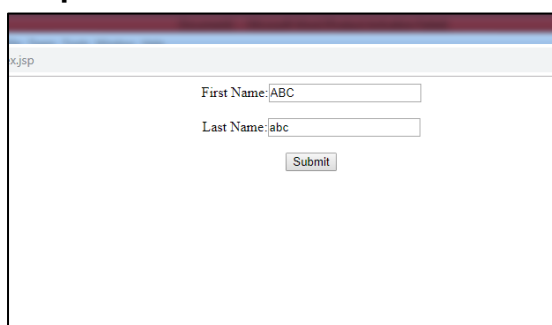
</c:catch>

The Exception is :\${myException}

</body>

</html>

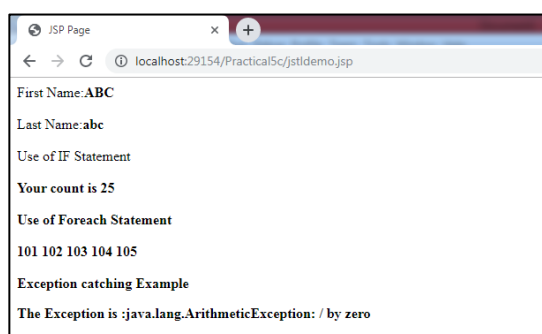
Output:



First Name: ABC

Last Name: abc

Submit



PRACTICAL NO 6A

Aim: Create a Currency Converter application using EJB.

Create a session bean named as CCBean in the package named mybeans. Select the option Stateless and click on Local Interface.

Here you will find two files created in the mybeans package named as CCBean.java and CCBeanLocal.java)

Code :

Index.html

```
<!DOCTYPE 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 action="CCServlet">

      Enter Amount <input type="text" name="amt"><br>

      Select Conversion Type

      <input type="radio" name="type" value="r2d" checked>Rupees to Dollar

      <input type="radio" name="type" value="d2r" checked>Dollar to Rupees

      <input type="reset" ><input type="submit" value="CONVERT">

    </form>    </body>

</html>
```

SessionBean Page (Source Packages -> Mybean -> CCBean.Java)

```
package mybeans;

import javax.ejb.Stateless;

@Stateless

public class CCBean {

    public double r2Dollar(double r)        {        return r/65.65;        }

    public double d2Rupees(double d)        {        return d*65.65;        }        }
```

Servlet Page (Source Packages -> MyPack -> CCServlet.java)

```
package mypack;

import java.io.IOException;          import java.io.PrintWriter;

import javax.ejb.EJB;    import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;    import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

import mybeans.CCBean;

public class CCServlet extends HttpServlet {

    @EJB CCBean obj;

    protected void doGet(HttpServletRequest request, HttpServletResponse response)

        throws ServletException, IOException {

        response.setContentType("text/html;charset=UTF-8");

        PrintWriter out = response.getWriter();

        double amt=Double.parseDouble(request.getParameter("amt"));

        if(request.getParameter("type").equals("r2d"))

        {

            out.println("<h1>Entered amount= "+amt);

            out.println("\nRupees = "+obj.r2Dollar(amt)+" Dollars</h1>");

        }

        if(request.getParameter("type").equals("d2r"))

        {

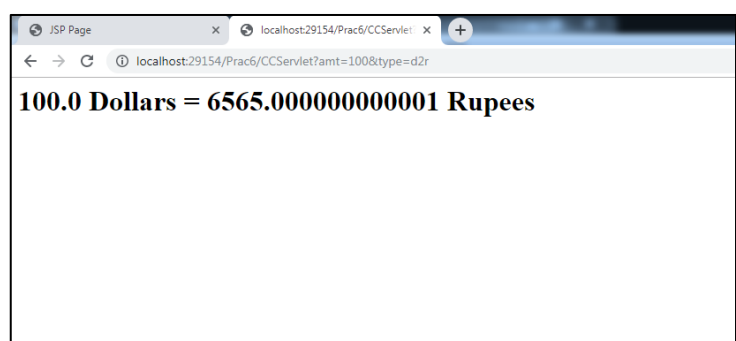
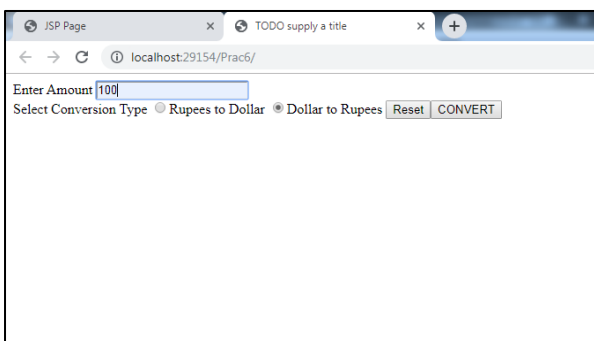
            out.println("<h1>"+amt+" Dollars = "+obj.d2Rupees(amt)+" Rupees</h1>");

        }

    }

}
```

Output:



PRACTICAL NO 6B**Aim: Develop a Simple Room Reservation System Application Using EJB.****Code :****Index.html**

```
<!DOCTYPE html>

<html>

  <head>

    <title>Room Reservation System</title>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

  </head>

  <body>

    <h3 align="center">Room Reservation System</h3>

    <form method="post" action="Room.jsp">

      <b>Room Name</b>

      <input type="text" name="n" size="10"><br><br>

      <b> Room Description </b>

      <textarea name="d" rows="4" cols="10"></textarea>      <br><br>

      <b> Bed Quantity</b>

      <select name="q">

        <option value="1">1</option>

        <option value="2">2</option>

      </select>      <br><br>

      <b> Payment mode</b>

      <input type="radio" name="p" value="CreditCard">CreditCard

      <input type="radio" name="p" value="Cash">Cash      <br><br>

      <input type="submit" value="Insert">

    </form>

  </body>

</html>
```


SessionBean Page (Source Packages->Mybean-> EJBPrac8)

```
package MyBean;

import javax.ejb.Stateless;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.PreparedStatement;

import javax.ejb.Stateless;

@Stateless

public class EJBPrac8 {

    public void addInventory(String name, String description, String category, String quantity, String payment) throws
    Exception

    {

        Class.forName("com.mysql.jdbc.Driver");

        Connection con=DriverManager.getConnection("jdbc:mysql://localhost/raji","root","root");

        java.sql.Statement stmt= con.createStatement();

        PreparedStatement ps=con.prepareStatement("insert into
reservation1(name,description,category,quantity,payment)values(?,?,?,?,?)");

        ps.setString(1,name);

        ps.setString(2, description);

        ps.setString(3,category);

        ps.setString(4, quantity);

        ps.setString(5, payment);

        ps.executeUpdate();

        ps.close();

        con.close();

    }

}
```

Room.jsp

```
<%@page import="MyBean.EJBPrac8" %>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
```

```
<!DOCTYPE html>

<html>

  <head>

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

    <title>Room Reservation System</title>

  </head>

  <body>

    %@page import="MyBean.EJBPrac8;"

    <%

      String name=request.getParameter("n");

      String Description=request.getParameter("d");

      String category=request.getParameter("c");

      String quantity=request.getParameter("q");

      String payment=request.getParameter("p");

      out.println("<br>");

      out.println("Room Name : "+name);out.println("<br>");

      out.println("Room Description : "+Description);out.println("<br>");

      out.println("Room Category : "+category);out.println("<br>");

      out.println("Room Quantity : "+quantity);out.println("<br>");

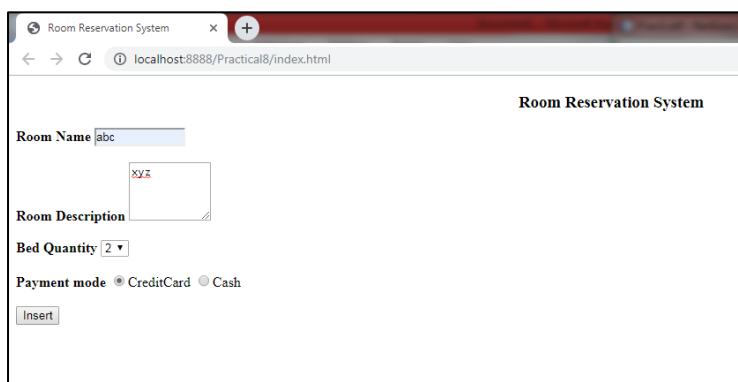
      out.println("Payment Mode : "+payment);out.println("<br>");

    %>

  </body>

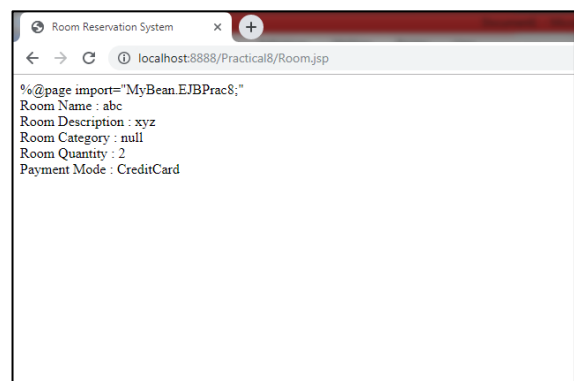
</html>
```

Output:



The screenshot shows a web browser window titled "Room Reservation System" with the address bar displaying "localhost:8888/Practical8/index.html". The page content includes a form with the following elements:

- Room Name**: A text input field containing the value "abc".
- Room Description**: A text area containing the value "xyz".
- Bed Quantity**: A dropdown menu currently showing the value "2".
- Payment mode**: Two radio buttons, "CreditCard" (which is selected) and "Cash".
- Insert**: A button at the bottom of the form.



The screenshot shows a web browser window titled "Room Reservation System" with the address bar displaying "localhost:8888/Practical8/Room.jsp". The page content displays the output of the JSP page, showing the values entered in the form:

```
%@page import="MyBean.EJBPrac8;"
Room Name : abc
Room Description : xyz
Room Category : null
Room Quantity : 2
Payment Mode : CreditCard
```

PRACTICAL NO 6C

Aim: Develop simple shopping cart application using EJB [Stateful Session Bean].

Code :

Product.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>

        <form action="prd2.jsp" method="POST">

            <center>

                Select Product:

                <select name="product">

                    <option value="denim">Denim</option>

                    <option value="cotton">Cotton</option>

                    <option value="wool">Wool</option>

                    <option value="rainsuit">Rainsuit</option>

                    <option value="cotton">Cotton</option>

                    <option value="linen">Linen</option>

                    <option value="nylon">Nylon</option>

                    <option value="trainers">Trainers</option>

                </select>

                <br>

                Enter the quantity:

                <select name="quantity">
```

```
<option value="1">1</option>

<option value="2">2</option>

<option value="3">3</option>

<option value="4">4</option>

<option value="5">5</option>

</select>

<br>

<input type="submit" value="click to select the brand">

</form>

</body>

</html>
```

Product2.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> <center>

<form action="checkout.jsp" method="POST">

<% String s = request.getParameter("quantity");

out.println("You have placed an order of " + s );

session.setAttribute("x",s);

%>

<br>

select the product brand:

<select name="brand">
```

```
<option value="zara">ZARA</option>

<option value="lv">LV</option>

<option value="allensolly">ALLEN SOLLY</option>

<option value="beinhhuman">BEING HUMAN</option>

<option value="handm">H AND M</option>

<option value="GOD">g0d</option>

</select> <br>
```

```
<% String c = request.getParameter("product");
```

```
session.setAttribute("z",c);
```

```
%>
```

```
<input type="submit" value="proceed to checkout">
```

```
</form>
```

```
</body>
```

```
</html>
```

Checkout.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
```

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

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

```
<title>checkout</title>
```

```
</head>
```

```
<body>
```

```
<form action="prd2.jsp" method="POST">
```

```
<h1>checkout</h1>
```

```
<% String a = request.getParameter("brand");
```

```
session.setAttribute("y",a); %>
```

```
<% out.print("Product TYPE : " +session.getAttribute("z")+"<br>");
```

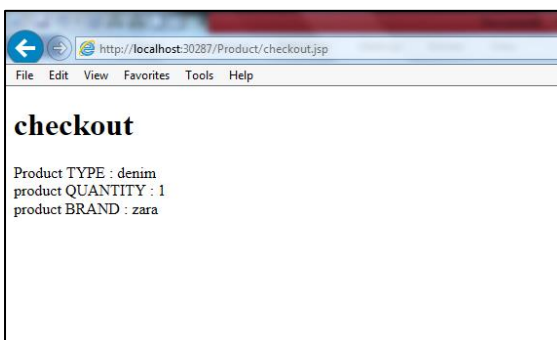
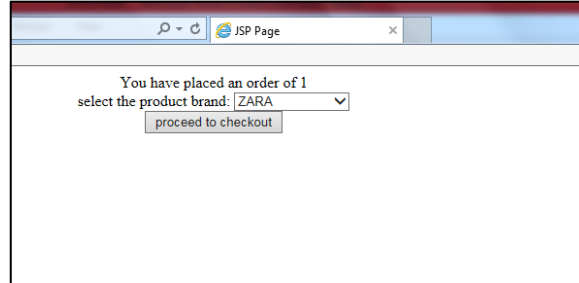
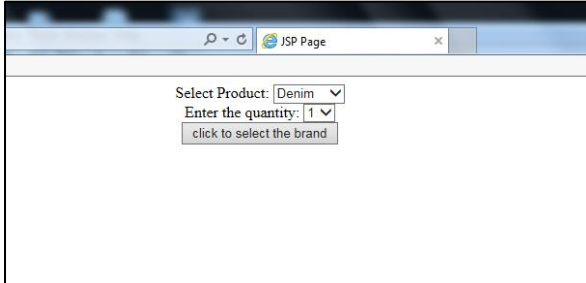
```
out.println("product QUANTITY : " +session.getAttribute("x")+"<br>");
```

```
out.println("product BRAND : " +session.getAttribute("y"));;%>
```

```
</body>
```

```
</html>
```

Output:



PRACTICAL NO 7

Aim: Develop simple EJB application to demonstrate Servlet Hit count using Singleton Session Beans.

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>Hit Count Demo</title>

    </head>

    <body>

        <form action="ServletPage" method="get">

            <input type="submit" value="Show">

        </form>

    </body>

</html>
```

Session Page

```
package MyBean;

import javax.ejb.Singleton;

@Singleton

public class EJBBean {

    private int hitCount;

    public synchronized int getCount()

    {

        return hitCount++;

    }

}
```

Servlet Page

```
package MyBean;

import java.io.IOException;                import java.io.PrintWriter;

import javax.ejb.EJB;                    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 = "ServletPage", urlPatterns = {"/ServletPage"})

public class ServletPage extends HttpServlet {

    @EJB EJBBean obj;

    protected void doGet(HttpServletRequest request, HttpServletResponse response)

        throws ServletException, IOException {

        response.setContentType("text/html;charset=UTF-8");

        try (PrintWriter out = response.getWriter()) {

            out.println("<!DOCTYPE html>");

            out.println("<html>");

            out.println("<head>");

            out.println("<title>Servlet ServletPage</title>");

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

            out.println("<body>");

            out.println("<h1>You Visited this Page " + obj.getCount() + "</h1>");

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

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

        }

    }

}
```

Output:

