**Practical 1**

A] Create a simple calculator application using servlet.

Program =

Index.html

<html>

<head><title>Calculator</title></head>

<body>

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

Enter num1: <input name="txt1" type="text" /><br>

Enter num2: <input name="txt2" type="text" /><br>

Operator <select name="op">

<option value="Addition">Addition</option>

<option value="Subtraction">Subtraction</option>

<option value="multiplication">multiplication</option>

<option value="division">division</option>

</select>

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

</form>

</body>

</html>

CalculatorServlet

package p1;

import java.io.\*;

import javax.servlet.ServletException;

import javax.servlet.http.\*;

public class CalculatorServlet extends HttpServlet

{

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException

{

PrintWriter out = response.getWriter();

String n1 = request.getParameter("txt1");

String n2 = request.getParameter("txt2");

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

if(op.equals("Addition"))

{

out.println("ADDITION RESULT IS------"+(Integer.parseInt(n1) + Integer.parseInt(n2)));

}

else if(op.equals("Subtraction")){

out.println("SUBTRACTION RESULT IS------"+(Integer.parseInt(n1) - Integer.parseInt(n2)));

}

else if(op.equals("multiplication")){

out.println("MULTIPLICATION RESULT IS------"+(Integer.parseInt(n1) \* Integer.parseInt(n2)));

}

else{

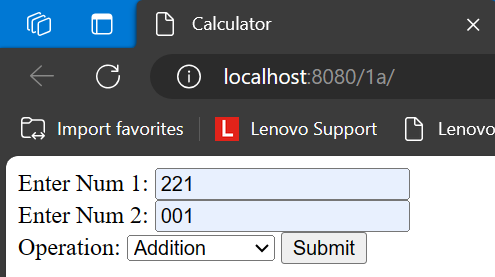
out.println("DIVISION RESULT IS------"+(Integer.parseInt(n1) / Integer.parseInt(n2)));

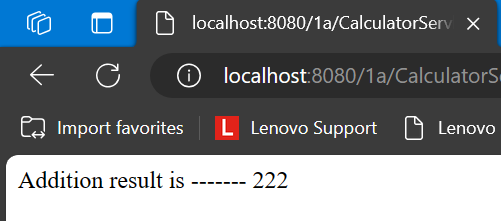
}

}

}

**OUTPUT =**

****

****

B) Create a servlet for login page.If username and password are correct then it say message”HELLO <Username>” Else a message “Login Failed”.

Program =

Login.html

<html>

<body>

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

USERNAME : <input type="text" name="username"> <br>

PASSWORD : <input type="password" name="password"> <br>

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

</form>

</body>

</html>

**HelloServlet.java**

package p1;

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

public class HelloServlet extends HttpServlet {

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

PrintWriter out = response.getWriter();

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

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

if(n1.equals("ADMIN")&& n2.equals("admin1234"))

{

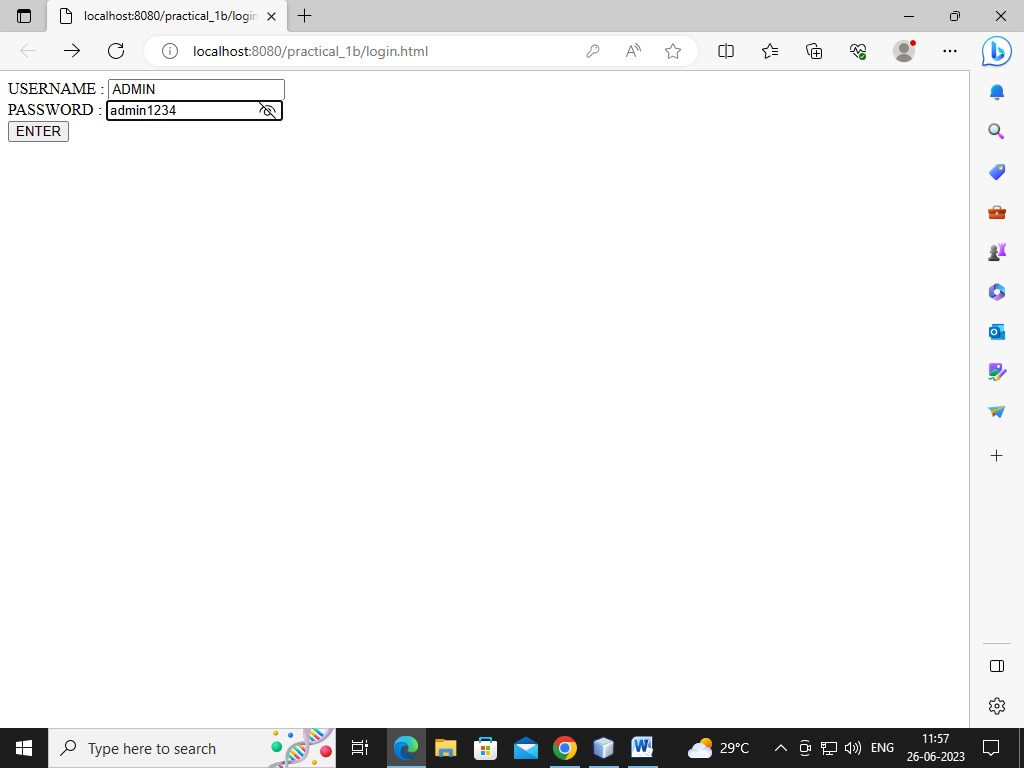
out.println("HELLO......"+n1);

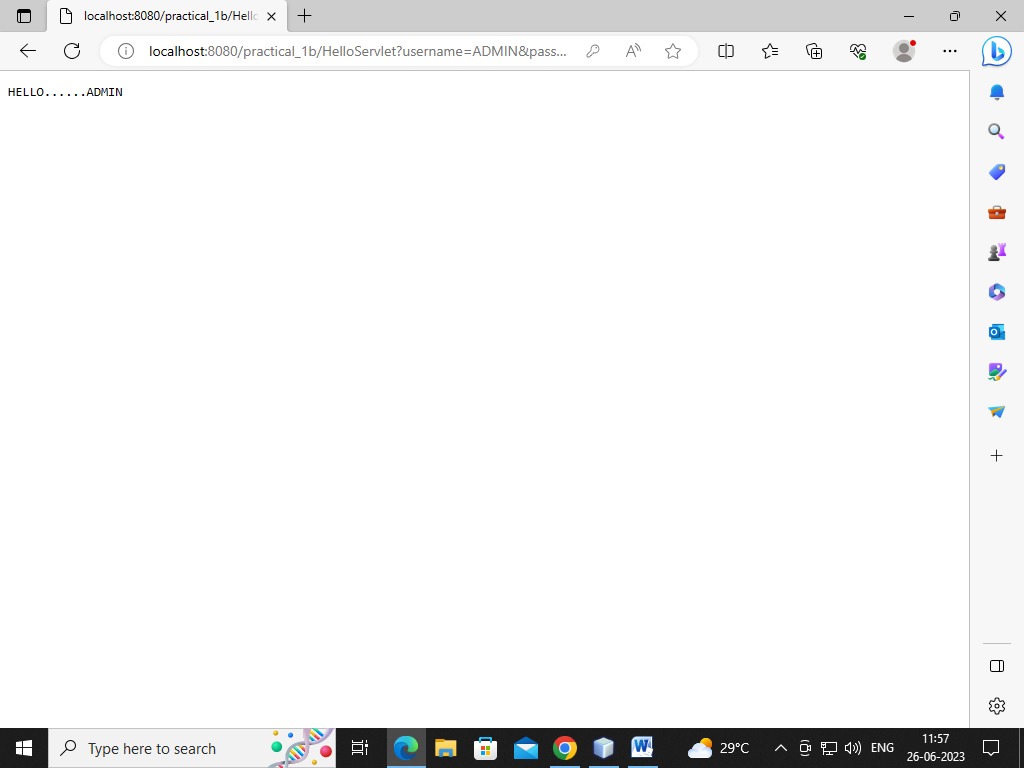
}

else

{ out.println("LOGIN FAILED......"); } } }

**OUTPUT =**





**Date = 07/06/2023**

**Practical 2**

A] 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 forward to welcome servlet else the user will stay on the index.html page and an error message will be displayed

**Index.html**

<html>

<body>

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

USERNAME :<input type="text" name="userName"><br>

PASSWORD :<input type="password" name="password"><br>

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

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

**RequestDispatcherServlet.java**

package p1;

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

public class RequestDispatcherServlet extends HttpServlet

{

public void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

PrintWriter out = response.getWriter();

response.setContentType("text/html");

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

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

if(p.equals("servlet"))

{

RequestDispatcher rd=request.getRequestDispatcher("WelcomeServlet");

rd.forward(request, response);

}

else

{

out.println("Sorry UserName or Password Error!");

RequestDispatcher rd=request.getRequestDispatcher("/index.html");

rd.include(request, response);

} } }

**WelcomeServlet.java**

package p1;

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

public class WelcomeServlet extends HttpServlet {

public void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

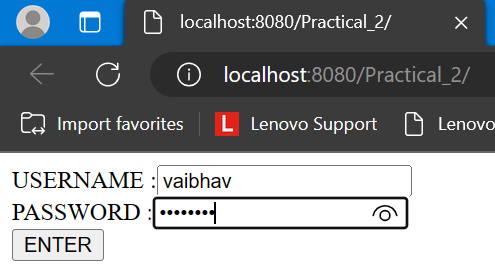
response.setContentType("text/html");

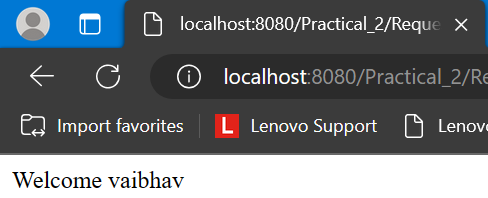
PrintWriter out = response.getWriter();

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

out.print("Welcome "+n); } }

**OUTPUT =**

****

****

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

**DemoCookieServlet.java**

package p1;

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

public class DemoCookieServlet extends HttpServlet

{

static int i=1;

public void doGet(HttpServletRequest request, HttpServletResponse response)

throws IOException, ServletException

{

response.setContentType("text/html");

PrintWriter out = response.getWriter();

String k=String.valueOf(i);

Cookie c = new Cookie("visit",k);

response.addCookie(c);

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

if(j==1)

{

out.println("Welcome");

}

else

{

out.println("You visited "+i+" times");

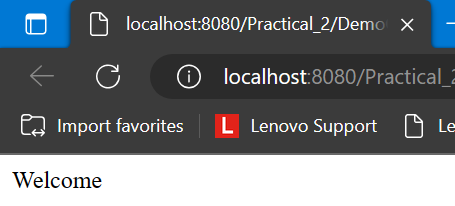
}

i++;

}

}

**OUTPUT =**

****

DATE = 7/06/2023

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

**index.html**

<html>

<head><title>Servlet Login Example</title>

</head>

<body>

<h1>Login App using HttpSession</h1>

<a href="Login.html">Login</a>

<a href="LogoutServlet">Logout</a>

<a href="ProfileServlet">Profile</a>

</body>

</html>

**Login.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="LoginServlet" method="post">

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

Password: <input type="password" name="password"><br>

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

</form>

</body></html>

**LoginServlet.java**

package p1;

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

public class LoginServlet extends HttpServlet

{

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

response.setContentType("text/html");

PrintWriter out=response.getWriter();

request.getRequestDispatcher("Link.html").include(request, response);

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

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

if(password.equals("admin123")){

out.print("Welcome, "+name);

HttpSession session=request.getSession();

session.setAttribute("name",name);

}

else{

out.print("Sorry, username or password error!");

request.getRequestDispatcher("Login.html").include(request, response);

}

out.close();

} }

**LogoutServlet.java**

package p1;

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

public class LogoutServlet extends HttpServlet

{

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException

{

response.setContentType("text/html");

PrintWriter out=response.getWriter();

request.getRequestDispatcher("Link.html").include(request, response);

HttpSession session=request.getSession();

session.invalidate();

out.print("You are successfully logged out!");

out.close();

}

}

**ProfileServlet.java**

package p1;

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

public class ProfileServlet extends HttpServlet

{

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException

{

response.setContentType("text/html");

PrintWriter out=response.getWriter();

request.getRequestDispatcher("Link.html").include(request, response);

HttpSession session=request.getSession(false);

if(session!=null){

String name=(String)session.getAttribute("name");

out.print("Hello, "+name+" Welcome to Profile");

}

else{

out.print("Please login first");

request.getRequestDispatcher("Login.html").include(request, response);

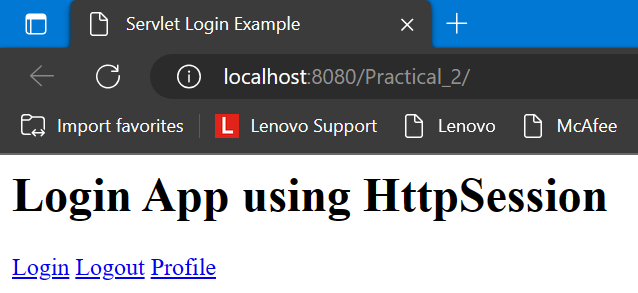
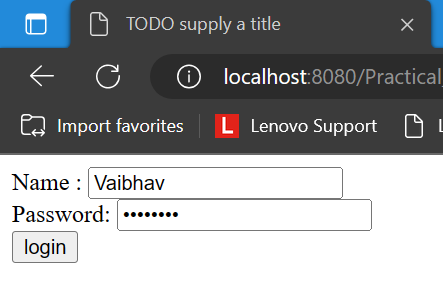
}

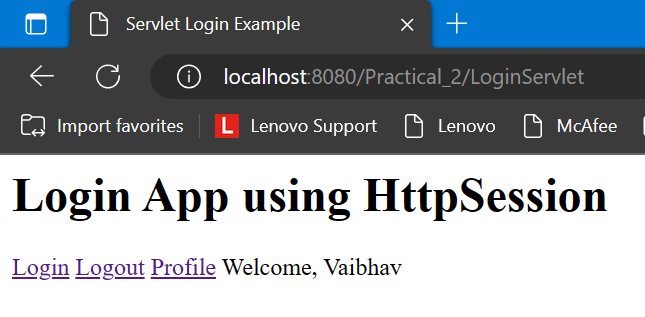
out.close();

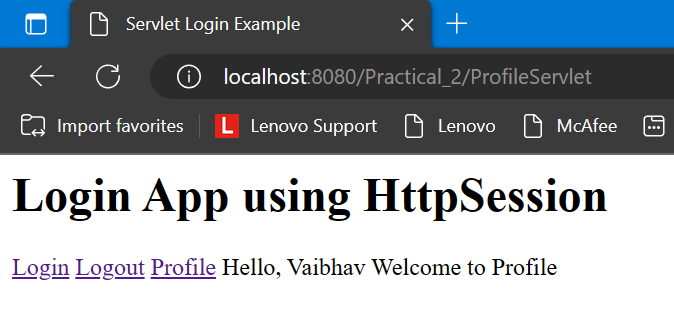
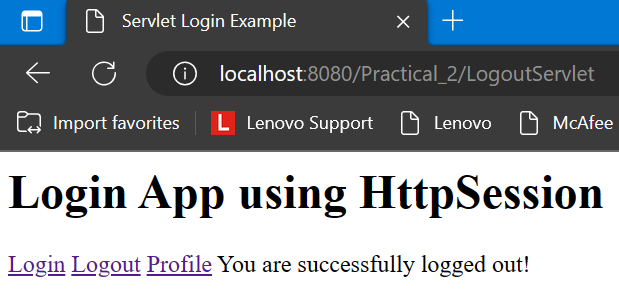
}

}

**OUTPUT =**

**** 



** **

Date : 09/07/2023

**Practical 3**

A] AIM : Create a Servlet application to upload and download a file

Program =

Upload.html

<html>

<head><title>upload</title>

<meta charset="UTF-8">

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

</head>

<body>

<form action="fileUploadServlet" method="post" enctype="multipart/form-data">

select file:<input type="file" name="fname"/><br/>

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

</form>

</body></html>

FileUploadServlet.java

package p1;

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

public class fileUploadServlet extends HttpServlet {

@Override

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

PrintWriter out = response.getWriter();

out.print("Babasaheb... file successfully uploaded");

}}

Download.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>

<h1>Hi vaibhav...</h1>

<a href="fileDownloadServlet">DOWNLOAD THE FILE</a>

</body>

</html>

FileDownloadServlet.java

package p1;

import java.io.\*;

import javax.servlet.\*;

import javax.servlet.http.\*;

public class fileDownloadServlet extends HttpServlet {

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

response.setContentType("text/html");

PrintWriter out=response.getWriter();

String filename="EJ PRATICALS.docx";

String filepath="C:\\Users\\vaibhav\\OneDrive\\Documents\\vaibhav Docs\\";

response.setContentType("Application/OCTET-STREAM");

response.setHeader("Content-Disposition","attchment;filename=\""+filename+"\"");

FileInputStream fileInputStream=new FileInputStream(filepath+filename);

int i;

while((i=fileInputStream.read())!=-1){

out.write(i);

}

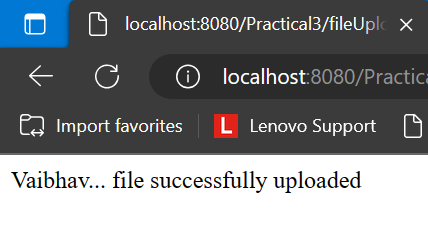
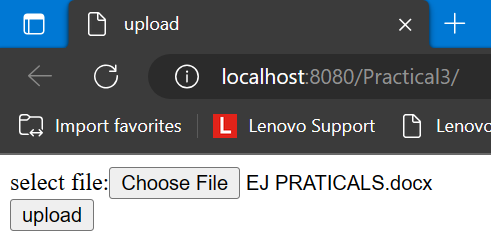
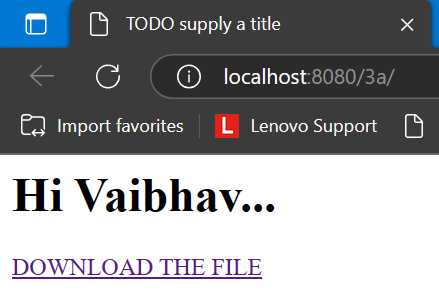
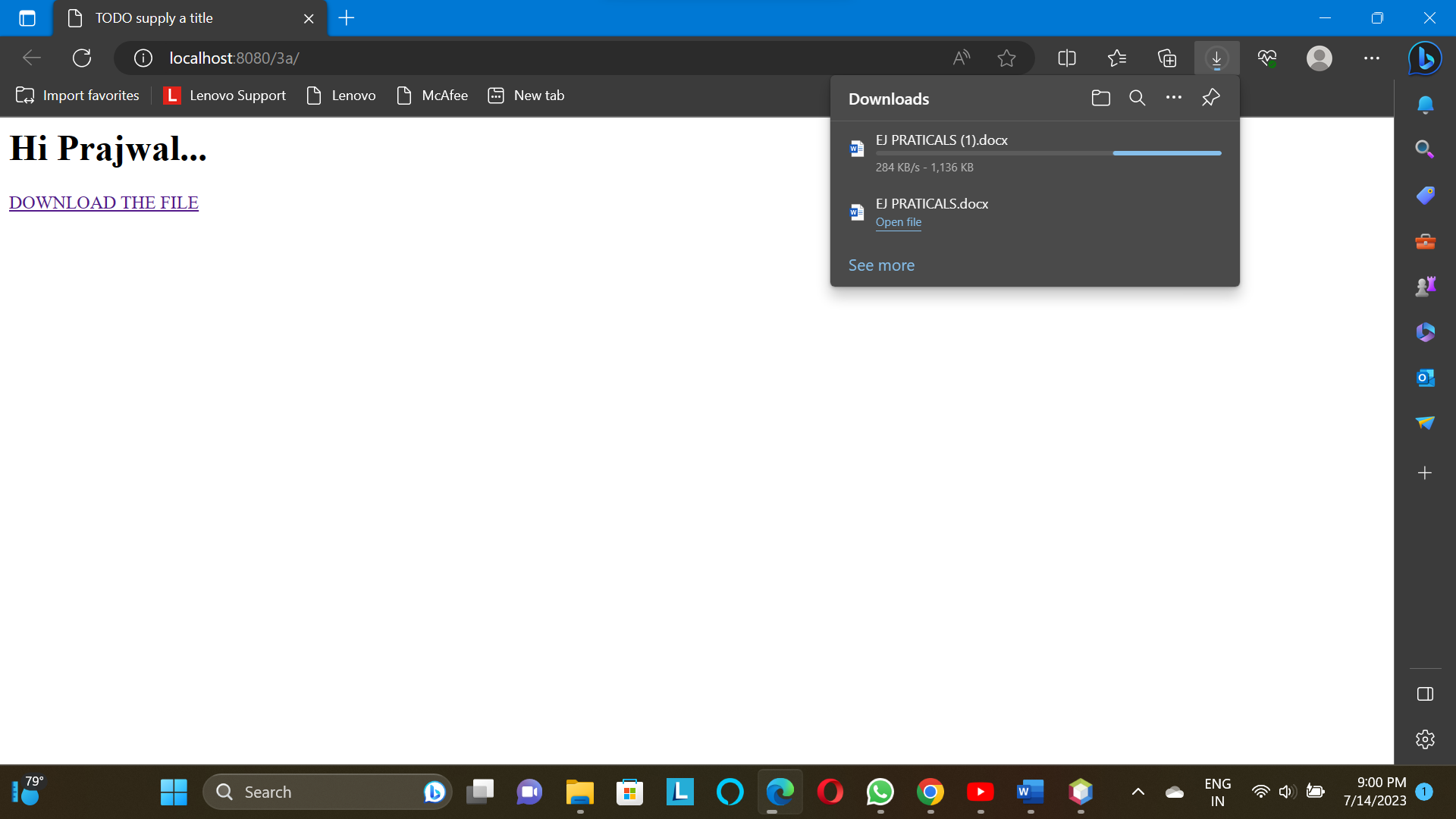
fileInputStream.close();

out.close();

}

}

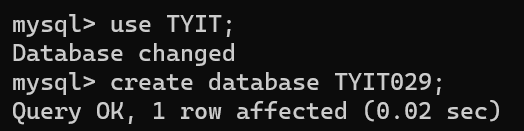
**OUTPUT =**

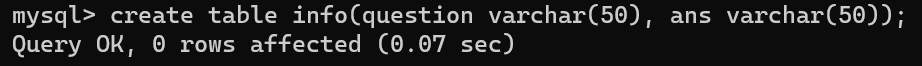
  

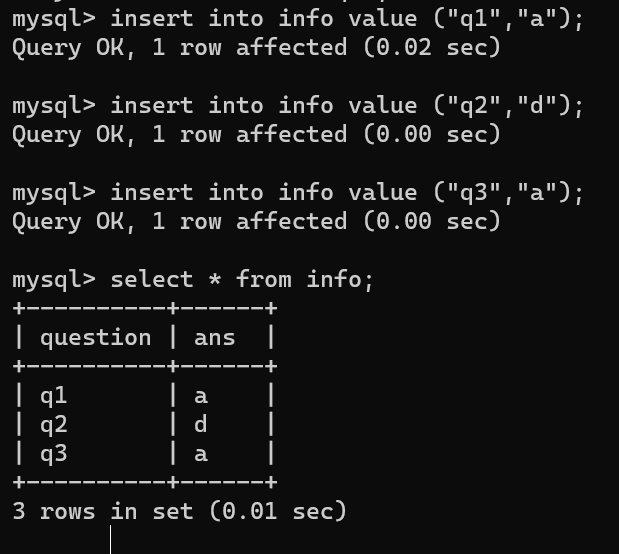
DATE = 24/07/2023

B] AIM: Develop Simple Servlet Question Answer Application using Database.

Program =

****





**Quiz.html**

<html> <head><title>QUIZ</title></head>

<body>

<h1>QUIZ</h1>

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

<label>What is the full form of JSP?</label><br/>

<input type = "radio" name="q1" value="a">Java Server Pages<br/>

<input type = "radio" name="q1" value="b">Java Server Page<br/>

<input type = "radio" name="q1" value="c">Java Servlet Pages<br/>

<input type = "radio" name="q1" value="d">Java Sun Pages<br/>

<br><br/>

<label>Life Cycle methods of JSP is/are?</label><br/>

<input type = "radio" name="q2" value="a">jspinit()<br/>

<input type = "radio" name="q2" value="b">\_jspService()<br/>

<input type = "radio" name="q2" value="c">jspDestroy<br/>

<input type = "radio" name="q2" value="d">All of the above<br/>

<br><br/>

<label>What JSTL stands for?</label><br/>

<input type = "radio" name="q3" value="a">JavaServer Pages Standard Tag Library<br/>

<input type = "radio" name="q3" value="b">JSP Tag Library<br/>

<input type = "radio" name="q3" value="c">Java Standard Tag Library<br/>

<input type = "radio" name="q3" value="d">None of the above<br/>

<br><br/>

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

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

**QuizServlet.java**

package p1;

import java.io.\*;

import javax.servlet.ServletException;

import javax.servlet.http.\*;

import java.sql.\*;

import java.util.\*;

public class QuizServlet extends HttpServlet

{

public void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException

{ response.setContentType("text/html");

PrintWriter out = response.getWriter();

String paramName, paramValue [];

Connection con = null;

Statement stmt = null;

ResultSet rs = null;

int cnt =0;

String ans = "";

Enumeration paramNames = request.getParameterNames();

try

{

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

con=DriverManager.getConnection("jdbc:mysql://localhost:3306/TYIT","root","hello");

out.println("connection done successfully...");

stmt = con.createStatement();

rs = stmt.executeQuery("select ans from info");

while (rs.next()&& paramNames.hasMoreElements())

{

String un = rs.getString(1);

paramName = (String)paramNames.nextElement();

paramValue = request.getParameterValues(paramName);

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

ans=paramValue[i];

if(un.equals(ans))

cnt++;

}

out.println("<h1>YOU HAVE SCORED " + cnt + " POINTS OUT OF 3.</h1>");

}

catch(Exception e)

{

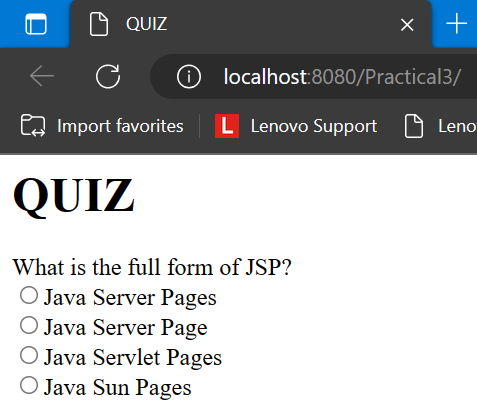
out.println("SORRY!! TRY AGAIN");

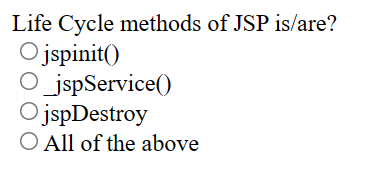
}

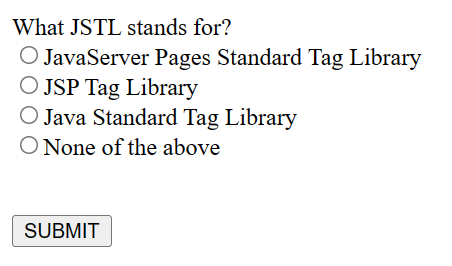
}

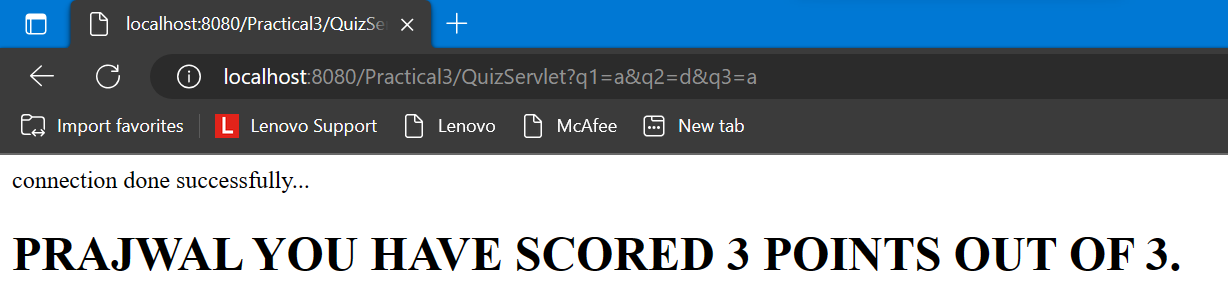
}

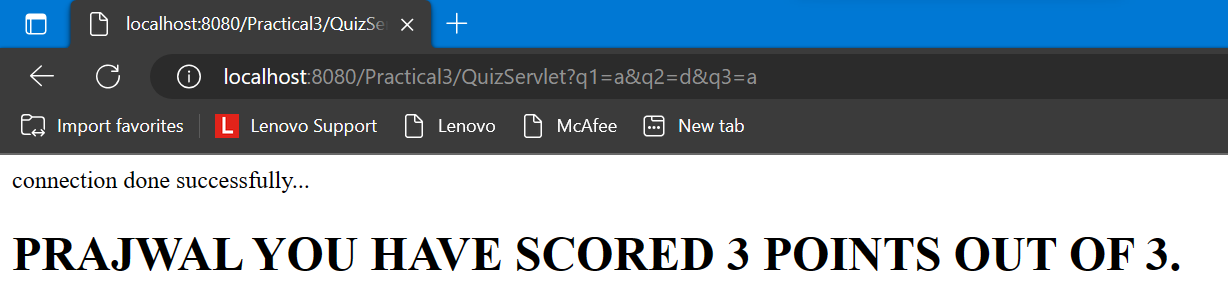
**OUTPUT =**

****

****

****





DATE = 24/07/2023

**C] AIM:** **Create simple Servlet application to demonstrate Non-Blocking Read Operation.**

**Program =**

Upload.html

<html>

<head>

<title>Upload</title>

</head>

<body>

<form action="NonBlockingFileUploadServlet" method="post" enctype="multipart/form-data">

Select File: <input type="file" name="fname"><br>

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

</form>

</body>

</html>

NonBlockingFileUploadServlet.java

package p1;

import java.io.\*;

import jakarta.servlet.\*;

import jakarta.servlet.http.\*;

public class NonBlockingFileUploadServlet extends HttpServlet {

protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

final AsyncContext content = request.startAsync();

final ServletInputStream sis = request.getInputStream();

System.out.println(getServletContext().getRealPath("/") + "EJ PRATICALS.docx");

final File fileToUpload = new File(getServletContext().getRealPath("/") + "EJ PRATICALS.docx");

final FileOutputStream fos = new FileOutputStream(fileToUpload);

sis.setReadListener(new ReadListener() {

byte[] buffer = new byte[1024\*4];

@Override

public void onDataAvailable() throws IOException {

do {

int length = sis.read(buffer);

System.out.println("DATA READ... " + length);

fos.write(buffer, 0, length);

}while(sis.isReady());

}

@Override

public void onAllDataRead() throws IOException {

content.complete();

fos.close();

System.out.println("UPLOAD COMPLETED...");

}

@Override

public void onError(Throwable t) {

System.out.println("onError()" + t.getMessage());

}

});

}

}

Web.xml

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

<web-app version="3.1" 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">

<servlet>

<servlet-name>NonBlockingFileUploadServlet</servlet-name>

<servlet-class>p1.NonBlockingFileUploadServlet</servlet-class>

<async-supported>true</async-supported>

</servlet>

<servlet-mapping>

<servlet-name>NonBlockingFileUploadServlet</servlet-name>

<url-pattern>/NonBlockingFileUploadServlet</url-pattern>

</servlet-mapping>

<session-config>

<session-timeout>

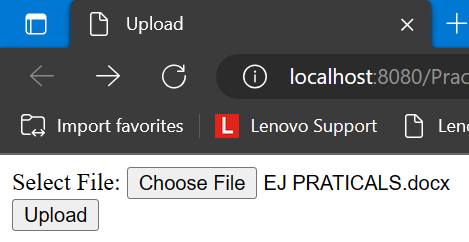
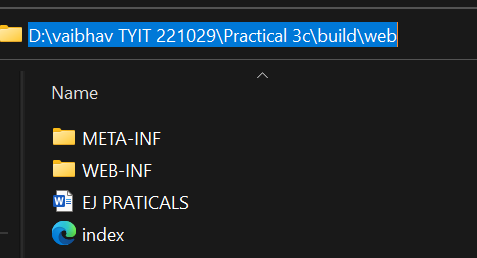
30

</session-timeout>

</session-config>

</web-app>

**OUTPUT =**

** **

DATE : 07/08/2023

**Practical 4**

A] AIM : Develop a smiple JSP application to display values obtained from the use of intrinsic objects of various types.

Program =

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

<html><head><title>JSP Page</title></head>

<body>

<h1>Use of Intrinsic Objects in JSP</h1>

<h1>Request Object </h1>

Query String <%=request.getQueryString() %><br>

Context Path <%=request.getContextPath() %><br>

Remote Host <%=request.getRemoteHost() %><br>

<h1>Response Object </h1>

Character Encoding Type <%=response.getCharacterEncoding() %><br>

Content Type <%=response.getContentType() %><br>

Locale <%=response.getLocale() %><br>

<h1>Session Object </h1>

ID <%=session.getId() %><br>

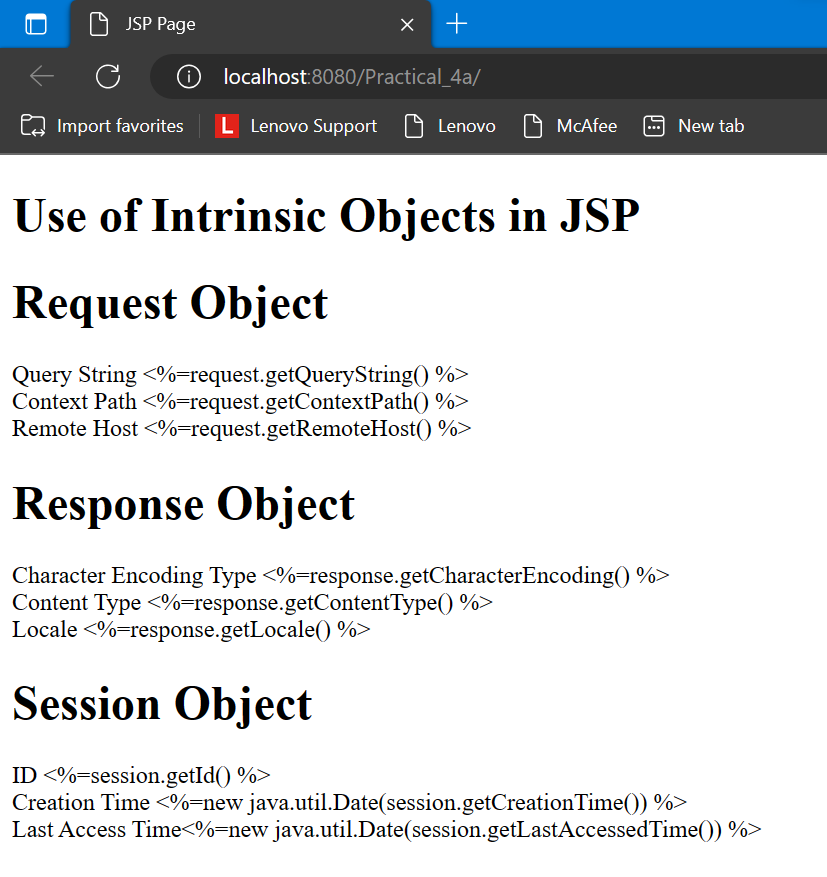
Creation Time <%=new java.util.Date(session.getCreationTime()) %><br>

Last Access Time<%=new java.util.Date(session.getLastAccessedTime()) %><br>

</body>

</html>

**OUTPUT =**

****

B] 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 )

Program =

DataApplication.jsp

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

<!DOCTYPE html>

<html>

<head><title>JSP Page</title></head>

<body>

<h1>REGISTRATION FORM</h1>

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

<table style ="width:50%">

<tr>

<td>Full Name</td>

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

</tr><tr>

<td>Age</td>

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

</tr><tr>

<td>E-Mail</td>

<td><input type="text" name="email" sixe="20"/></td>

</tr><tr>

<tr><td>Gender</td>

<td><input type="radio" name="gender" value="Male">Male

<input type="radio" name="gender" value="Female">Female

</td></tr>

<tr><td>Hobbies</td>

<td>

<input type="checkbox" name="hb" value="Singing" />Singing

<input type="checkbox" name="hb" value="Drawing" />Drawing

<input type="checkbox" name="hb" value="Listening Music" />Listening Music

</td></tr>

</table>

<input type="submit" value="REGISTER" name="send"/>

</form>

</body>

</html>

Validation.jsp

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

<html>

<head>

<title>JSP Page</title>

</head>

<body>

<%

String err="";

out.println("inside scriplet");

if(request.getParameter("send")!= null)

{

out.println("inside first if");

if(request.getParameter("fullname").equals(""))

{

out.println("NAME CANNOT BE BLANK----<br>");

}

if(request.getParameter("age").equals(""))

{

err += "AGE CANNOT BE BLANK----<br>";

}

if(request.getParameter("email").equals(""))

{

err += "EMAIL CANNOT BE BLANK----<br>";

}

if(request.getParameter("gender").equals(""))

{

err += "GENDER CANNOT BE BLANK----<br>";

}

if(request.getParameter("bh").equals(""))

{

err += "HOBBIES CANNOT BE BLANK----<br>";

}

}

if(err.length() >0)

{

out.print(err);

}

else

{

response.sendRedirect("Display.jsp?"+request.getQueryString());

//request.getRequestDispatcher("/Display.jsp"+request.getQueryString());

}

%>

</body>

</html>

Display.jsp

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

<!DOCTYPE html>

<html>

<head><title>DISPLAY INFORMATION</title></head>

<body>

<%

out.print(request.getParameter("fullname")+"<br>");

out.print(request.getParameter("age")+"<br>");

out.print(request.getParameter("gender")+"<br>");

out.print(request.getParameter("email")+"<br>");

out.print(request.getParameter("hb")+"<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>DataApplication.jsp</welcome-file>

</welcome-file-list>

<session-config>

<session-timeout>

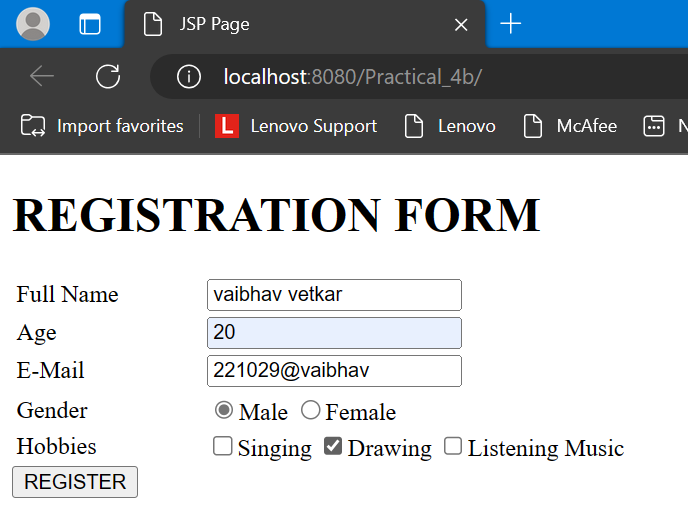
30

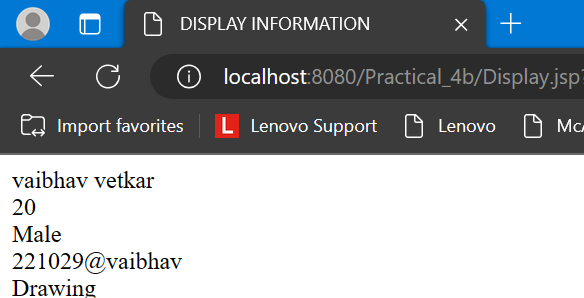
</session-timeout>

</session-config>

</web-app>

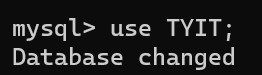
OUTPUT =

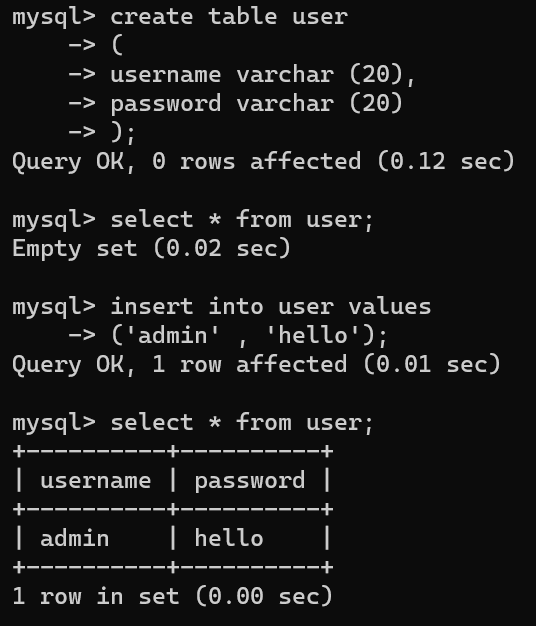




**C] AIM : Create a registration and login JSP application to register and authenticate the user based on username and password using JDBC.**

**My SQL Quires =**

****

****

**Program =**

Register.jsp

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

<!DOCTYPE html>

<html><head><title>JSP Page</title></head>

<body>

<form action="Login.jsp" >

Enter User Name <input type="text" name="txtName"><br>

Enter Password <input type="password" name="txtPass"><br>

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

</body>

</html>

Login.jsp

<%@page contentType="text/html" import="java.sql.\*"%>

<html><body>

<h1>LOGIN PAGE</h1>

<%

String uname=request.getParameter("txtName");

String pass = request.getParameter("txtPass");

try

{

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

Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/TYIT","root","hello");

PreparedStatement stmt = con.prepareStatement("select password from user where username=?");

stmt.setString(1, uname);

ResultSet rs = stmt.executeQuery();

if(rs.next()){

if(pass.equals(rs.getString(1)))

{

out.println("<h1>~~~ LOGIN SUCCESSFULLL ~~~ </h1>");

}

}

else

{

out.println("<h1>User Name not exist !!!!!</h1>");

%>

<jsp:include page="Register.jsp" ></jsp:include>

<%

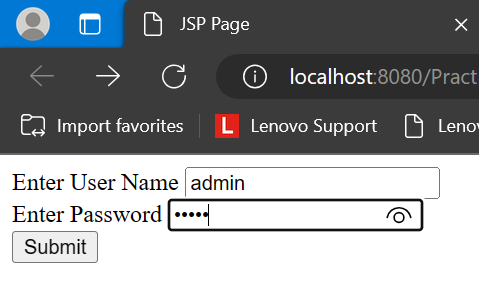
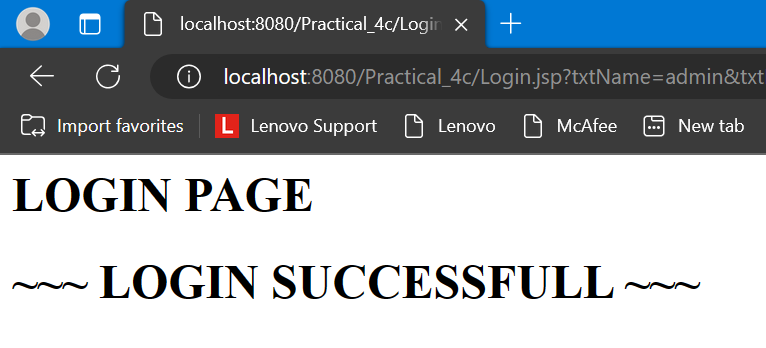
}

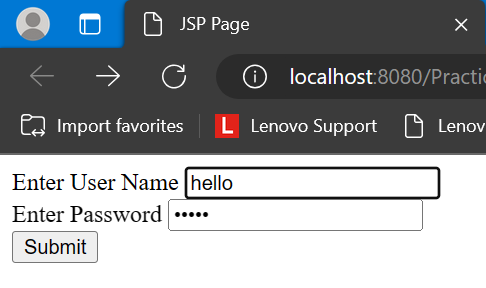
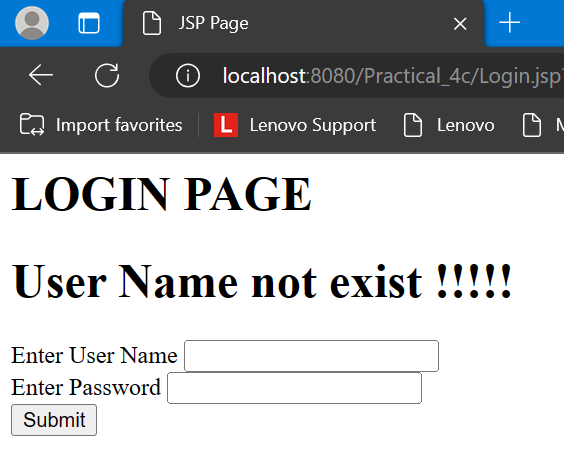
}catch(Exception e){out.println(e);}

%>

</body></html>

OUTPUT =

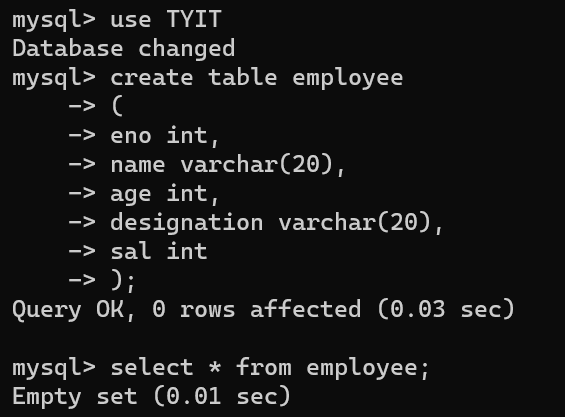
 

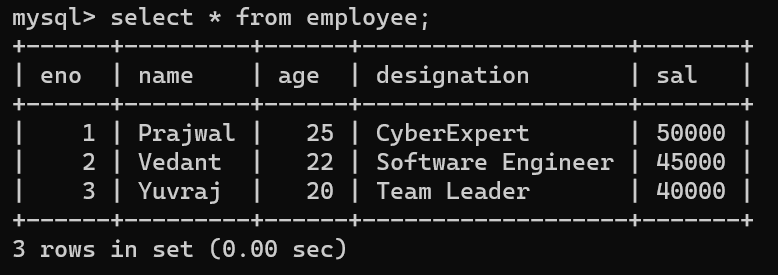
DATE : 28/08/2023

**Practical 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.

**MySQL Database =**

****

****

**Program =**

**EmployeeDetails.html**

<html>

<body>

<form action="UpdateEmp.jsp" >

Enter Employee Number: <input type="text" name="txtEno" ><br>

Enter Name: <input type="text" name="txtName" ><br>

Enter Age: <input type="text" name="txtAge" ><br>

Enter Designation: <input type="text" name="txtDesignation" ><br>

Enter Salary: <input type="text" name="txtSal" ><br>

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

</form>

</body>

</html>

**UpdateEmp.jsp**

<%@page contentType="text/html" import="java.sql.\*" %>

<html>

<body>

<h1>Employee Record Update</h1>

<%

String eno=request.getParameter("txtEno");

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

String age = request.getParameter("txtAge");

String designation = request.getParameter("txtDesignation");

String sal = request.getParameter("txtSal");

try

{

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

Connection con=DriverManager.getConnection("jdbc:mysql://localhost:3306/TYIT?useTimeZone=true&serverTimezone=UTC&autoReconnect=true&useSSL=false","root","221001");

PreparedStatement stmt = con.prepareStatement("select \* from employee where eno=?");

stmt.setString(1, eno);

ResultSet rs = stmt.executeQuery();

if(rs.next())

{

out.println("<h1> Employee "+name+" Exist </h1>");

PreparedStatement pst1= con.prepareStatement("update employee set sal=? where eno=?");

PreparedStatement pst2= con.prepareStatement("update employee set age=? where eno=?");

pst1.setString(1, sal); pst1.setString(2, eno);

pst2.setString(1, age); pst2.setString(2, eno);

pst1.executeUpdate(); pst2.executeUpdate();

}

else

{

out.println("<h1>Employee Record not exist !!!!!</h1>");

}

}

catch(Exception e)

{

out.println(e);

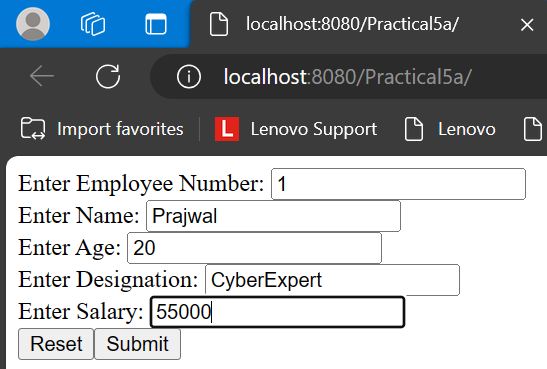
}

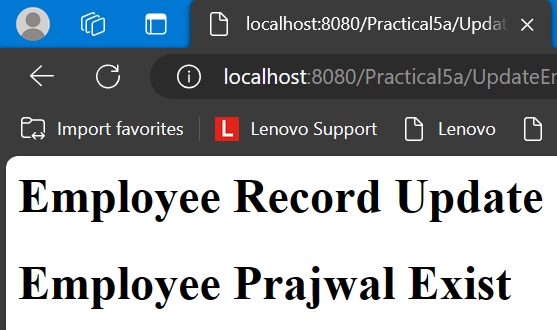
%>

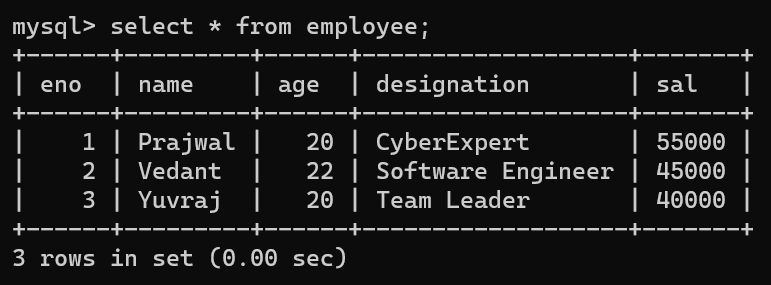
</body>

</html>

**OUTPUT =**

****

****

****

**B] AIM** = Create a JSP page to demonstrate the use of Expression language

**Program =**

ELDemo.jsp

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

<%

application.setAttribute("author","Prajwal");

session.setAttribute("country", "India");

%>

<html>

<head><title>EXPRESSION LANGUAGE DEMO</title></head>

<body>

<form action ="Show.jsp">

FIRST NAME :<input type="text" name="fname"/><br>

LAST NAME :<input type="text" name="lname"/><br>

<input type="submit" value="CHECK EL USE"/><br>

</body></html>

Show.jsp

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

<% pageContext.setAttribute("color","red");%>

<!DOCTYPE html>

<html><head><title>Display Page</title></head>

<body bgcolor="${pageScope.color}">

<b> Welcome!!!! ${param.fname} ${param.lname} </b>

Below we are accessing Application object:

<p>

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

</p>

Below we are accessing Session object:

<p>

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

</p>

Below we are showing some basic comparisons using EXPRESSION LANGUAGE:

<p>

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

Does 5 equal 5 ? $ {5 == 5} <br>

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

</p>

Below we are showing some basic Arithmetic Operators using EXPRESSION LANGUAGE:

<p>

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

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

</p>

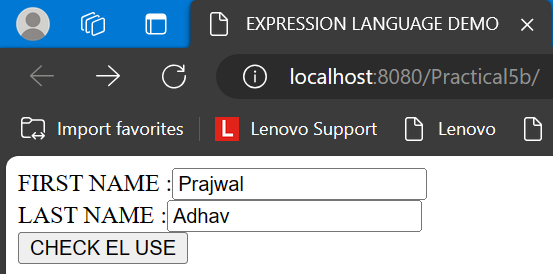
<hr> CURRENTLY THE BROWSER USED IS:

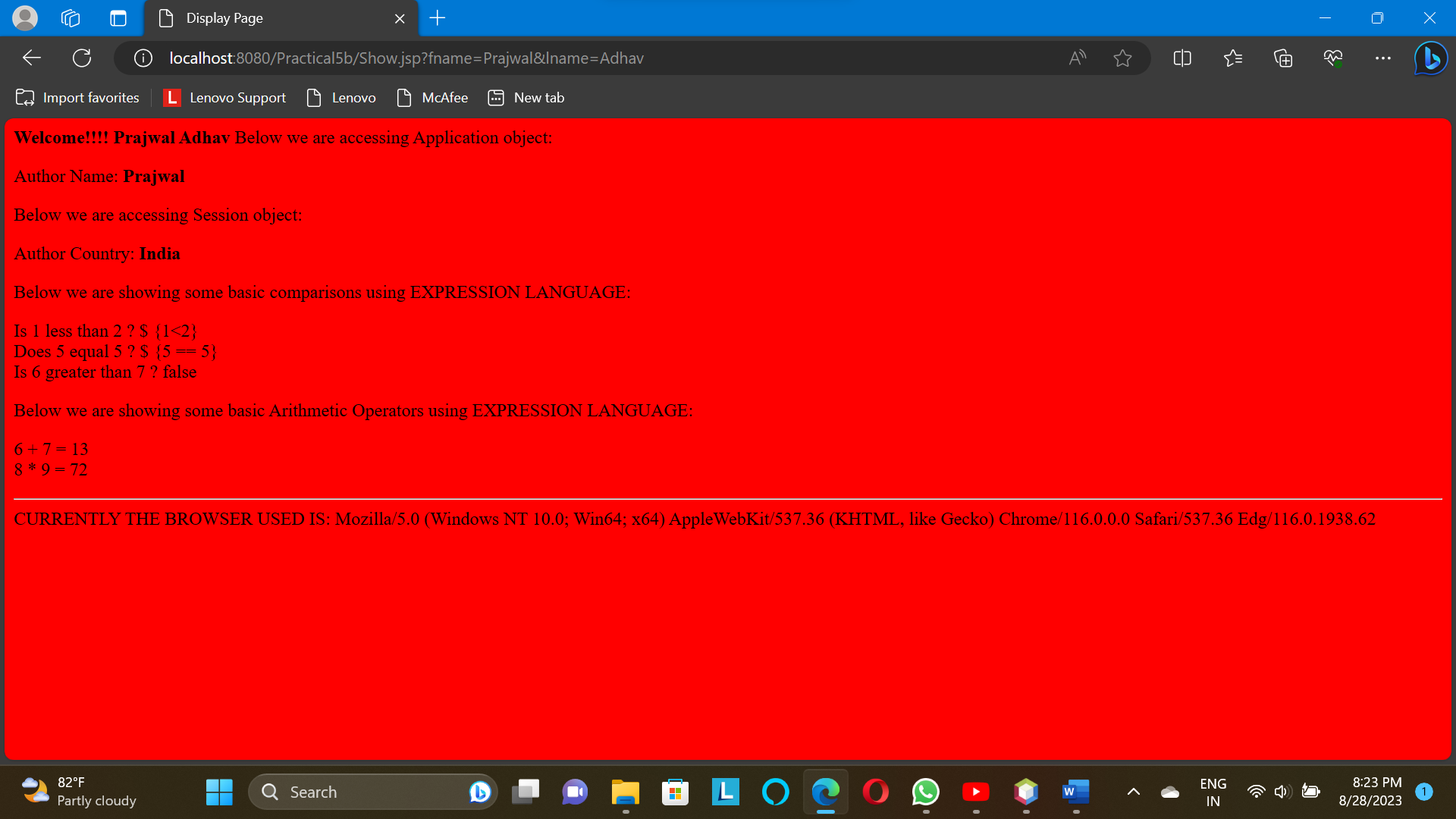
${header["user-agent"]}

</body>

</html>

**OUTPUT =**

****

****

**C] AIM** = Create a JSP application to demonstrate the use of JSTL.

**Program =**

**DemoJSTL.jsp**

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

<!DOCTYPE html>

<html>

<head>

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

<title>JAVA STANDARD TAG LIBRARY DEMO</title>

</head>

<body>

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

FIRST NAME :<input type="text" name="fname"/><br>

LAST NAME :<input type="text" name="lname"/><br>

<input type="submit" value="CHECK JSTL USE"/><br>

</body>

</html>

**jstlTest.jsp**

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

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

<!DOCTYPE html>

<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.fname}"></c:out></b><br/>

Last Name:<b> <c:out value="${param.lname}"></c:out></b><br/><br/>

USE OF IF STATEMENT

<br>

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

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

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

</c:if>

<br><br>

USE OF forEach STATEMENT

<br>

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

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

</c:forEach>

<br><br>

EXCEPTION CATCHING EXAMPLE

<p>

<c:catch var="myException">

<% int number = 10/0;%>

</c:catch>

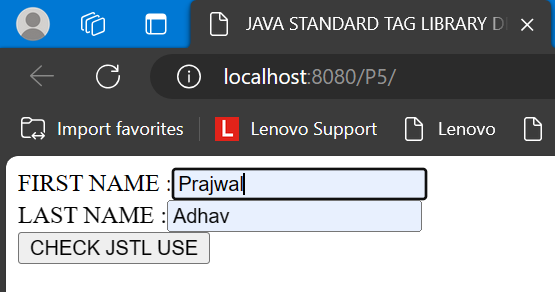
<b>The Exception is : ${myException}</b>

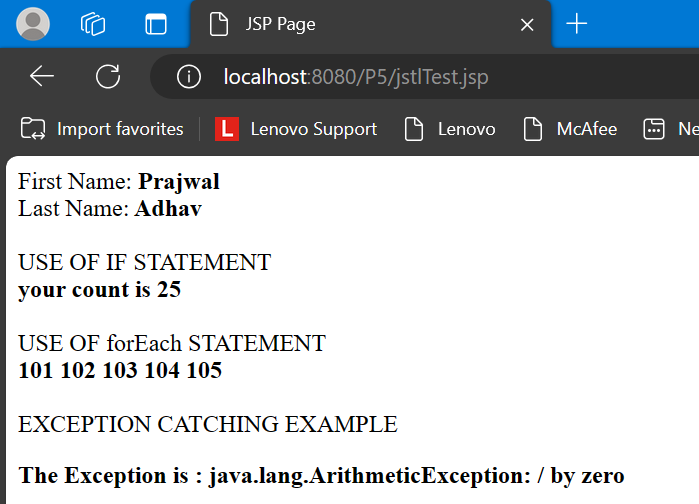
</p>

</body>

</html>

**OUTPUT =**

****

****

DATE : 04/09/2023

**Practical 6**

A] AIM : Create a Currency Converter application using EJB

Program =

**CurrencyConversion.jsp**

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

<!DOCTYPE html>

<html>

<head>

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

<title>Currency Converter</title>

</head>

<body>

<h1>Currency Converter</h1>

<hr>

<p>Enter an amount to convert:</p>

<form method="post" action="ConvertCurrencyServlet">

<table style="width: 100%; padding: 0px; border-spacing: 0px; border: 0px;">

<tr>

<td> Convert: <br />

<input type="text" name="amount" value="1" size="10" tabindex="1" />

<div>Enter an amount</div>

</td>

</tr>

<tr>

<td> From this currency:<br />

<select name="From" size="3" tabindex="2">

<option value="USD">America (United States), Dollar (USD)</option>

<option value="INR">India, Rupee (INR)</option>

</select>

</td>

</tr>

<tr>

<td> To this currency:<br />

<select name="To" size="3" tabindex="3">

<option value="USD">America (United States), Dollar (USD)</option>

<option value="INR">India, Rupee (INR)</option>

</select>

</td>

</tr>

<tr>

<td>

<input name="cmdSubmit" type="submit" value="Submit" tabindex="4" />

</td>

</tr>

</table>

</form>

</body>

</html>

**CurrencyConverterBean.java**

package p1;

import java.math.BigDecimal;

import javax.ejb.Stateless;

@Stateless

public class CurrencyConverterBean {

final private BigDecimal USD = new BigDecimal("0.0229137");

final private BigDecimal INR = new BigDecimal("46.589100");

public BigDecimal convert(String from, String to, BigDecimal amount) {

if(from.equals(to)) {

return amount;

} else {

BigDecimal toRate = findRate(to);

BigDecimal result = toRate.multiply(amount);

return result.setScale(2, BigDecimal.ROUND\_UP);

}

}

public BigDecimal findRate(String to) {

BigDecimal returnValue = null;

if(to.equals("INR")) {

returnValue = INR;

}

if(to.equals("USD")) {

returnValue = USD;

}

return returnValue;

}

}

**ConvertCurrencyServlet.java**

package p1;

import p1.CurrencyConverterBean;

import java.io.\*;

import java.math.BigDecimal;

import javax.ejb.EJB;

import javax.servlet.ServletException;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.\*;

@WebServlet(name = "ConvertCurrencyServlet", urlPatterns = {"/ConvertCurrencyServlet"})

public class ConvertCurrencyServlet extends HttpServlet {

@EJB

CurrencyConverterBean converterBean;

@Override

protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {

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

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

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

if (amount != null && amount.length() > 0) {

BigDecimal d = new BigDecimal(amount);

BigDecimal convertedAmount = converterBean.convert(request.getParameter("From"), request.getParameter("To"), d);

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

out.println("<html>");

out.println("<head>");

out.println("<title>Converted Currency</title>");

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

out.println("<body>");

out.println(amount + " " + request.getParameter("From") + " = ");

out.println(convertedAmount + " " + request.getParameter("To"));

out.println("<br/>Click <a href='index.jsp'>here</a> to go back");

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

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

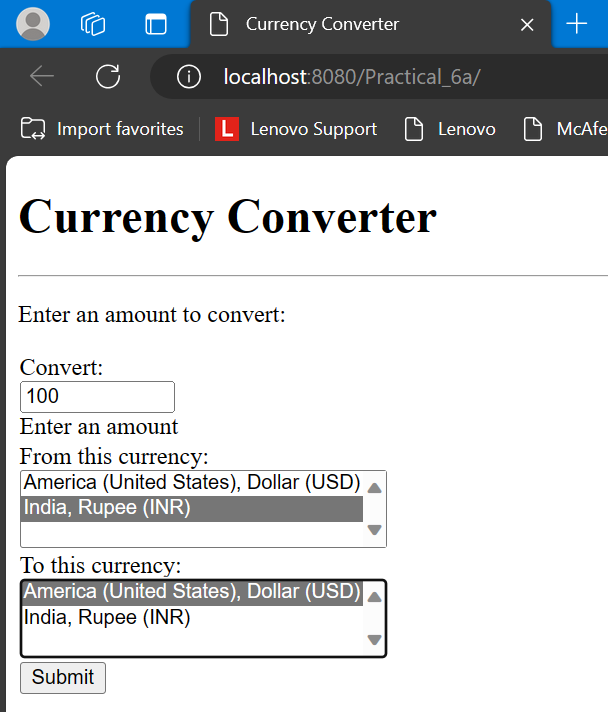
}

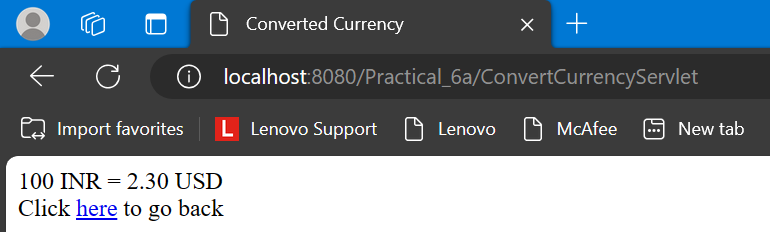
}

}

}

**OUTPUT =**

****

****

DATE : 11/09/2023

B] AIM : Develop a Simple Room Reservation System Application Using EJB.

Program =

**RoomReservation.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="RoomReservation" method="get">

USERNAME :<input type="text" name="uname"><br>

SELECT DATE :<input type="date" name="rdate"><br>

SELECT ROOM :<select name="roomno">

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

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

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

</select><br>

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

</form>

</body>

</html>

**RoomReservation.java**

package p1;

import java.io.\*;

import java.util.Date;

import java.util.logging.Level;

import java.util.logging.Logger;

import javax.naming.Context;

import javax.naming.InitialContext;

import javax.naming.NamingException;

import javax.servlet.\*;

import javax.servlet.http.\*;

public class RoomReservation extends HttpServlet {

RmRegLocal rmReg = lookupRmRegLocal();

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

PrintWriter out = null;

try

{

out = response.getWriter();

String user = request.getParameter("uname");

String dt = request.getParameter("rdate");

String rn = request.getParameter("roomno");

String [] dtpart = dt.split("-"); //yy-mm-dd

Date date = new Date(Integer.parseInt(dtpart[0]),Integer.parseInt(dtpart[1]),Integer.parseInt(dtpart[2]));

out.print(rmReg.addRoomReg(user, date,Integer.parseInt(rn)));

}

catch(Exception e)

{

e.printStackTrace();

}

}

private RmRegLocal lookupRmRegLocal() {

try {

Context c = new InitialContext();

return (RmRegLocal) c.lookup("java:global/Practica"

+ "l6/RmReg!p1.RmRegLocal");

} catch (NamingException ne) {

Logger.getLogger(getClass().getName()).log(Level.SEVERE, "exception caught", ne);

throw new RuntimeException(ne);

}

}

}

**RmReg.java**

package p1;

import java.util.\*;

import javax.ejb.Stateful;

@Stateful

public class RmReg implements RmRegLocal

{

private Vector<Reg> regs = new Vector<Reg>();

@Override

public String addRoomReg(String uname, Date dt, int roomno)

{

for(Reg reg :regs)

{

if(reg.getRdate().equals(dt) && reg.getRoomno()==roomno)

{

return "ROOM NOT AVALIABLE FOR SELECTED DATE";

}

}

Reg r1 = new Reg(uname,dt,roomno);

regs.add(r1);

return "ROOM BOOKED FOR SELECTED DATE";

}

}

class Reg

{

private String uname;

private Date rdate;

private int roomno;

public Reg(String uname, Date rdate, int roomno) {

this.uname = uname;

this.rdate = rdate;

this.roomno = roomno;

}

public String getUname() {

return uname;

}

public void setUname(String uname) {

this.uname = uname;

}

public Date getRdate() {

return rdate;

}

public void setRdate(Date rdate) {

this.rdate = rdate;

}

public int getRoomno() {

return roomno;

}

public void setRoomno(int roomno) {

this.roomno = roomno;

}

}

**RmRegLocal.java**

package p1;

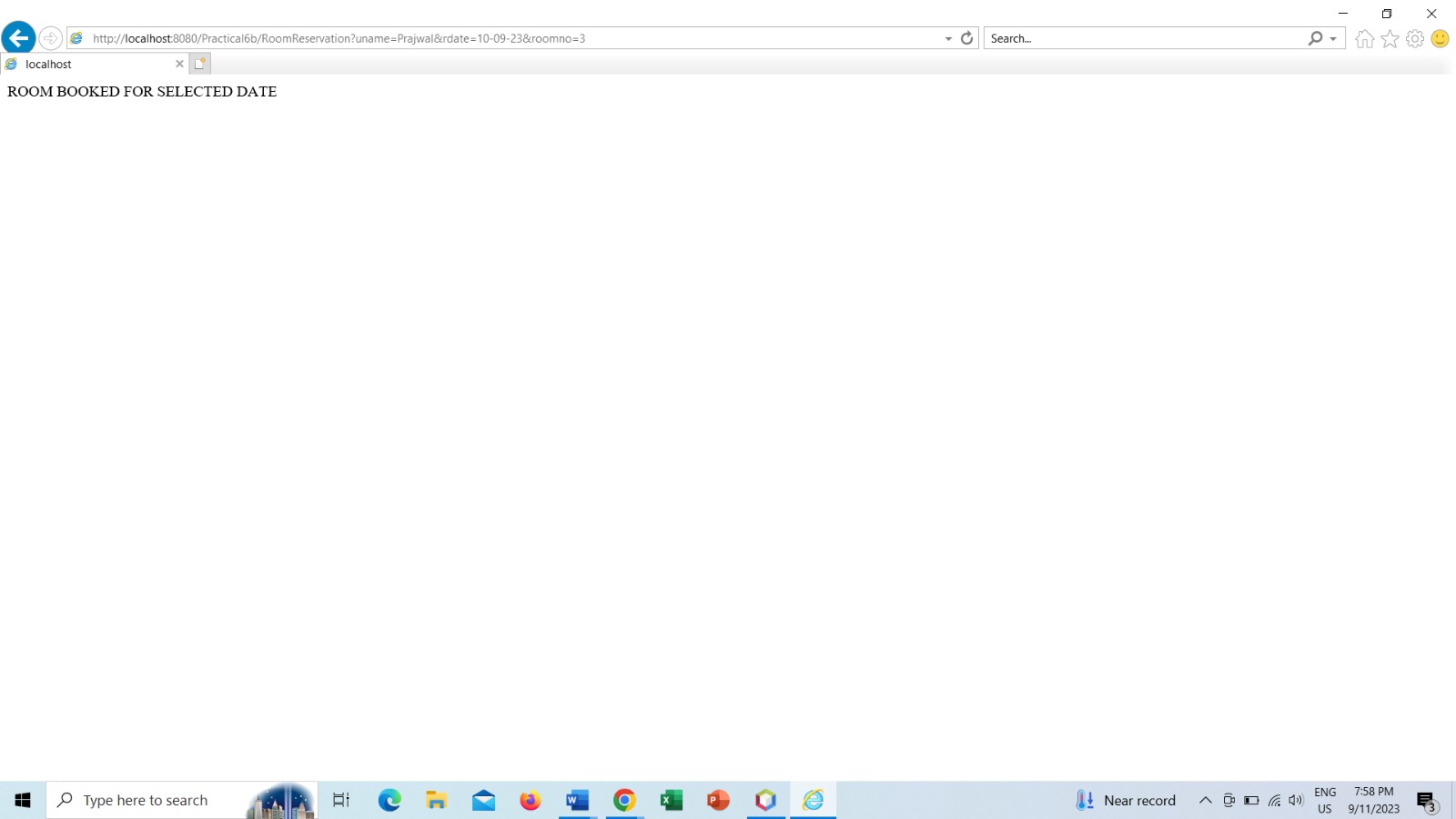
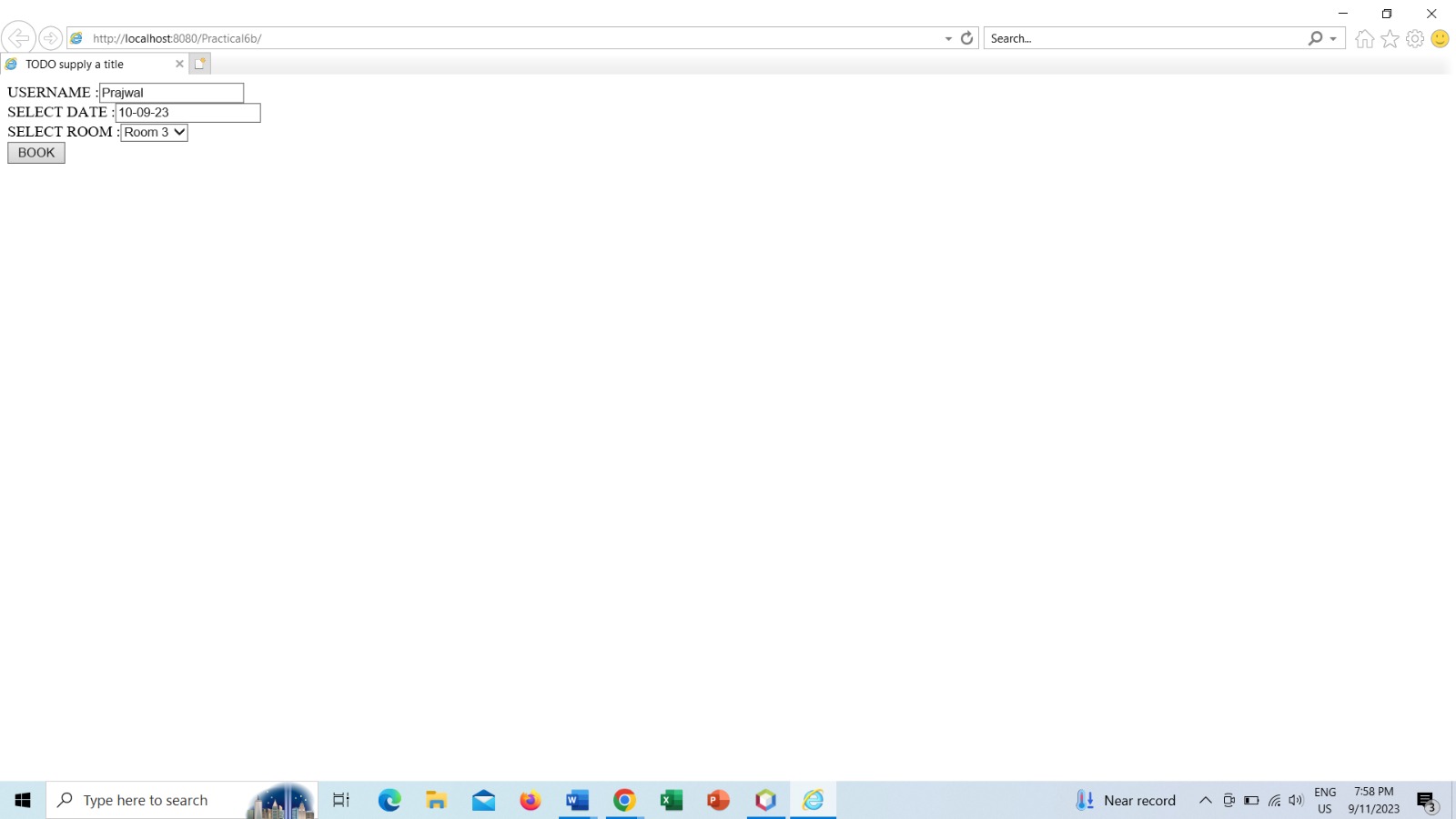
import java.util.Date;

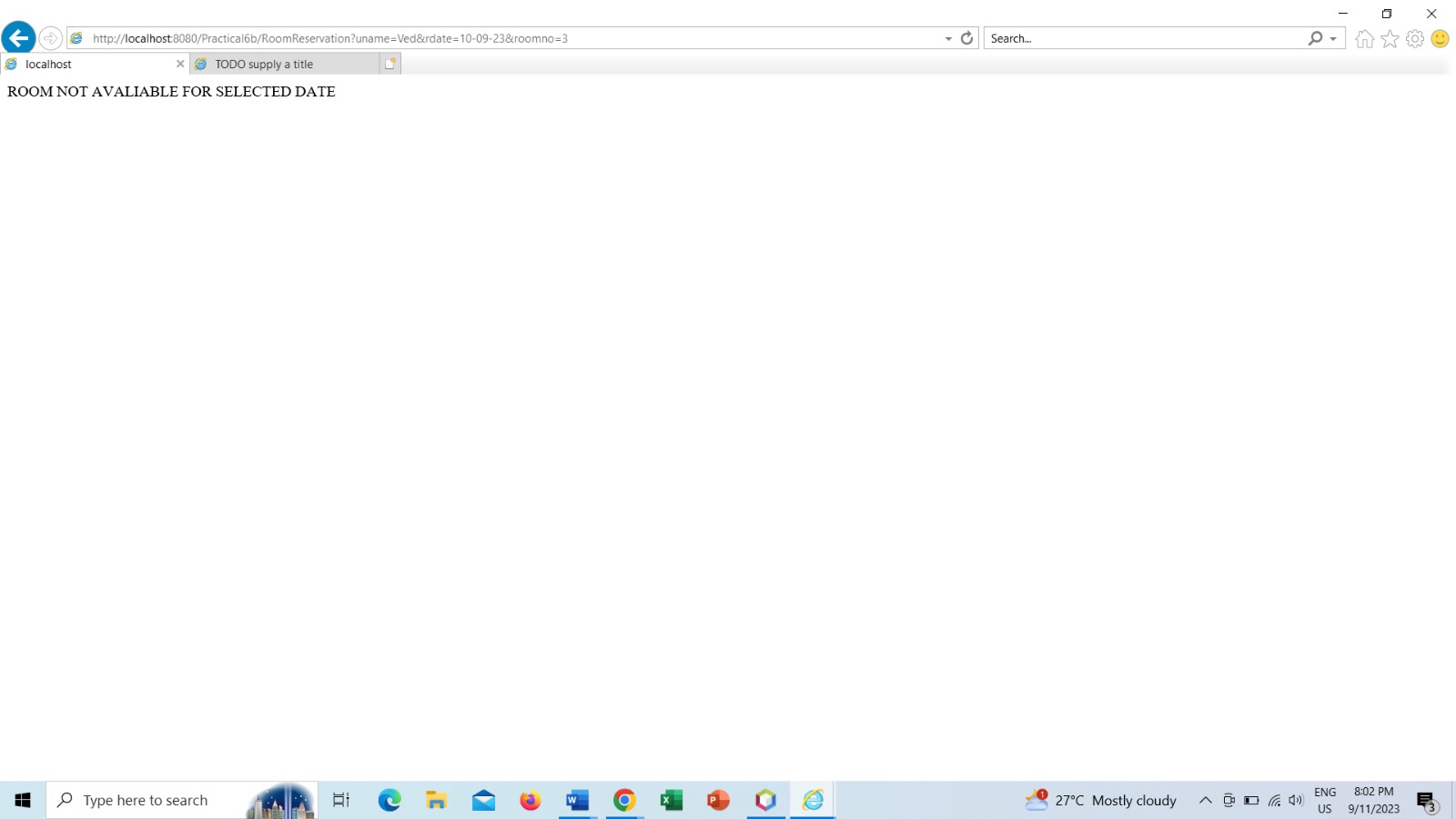
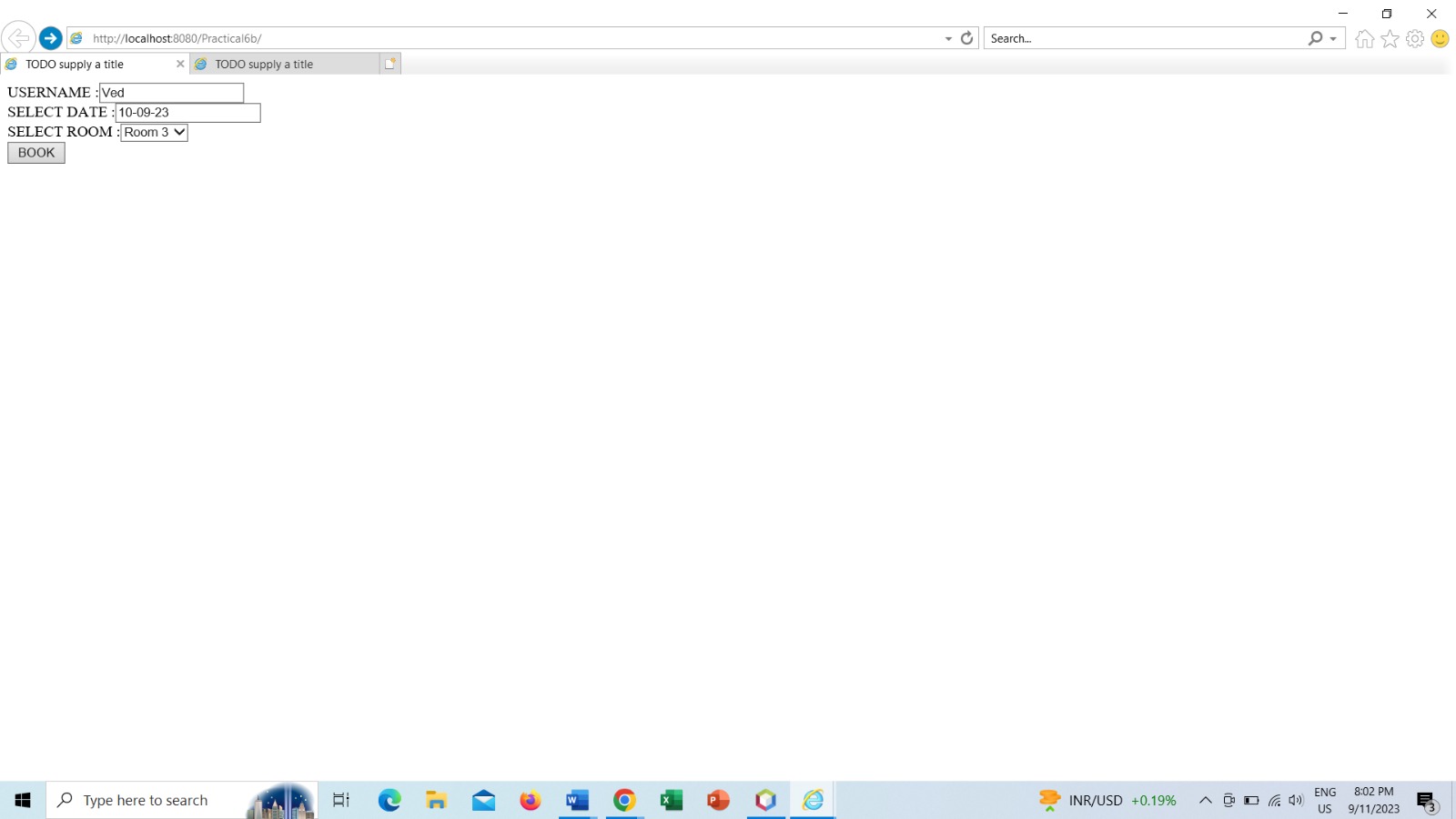
interface RmRegLocal {

public String addRoomReg(String uname, Date dt, int roomno);

}

**OUTPUT =**





DATE : 11/09/2023

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

Program =

**Shopping.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>

<a href="Cart?show=show">SHOW CART</a>

<table border>

<tr><th>PID</th><th>NAME</th><th>PRICE</th></tr>

<form action="Cart"><tr><td>1</td><td>FRIDGE</td><td>30000</td><td><input type="hidden" name="pr" value="1:FRIDGE:30000"><input type="submit" value="AddtoCart"></td></tr></form>

<form action="Cart"><tr><td>2</td><td>LAPTOP</td><td>65000</td><td><input type="hidden" name="pr" value="2:LAPTOP:65000"><input type="submit" value="AddtoCart"></td></tr></form>>

<form action="Cart"><tr><td>3</td><td>AC</td><td>20000</td><td><input type="hidden" name="pr" value="3:AC:20000"><input type="submit" value="AddtoCart"></td></tr></form>>

<form action="Cart"><tr><td>4</td><td>SMART TV</td><td>30000</td><td><input type="hidden" name="pr" value="4:SMART TV:30000"><input type="submit" value="AddtoCart"></td></tr></form>>

</table>

</body>

</html>

**CartBean.java**

package p1;

import jakarta.ejb.Stateful;

import java.util.\*;

@Stateful

public class CartBean implements cartBeanLocal {

public Vector<Product> cart = new Vector<Product>();

@Override

public String addToCart(String pid, String name, String price) {

for(Product product : cart)

{

if(product.getPid().equals(pid))

{

return "Product is already in cart";

}

}

Product pr = new Product(pid,name,price);

cart.add(pr);

return "Product added";

}

@Override

public String showCart() {

String allProductInCart = "";

for(Product product : cart)

{

allProductInCart += product.getPid()+":"+product.getName()+":"+product.getPrice()+";";

}

return allProductInCart;

}

}

class Product

{

String pid;

String name;

String price;

public Product(String pid, String name, String price) {

this.pid = pid;

this.name = name;

this.price = price;

}

public String getPid() {

return pid;

}

public void setPid(String pid) {

this.pid = pid;

}

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

public String getPrice() {

return price;

}

public void setPrice(String price) {

this.price = price;

}

}

**Cart.java**

package p1;

import java.io.IOException;

import java.io.\*;

import java.util.logging.Level;

import java.util.logging.Logger;

import javax.naming.Context;

import javax.naming.InitialContext;

import javax.naming.NamingException;

import jakarta.servlet.\*;

import jakarta.servlet.http.\*;

public class Cart extends HttpServlet {

cartBeanLocal cartBean = lookupcartBeanLocal();

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

try (PrintWriter out = response.getWriter())

{

if(request.getParameter("pr")!= null)

{

//ADDING IN CART

String[] det = request.getParameter("pr").split(":");

out.print(cartBean.addToCart(det[0],det[1],det[2]));

}

else if (request.getParameter("show")!= null)

{

//DISPLAYING CART

String allrows = cartBean.showCart();

allrows = allrows.substring(0,allrows.length()-1);

//out.print(allrows);

String [] irow = allrows.split(";");

out.print("<table>");

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

{

out.print("<tr><td>"+irow[i].split(":")[0]+"</td><td>"+irow[i].split(":")[1]+"</td><td>"+irow[i].split(":")[2]+"</td></tr>");

}

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

}

}

}

private cartBeanLocal lookupcartBeanLocal() {

try {

Context c = new InitialContext();

return (cartBeanLocal) c.lookup("java:global/Practical6c/cartBean!p1.cartBeanLocal");

} catch (NamingException ne) {

Logger.getLogger(getClass().getName()).log(Level.SEVERE, "exception caught", ne);

throw new RuntimeException(ne);

}

}

}

**CartBeanLocal.java**

package p1;

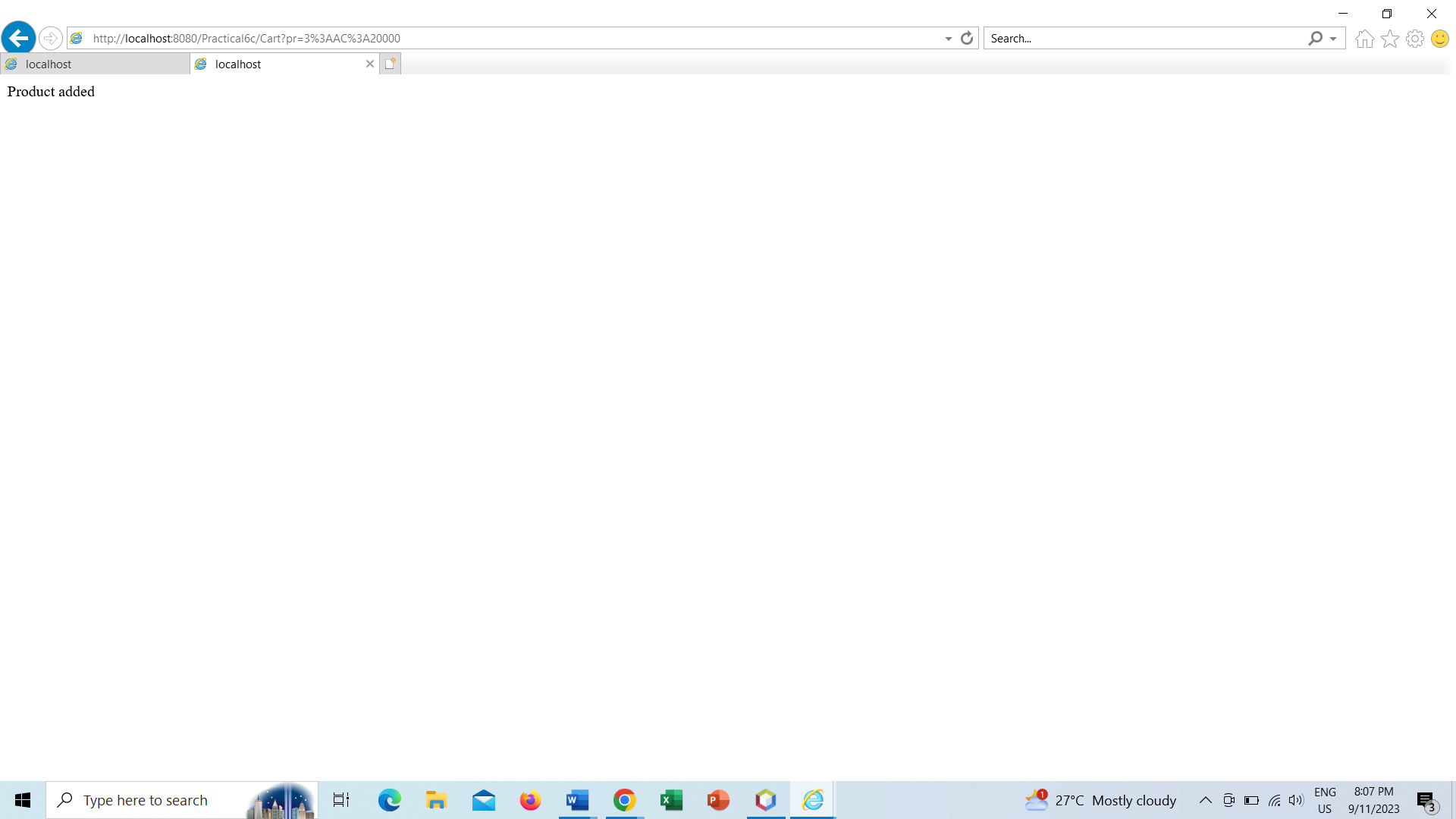
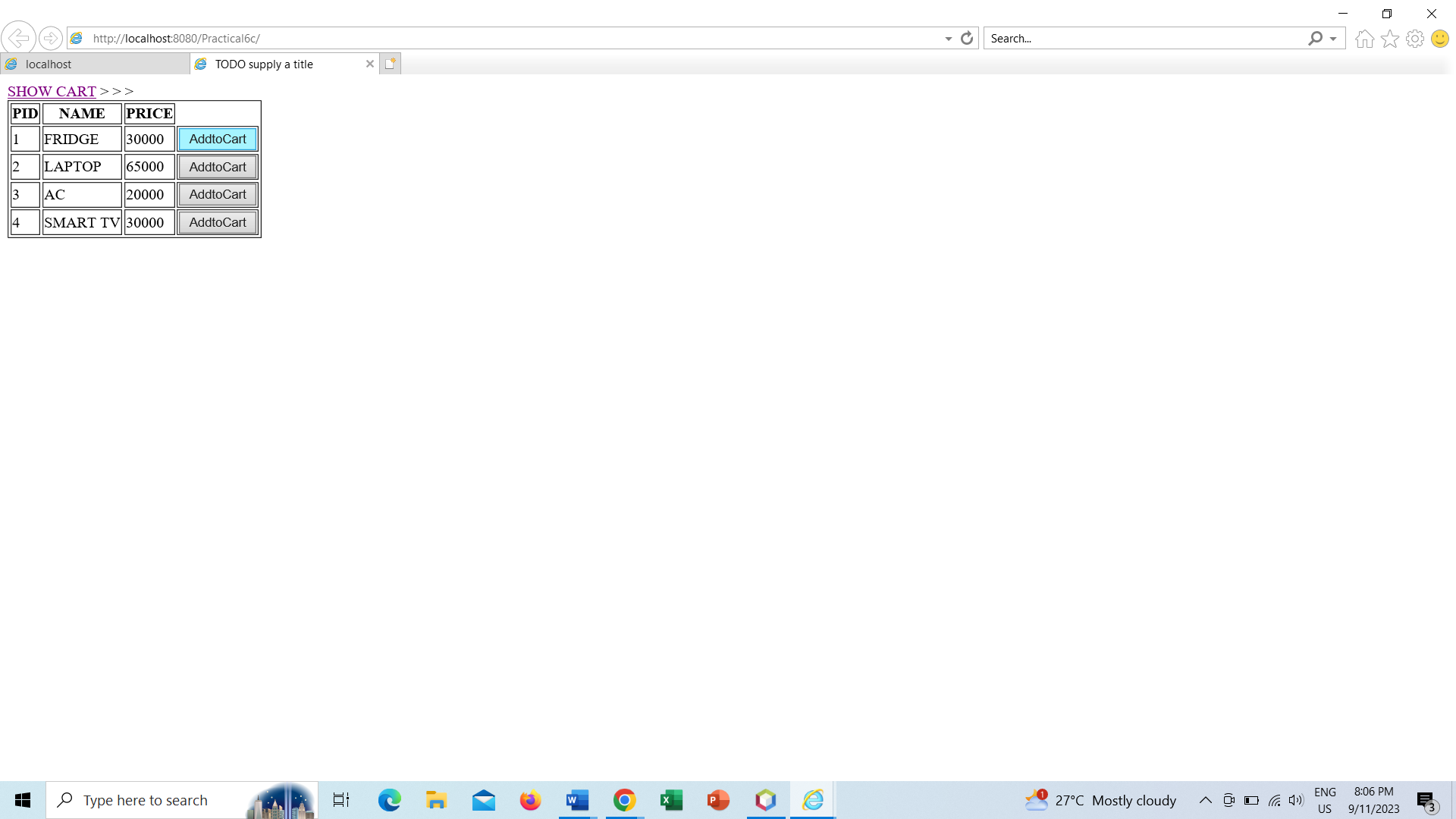
public interface CartBeanLocal {

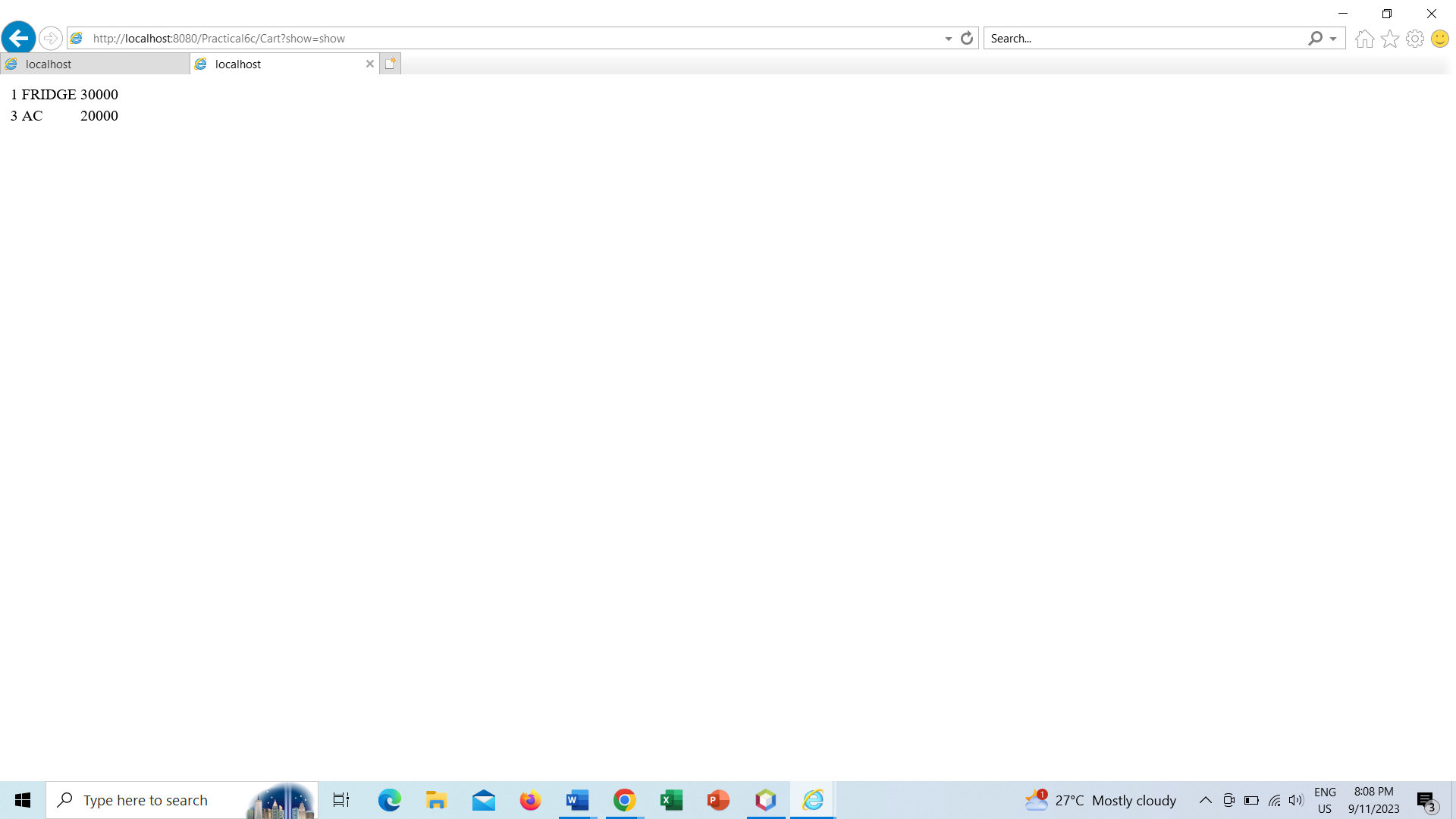
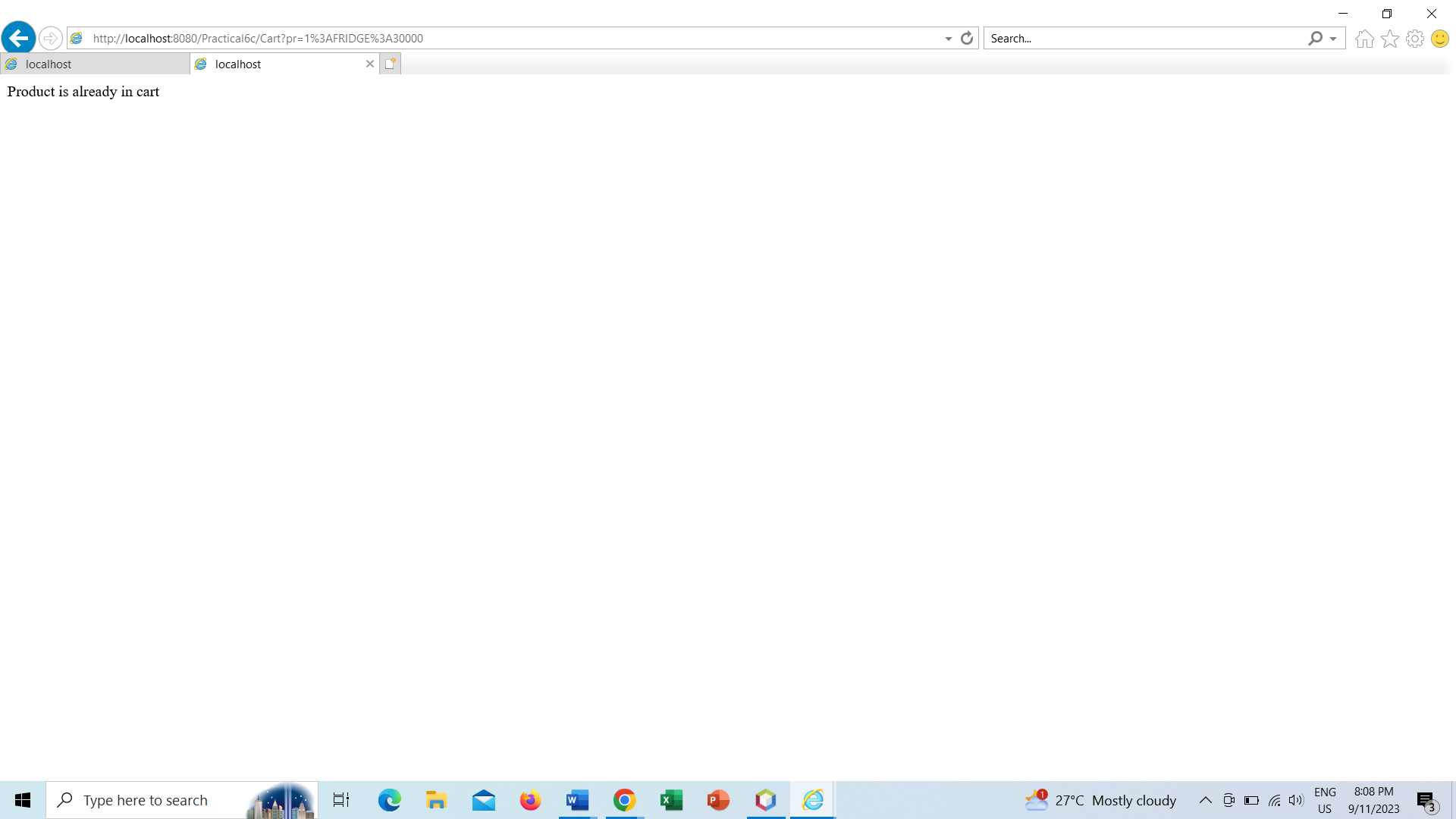
public String addToCart(String pid, String name, String price);

public String showCart();

}

**OUTPUT:**





DATE :19/09/2023

**Practical 7**

A] AIM : Develop simple EJB application to demonstrate Servlet Hit count using Singleton Session Beans.

Program =

index.html

<!DOCTYPE html>

<!--

To change this license header, choose License Headers in Project Properties.

To change this template file, choose Tools | Templates

and open the template in the editor.

-->

<html>

<head>

<title>SERVLET CLIENT</title>

<meta charset="UTF-8">

<meta http-equiv="Refresh" content="0; URL=ServletClient">

</head>

<body>

<div>TODO write content</div>

</body>

</html>

CountServletHitsBean.java

package p1;

import javax.ejb.Singleton;

@Singleton

public class CountServletHitsBean {

private int hitCount;

public synchronized int incrementAndGetHitCount() {

return hitCount++;

}

}

ServletClient.java

package p1;

import p1.CountServletHitsBean;

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 = "ServletClient", urlPatterns = {"/ServletClient"})

public class ServletClient extends HttpServlet {

@EJB

CountServletHitsBean counterBean;

@Override

protected void service(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 ServletClient</title>");

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

out.println("<body>");

out.println("<h1>Number of times this servlet is accessed: " + counterBean.incrementAndGetHitCount() + "</h1>");

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

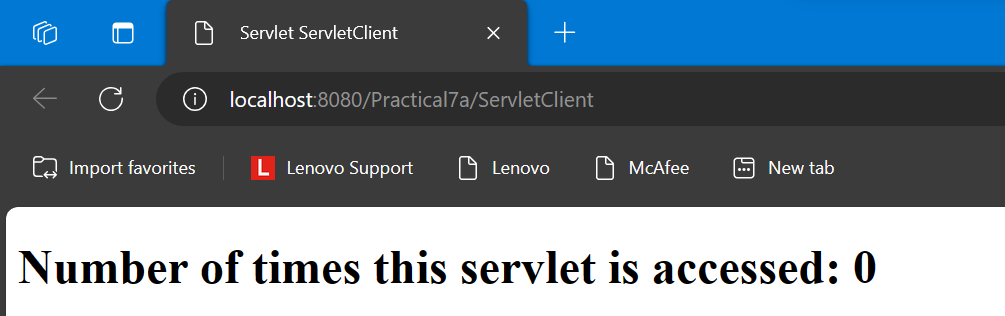
out.println("</html>");

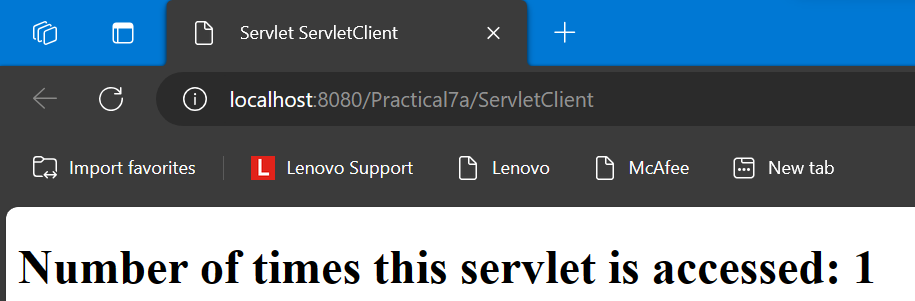
}

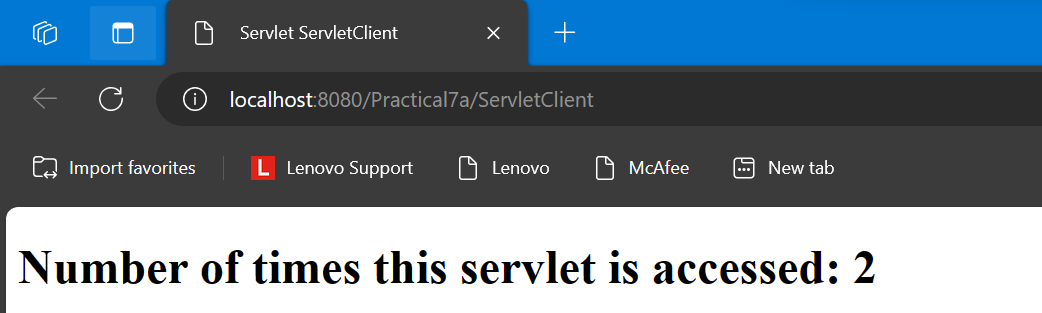
}

}

**OUTPUT =**

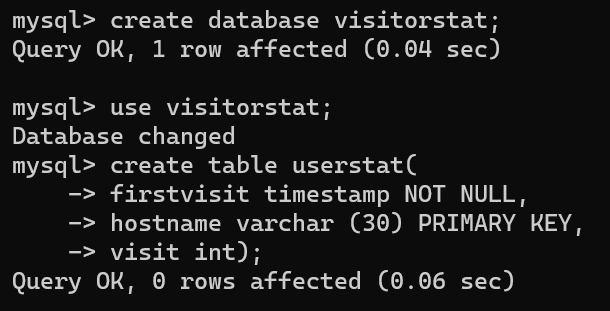


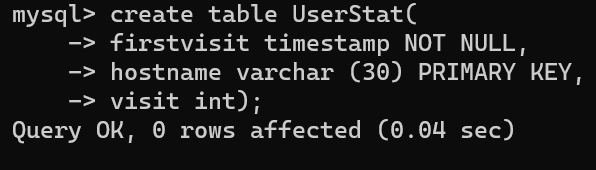




B] AIM : Develop simple visitor Statistics application using Message Driven Bean [Stateless Session Bean].

Database =





Program =

index.jsp

<%@page import="javax.jms.JMSException, javax.naming.InitialContext, javax.jms.TextMessage, javax.jms.MessageProducer, javax.jms.Session, javax.jms.Connection, javax.jms.Queue, javax.jms.ConnectionFactory" %>

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

<!DOCTYPE html>

<%!

private static ConnectionFactory connectionFactory;

private static Queue queue;

Connection connection = null;

Session mysession = null;

MessageProducer messageProducer = null;

TextMessage message = null;

%>

<html>

<head>

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

<title>Welcome To Prajwal Home Page</title>

</head>

<body style="background-color: pink;">

<h1>Welcome To Prajwal Adhav Home page</h1>

<%

try {

InitialContext ctx = new InitialContext();

queue = (Queue) ctx.lookup("jms/Queue");

connectionFactory = (ConnectionFactory) ctx.lookup("jms/QueueFactory");

connection = connectionFactory.createConnection();

mysession = connection.createSession(false, Session.AUTO\_ACKNOWLEDGE);

messageProducer = mysession.createProducer(queue);

message = mysession.createTextMessage();

message.setText(request.getRemoteAddr());

messageProducer.send(message);

} catch (JMSException e) {

System.out.println("Exception occurred: " + e.toString());

}

%>

</body>

</html>

VisitorStatBean.java

package p1;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.sql.Statement;

import javax.annotation.PostConstruct;

import javax.annotation.PreDestroy;

import javax.ejb.Stateless;

@Stateless

public class VisitorStatBean {

private Connection conn = null;

private ResultSet rs;

private Statement stmt = null;

private String query = null;

@PostConstruct

public void connect() {

try {

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

conn=DriverManager.getConnection("jdbc:mysql://localhost:3306/TYIT?useTimeZone=true&serverTimezone=UTC&autoReconnect=true&useSSL=false","root","221001");

System.out.println("Database connection established successfully.");

} catch(ClassNotFoundException | InstantiationException | IllegalAccessException | SQLException e) {

System.err.println("Sorry failed to connect to the Database.");

}

}

@PreDestroy

public void disconnect() {

try {

conn.close();

System.out.println("Database connection closed successfully.");

} catch(SQLException e) {

System.err.println("Cannot close the database connection: " + e.getMessage());

}

}

public void addVisitor(String host) {

try {

stmt = conn.createStatement();

query = "INSERT INTO UserStat (hostname, visits) VALUES('" + host + "','1')";

stmt.executeUpdate(query);

} catch(SQLException e) {

try {

stmt = conn.createStatement();

query = "UPDATE UserStat SET visits = visits + 1 WHERE hostname = '" + host + "'";

stmt.executeUpdate(query);

} catch(SQLException ex) {

System.err.println("Cannot update: " + ex.getMessage());

}

}

}

}

BasicMessageBean.java

package p1;

import javax.annotation.Resource;

import javax.ejb.ActivationConfigProperty;

import javax.ejb.EJB;

import javax.ejb.MessageDriven;

import javax.ejb.MessageDrivenContext;

import javax.jms.JMSException;

import javax.jms.Message;

import javax.jms.MessageListener;

import javax.jms.TextMessage;

@MessageDriven(activationConfig = {

@ActivationConfigProperty(propertyName = "destinationType", propertyValue = "javax.jms.Queue"),

@ActivationConfigProperty(propertyName = "destinationLookup", propertyValue = "jms/Queue")

})

public class BasicMessageBean implements MessageListener {

@EJB

VisitorStatBean vs;

@Resource

private MessageDrivenContext mdc;

public BasicMessageBean() {

}

@Override

public void onMessage(Message message) {

try {

if (message instanceof TextMessage) {

TextMessage msg = (TextMessage) message;

vs.addVisitor(msg.getText());

}

} catch (JMSException e) {

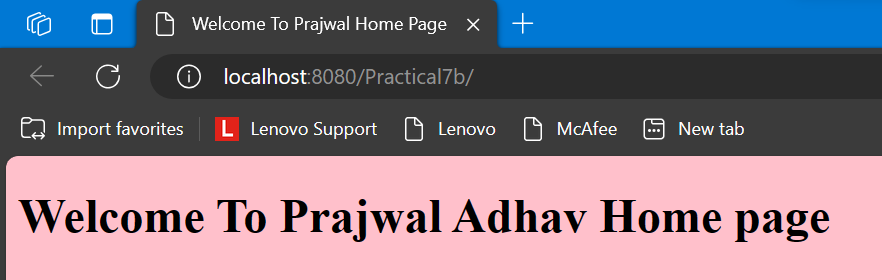
mdc.setRollbackOnly();

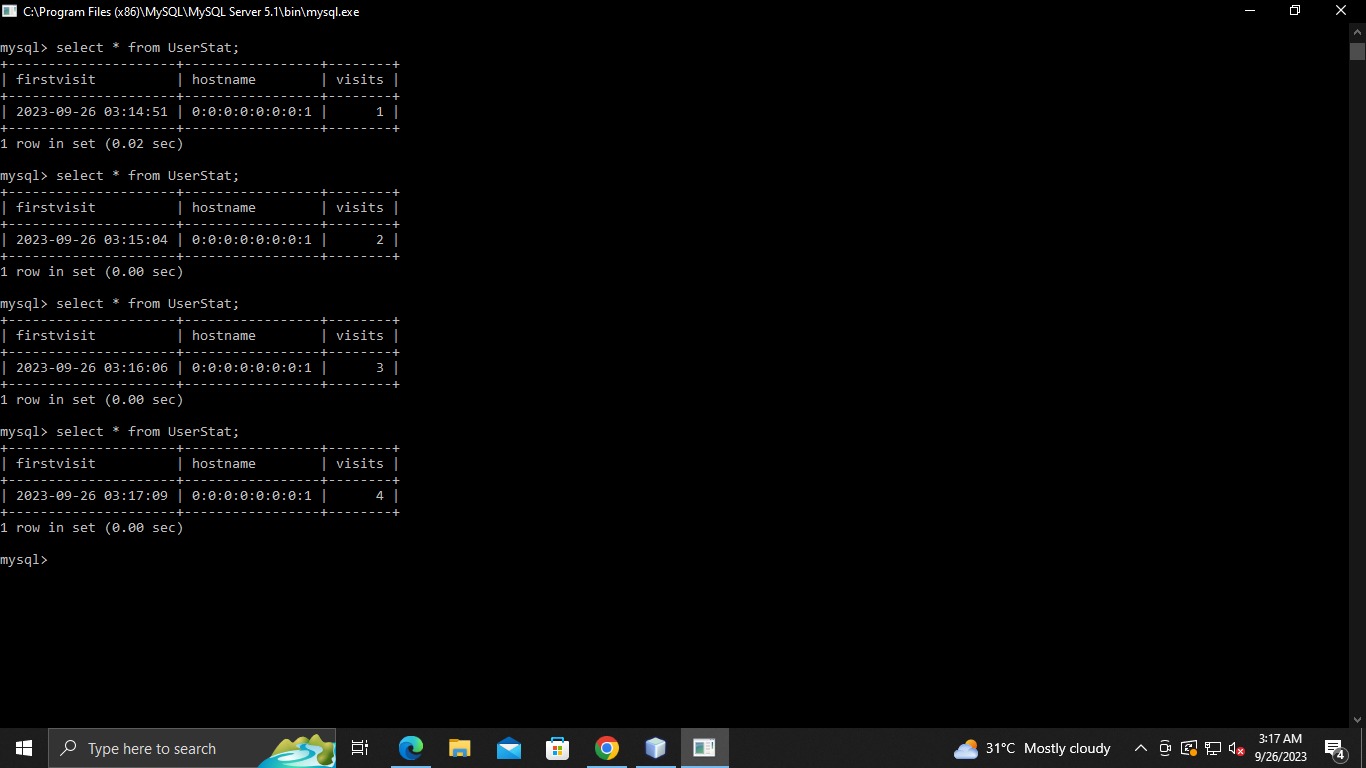
}

}

}

**OUTPUT =**

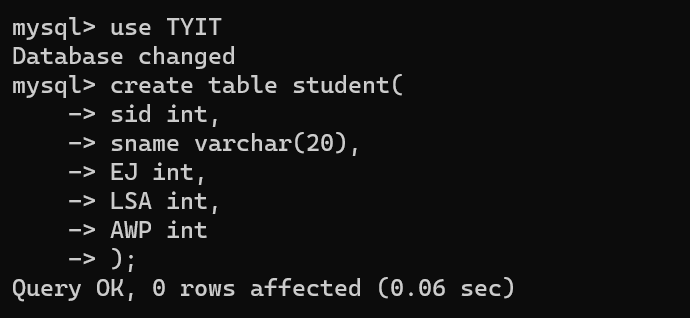
****



Date = 5/10/2023

C] AIM: Develop simple Marks Entry Application to demonstrate accessing Database using EJB.

Database =



Program =

**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>

<center>

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

Student Id: <Input type="text" name="t1">

Student Name : <input type="text" name="t2"><br><br>

Subjects:<br>

Java: <input type="number" name="m1"><br>

Linux: <input type="number" name="m2"><br>

AWP: <input type="number" name="m3"><br><br>

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

</form>

</center>

 </body>

</html>

**insert.jsp**

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

<%@page import="p1.DatabaseOperations"%>

<!DOCTYPE html>

<html>

<head>

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

<title>JSP Page</title>

</head>

<body>

<%

try{

int sid=Integer.parseInt(request.getParameter("t1"));

String sname=request.getParameter("t2");

int EJ=Integer.parseInt(request.getParameter("m1"));

int LSA=Integer.parseInt(request.getParameter("m2"));

int AWP=Integer.parseInt(request.getParameter("m3"));

DatabaseOperation d1=new DatabaseOperations();

d1.AddMarks(sid, sname, EJ, LSA, AWP);

out.println("<h1>Record is added successfully</h1>");

}catch(Exception ex){

out.println(ex.getMessage());

}

%>

 </body>

</html>

**DatabaseOperations.java**

package p1;

import java.sql.\*;

import java.sql.Connection;

import java.sql.DriverManager;

import jakarta.ejb.Stateless;

@Stateless

public class DatabaseOperations implements DatabaseOperationsLocal {

public void AddMarks(int sid, String sname, int EJ, int LSA, int AWP)throws Exception

{

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

Connection con=DriverManager.getConnection("jdbc:mysql://localhost:3306/TYIT?useTimeZone=true&serverTimezone=UTC&autoReconnect=true&useSSL=false","root","221001");

PreparedStatement ps=con.prepareStatement("Insert into student values (?,?,?,?,?)");

ps.setInt(1, sid);

ps.setString(2, sname);

ps.setInt(3, EJ);

ps.setInt(4, LSA);

ps.setInt(5, AWP);

ps.executeUpdate();

    }

}

**DatabaseOperationsLocal.java**

package p1;

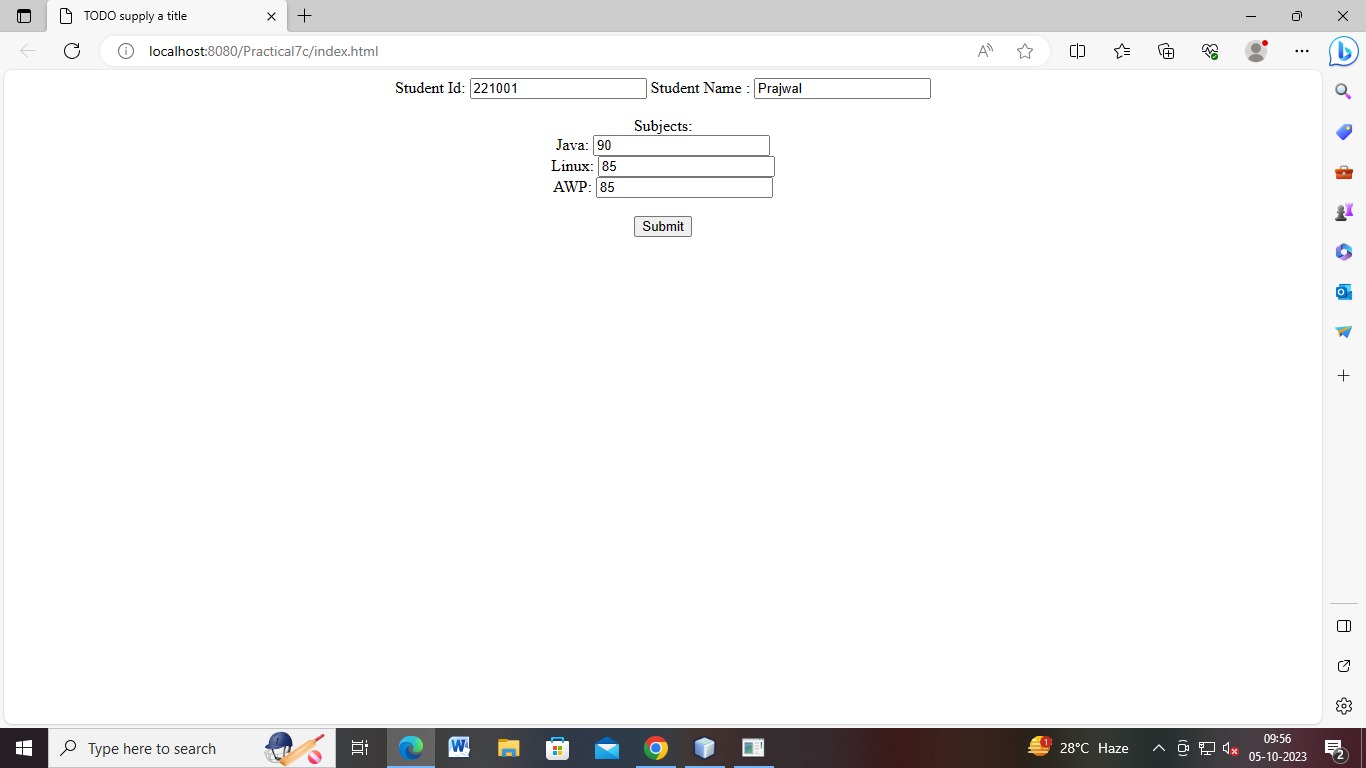
import jakarta.ejb.Local;

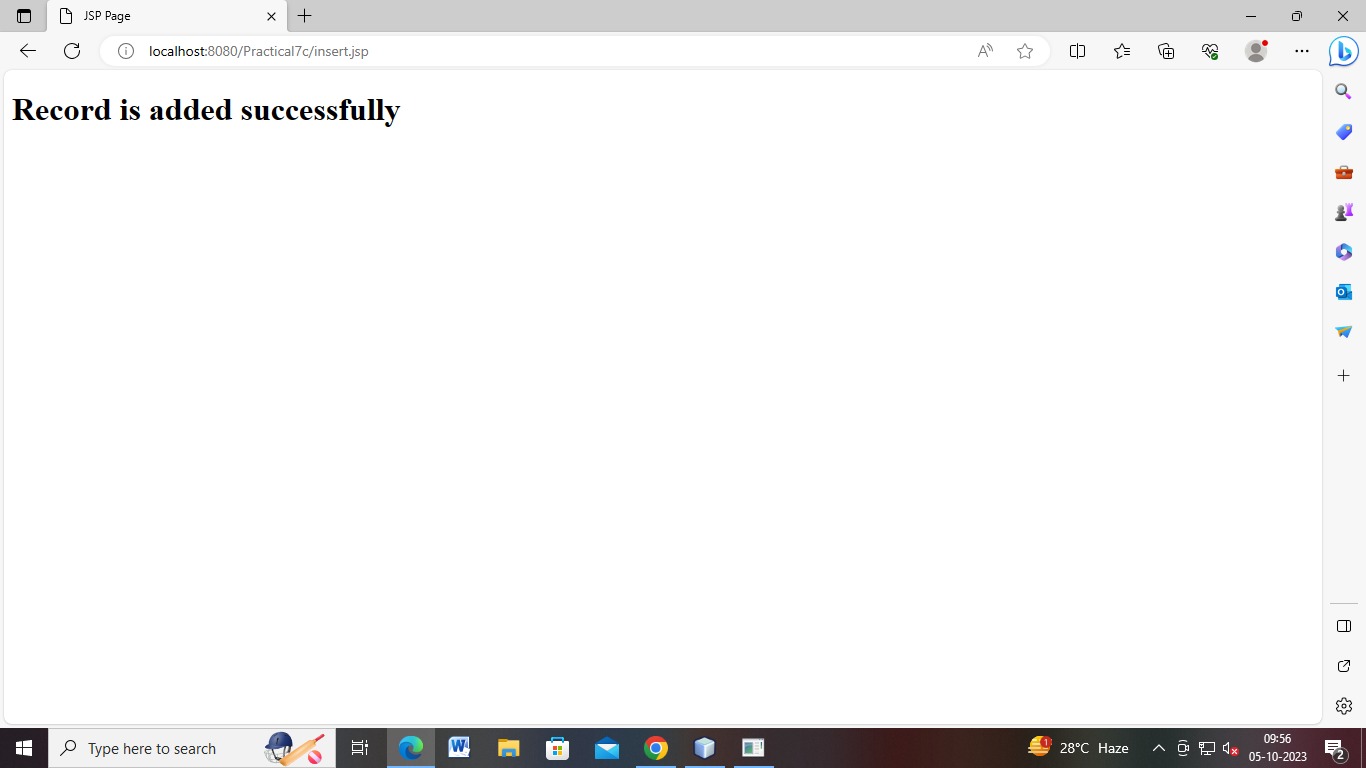
@Local

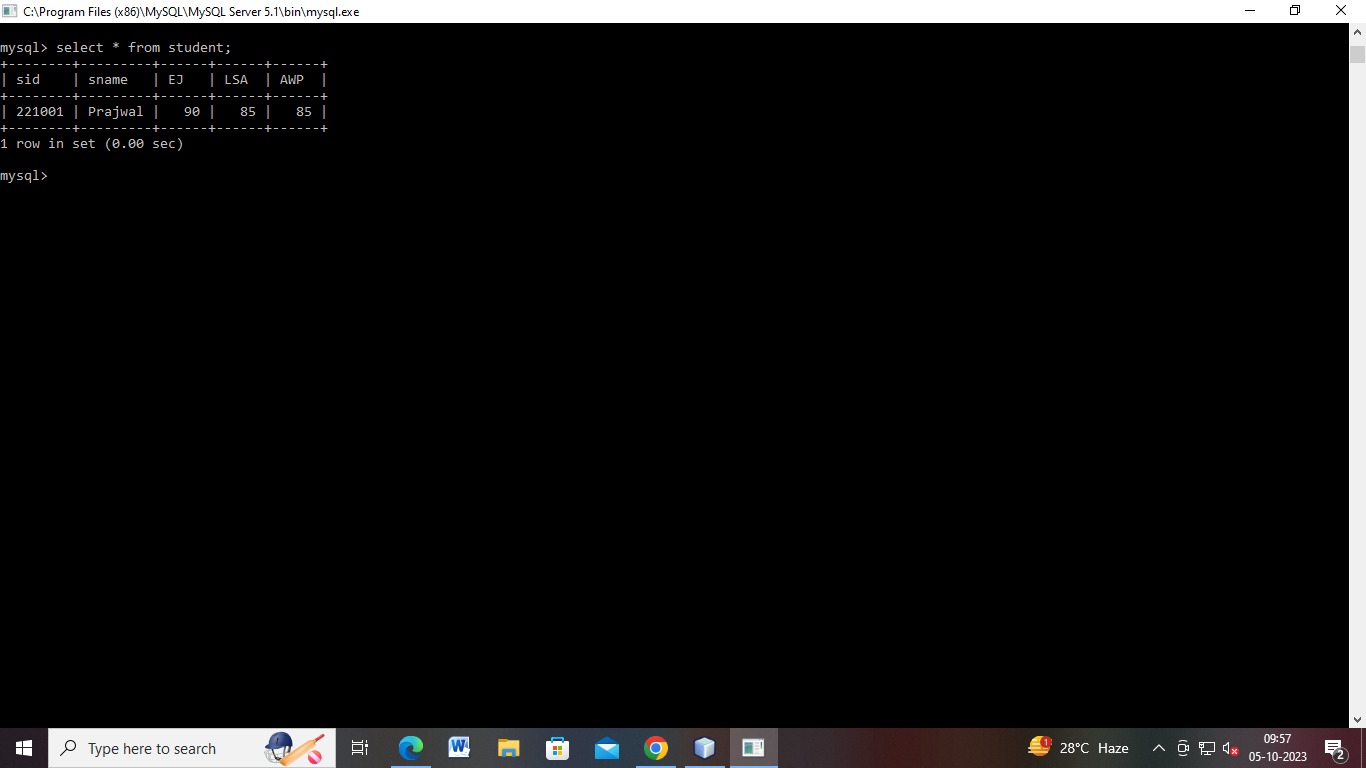
public interface DatabaseOperationsLocal {

}

**OUTPUT =**





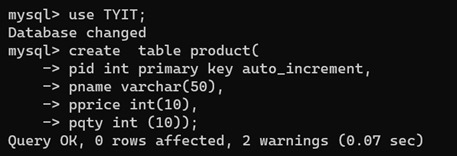


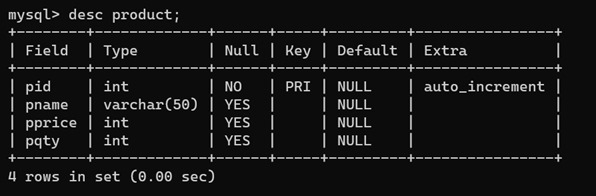
DATE :18/10/2023

**Practical 8**

A] AIM : Develop a simple Inventory Application Using JPA.

**Database =**





**Program =**

**Inventory.jsp**

<%@page import="javax.persistence.Persistence"%>

<%@page import="javax.persistence.EntityTransaction"%>

<%@page import="javax.persistence.EntityManager"%>

<%@page import="javax.persistence.EntityManagerFactory"%>

<%@page import="p1.Product"%>

<%@page import="java.util.\*" %>%

<%@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>

<%!

private EntityManagerFactory emf;

private EntityManager em;

private EntityTransaction et;

private List<Product> allprods;

%>

<%

emf = Persistence.createEntityManagerFactory("InventoryJPAPU");

em = emf.createEntityManager();

Product product = new Product();

product.setPname("Board");

product.setPprice(150);

product.setPqty(200);

product.setPname("Chair");

product.setPprice(350);

product.setPqty(50);

et = em.getTransaction();

et.begin();

em.persist(product);

et.commit();

em.close();

%>

</body>

</html>

**Persistence.xml**

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

<persistence version="2.1" xmlns="http://xmlns.jcp.org/xml/ns/persistence" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/persistence http://xmlns.jcp.org/xml/ns/persistence/persistence\_2\_1.xsd">

<persistence-unit name="InventoryJPAPU" transaction-type="JTA">

<jta-data-source>java:app/product</jta-data-source>

<exclude-unlisted-classes>false</exclude-unlisted-classes>

<properties>

<property name="javax.persistence.schema-generation.database.action" value="create"/>

</properties>

</persistence-unit>

</persistence>

**Product.java**

package p1;

import java.io.Serializable;

import javax.persistence.Basic;

import javax.persistence.Column;

import javax.persistence.Entity;

import javax.persistence.GeneratedValue;

import javax.persistence.GenerationType;

import javax.persistence.Id;

import javax.persistence.NamedQueries;

import javax.persistence.NamedQuery;

import javax.persistence.Table;

import javax.validation.constraints.Size;

import javax.xml.bind.annotation.XmlRootElement;

@Entity

@Table(name = "product")

@XmlRootElement

@NamedQueries({

@NamedQuery(name = "Product.findAll", query = "SELECT p FROM Product p"),

@NamedQuery(name = "Product.findByPid", query = "SELECT p FROM Product p WHERE p.pid = :pid"),

@NamedQuery(name = "Product.findByPname", query = "SELECT p FROM Product p WHERE p.pname = :pname"),

@NamedQuery(name = "Product.findByPprice", query = "SELECT p FROM Product p WHERE p.pprice = :pprice"),

@NamedQuery(name = "Product.findByPqty", query = "SELECT p FROM Product p WHERE p.pqty = :pqty")})

public class Product implements Serializable {

private static final long serialVersionUID = 1L;

@Id

@GeneratedValue(strategy = GenerationType.IDENTITY)

@Basic(optional = false)

@Column(name = "pid")

private Integer pid;

@Size(max = 50)

@Column(name = "pname")

private String pname;

@Column(name = "pprice")

private Integer pprice;

@Column(name = "pqty")

private Integer pqty;

public Product() {

}

public Product(Integer pid) {

this.pid = pid;

}

public Integer getPid() {

return pid;

}

public void setPid(Integer pid) {

this.pid = pid;

}

public String getPname() {

return pname;

}

public void setPname(String pname) {

this.pname = pname;

}

public Integer getPprice() {

return pprice;

}

public void setPprice(Integer pprice) {

this.pprice = pprice;

}

public Integer getPqty() {

return pqty;

}

public void setPqty(Integer pqty) {

this.pqty = pqty;

}

@Override

public int hashCode() {

int hash = 0;

hash += (pid != null ? pid.hashCode() : 0);

return hash;

}

@Override

public boolean equals(Object object) {

// TODO: Warning - this method won't work in the case the id fields are not set

if (!(object instanceof Product)) {

return false;

}

Product other = (Product) object;

if ((this.pid == null && other.pid != null) || (this.pid != null && !this.pid.equals(other.pid))) {

return false;

}

return true;

}

@Override

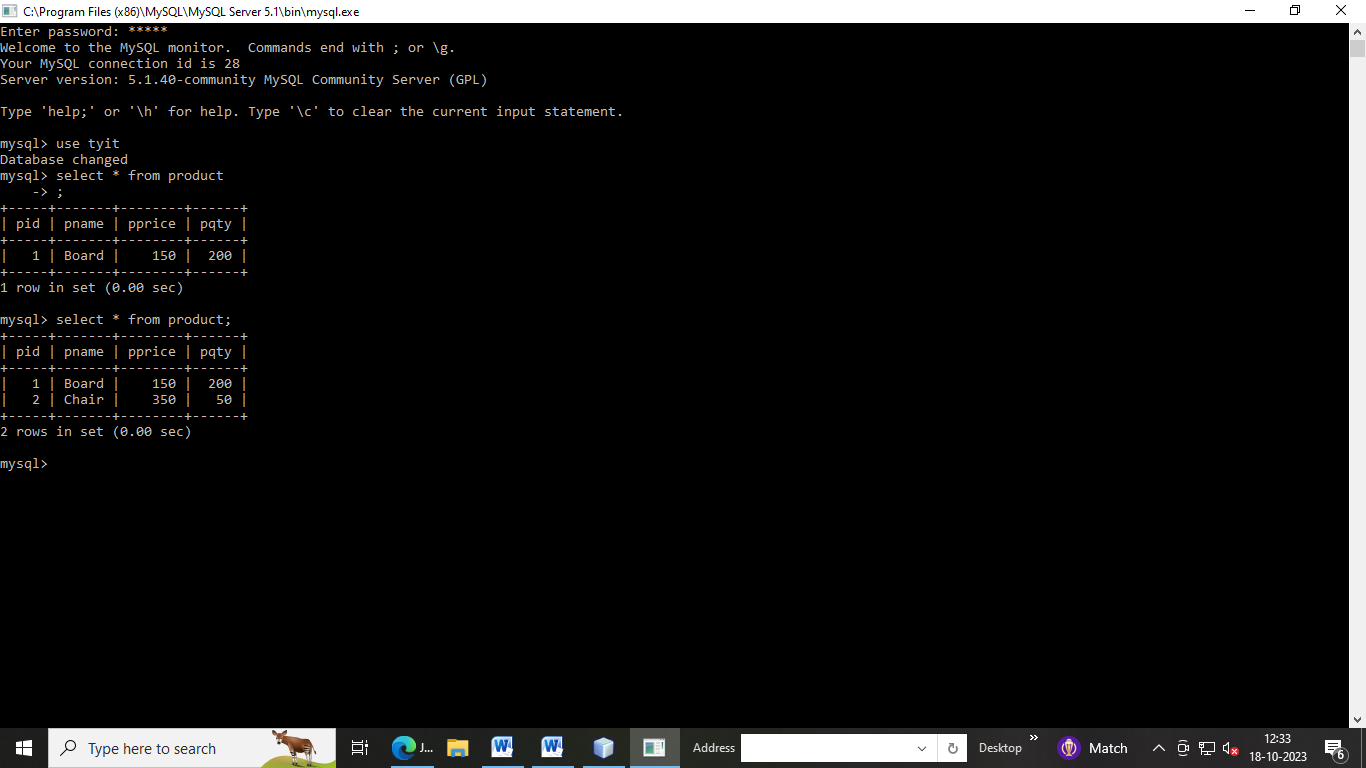
public String toString() {

return "p1.Product[ pid=" + pid + " ]";

}

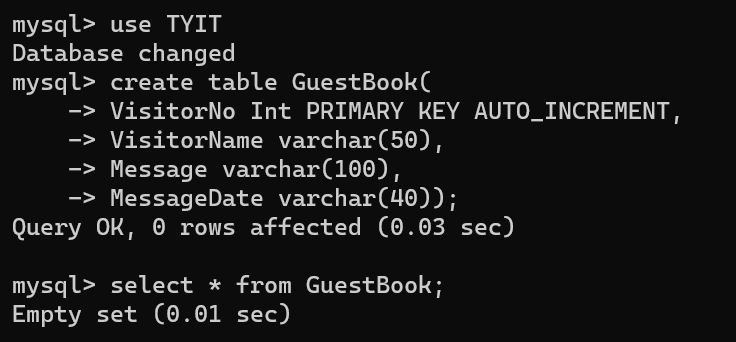
}

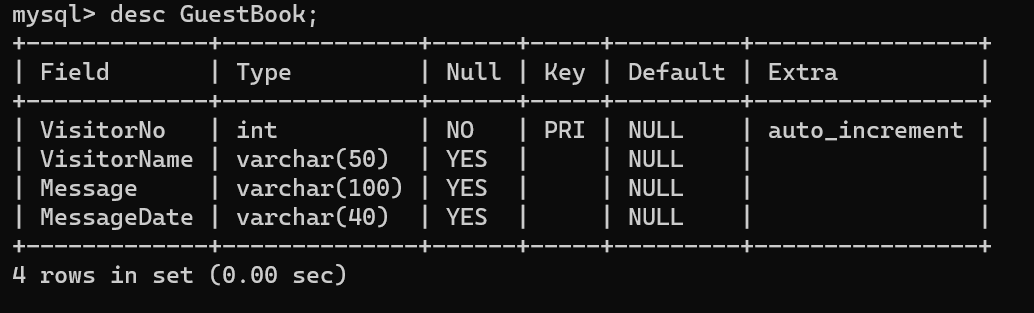
OUTPUT =



B] AIM : Develop a Guestbook Application Using JPA.

**Database =**





**Program =**

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>Guest Book</title>

</head>

<body style="background-color: pink;">

<table style="width: 100%; alignment-adjust: central; border: 0px;">

<tr>

<td>

<table style="width: 100%; border: 0px;">

<tr>

<td style="text-align: left; vertical-align: middle; padding-right:0px; padding-left:0px; padding-bottom:0px; font:24px/30px Georgia; width:228px; color:#786e4e; padding-top:0px; height:37px;">

Sign the Guest Book

</td>

</tr>

</table>

</td>

</tr>

<tr style="text-align: left; vertical-align: top;">

<td style="height: 20px;"><hr /></td>

</tr>

<tr>

<td>

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

<table style="border-spacing: 2px; border: 0px;">

<tr>

<td style="text-align: right; font-size:15px; font-family:Arial,Times,serif; font-weight:bold;">

Visitor Name:

</td>

<td>

<input name="guest" maxlength="25" size="50" />

</td>

</tr>

<tr>

<td style="text-align: right; font-size:15px; font-family:Arial,Times,serif; font-weight:bold;">

Message:

</td>

<td>

<textarea rows="5" cols="36" name="message"></textarea>

</td>

</tr>

<tr>

<td colspan="2" style="text-align: right;">

<input type="submit" name="btnSubmit" value="Submit" />

</td>

</tr>

</table>

</form>

</td>

</tr>

</table>

</body>

</html>

GuestBookView.jsp

<%@page import="java.util.Iterator,javax.persistence.Persistence,java.util.List,p1.GuestBook,javax.persistence.EntityTransaction,javax.persistence.EntityManager,javax.persistence.EntityManagerFactory" %>

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

<!DOCTYPE html>

<%!

private EntityManagerFactory entityManagerFactory;

private EntityManager entityManager;

private EntityTransaction entityTransaction;

List<GuestBook> guestbook;

%>

<%

entityManagerFactory = Persistence.createEntityManagerFactory("GuestBookJPAPU");

entityManager = entityManagerFactory.createEntityManager();

String submit = request.getParameter("btnSubmit");

if(submit != null && ("Submit").equals(submit)) {

try {

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

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

String messageDate = new java.util.Date().toString();

GuestBook gb = new GuestBook();

gb.setVisitorName(guest);

gb.setMessage(message);

gb.setMessageDate(messageDate);

entityTransaction = entityManager.getTransaction();

entityTransaction.begin();

entityManager.persist(gb);

entityTransaction.commit();

} catch (RuntimeException e) {

if(entityTransaction != null) entityTransaction.rollback();

throw e;

}

response.sendRedirect("GuestBookView.jsp");

}

try {

guestbook = entityManager.createQuery("SELECT g from GuestBook g").getResultList();

} catch (RuntimeException e) {

throw e;

}

entityManager.close();

%>

<html>

<head>

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

<title>Guest Book</title>

</head>

<body style="background-color: pink;">

<table style="alignment-adjust: central; width: 100%; border: 0px;">

<tr>

<td>

<table style="width: 100%; border: 0px;">

<tr>

<td style="width: 60%; vertical-align: middle; text-align: left; padding-right:0px; padding-left:0px; padding-bottom:0px; font:24px/30px Georgia; width:228px; color:#786e4e; padding-top:0px; height:37px;">

View the Guest Book

</td>

<td style="vertical-align: bottom; text-align: right; font:12px/16px Georgia, serif; color:#786e4e;">

<b>Click <a href="index.jsp"> here</a> to sign the guestbook.</b>

</td>

</tr>

</table>

</td>

</tr>

<tr style="text-align: left; vertical-align: top;">

<td style="height: 20px;"><hr /></td>

</tr>

<tr>

<td>

<table style="text-align: left; width: 100%; border: 0px;">

<%

Iterator iterator = guestbook.iterator();

while (iterator.hasNext()) {

GuestBook objGb = (GuestBook) iterator.next();

%>

<tr>

<td style="font:12px/16px Georgia; color:#786e4e;">

On <%=objGb.getMessageDate()%>,<br />

<b><%=objGb.getVisitorName()%>:</b>

<%=objGb.getMessage()%>

<br /><br />

</td>

</tr>

<%

}

%>

</table>

</td>

</tr>

</table>

</body>

</html>

GuestBook.java

package p1;

import javax.persistence.Column;

import javax.persistence.Entity;

import javax.persistence.GeneratedValue;

import javax.persistence.GenerationType;

import javax.persistence.Id;

import javax.persistence.Table;

@Entity

@Table(name="GuestBook")

public class GuestBook {

@Id

@GeneratedValue(strategy = GenerationType.IDENTITY)

@Column(name="VisitorNo", unique=true, updatable=false)

private Integer visitorNo;

@Column(name="VisitorName")

private String visitorName;

@Column(name="Message")

private String message;

@Column(name="MessageDate")

private String messageDate;

public GuestBook() {

}

public Integer getVisitorNo() {

return visitorNo;

}

public void setVisitorNo(Integer visitorNo) {

this.visitorNo = visitorNo;

}

public String getVisitorName() {

return visitorName;

}

public void setVisitorName(String visitorName) {

this.visitorName = visitorName;

}

public String getMessage() {

return message;

}

public void setMessage(String message) {

this.message = message;

}

public String getMessageDate() {

return messageDate;

}

public void setMessageDate(String messageDate) {

this.messageDate = messageDate;

} }

Persistence.xml

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

<persistence version="2.1" xmlns="http://xmlns.jcp.org/xml/ns/persistence" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/persistence http://xmlns.jcp.org/xml/ns/persistence/persistence\_2\_1.xsd">

<persistence-unit name="GuestBookJPAPU" transaction-type="RESOURCE\_LOCAL">

<non-jta-data-source>java:app/tyit/GuestBook</non-jta-data-source>

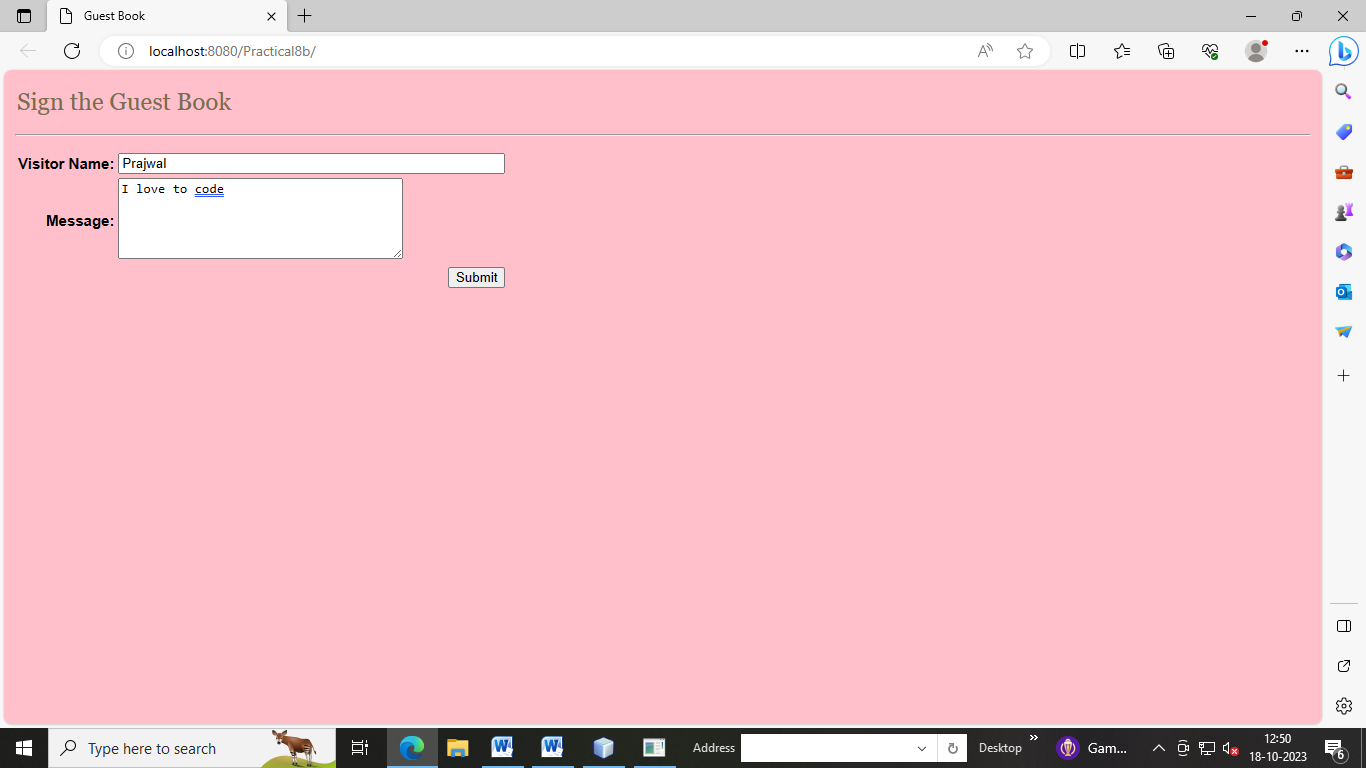
<exclude-unlisted-classes>false</exclude-unlisted-classes>

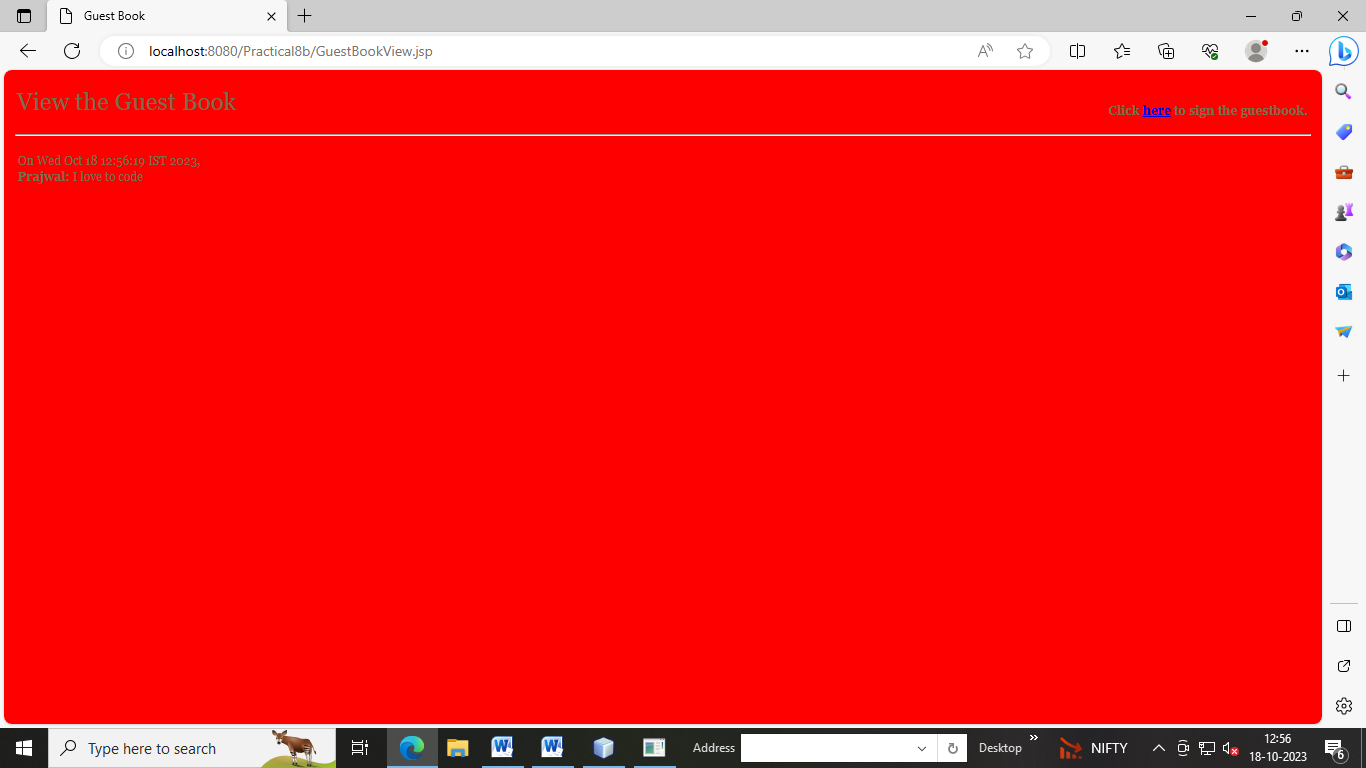
<properties/>

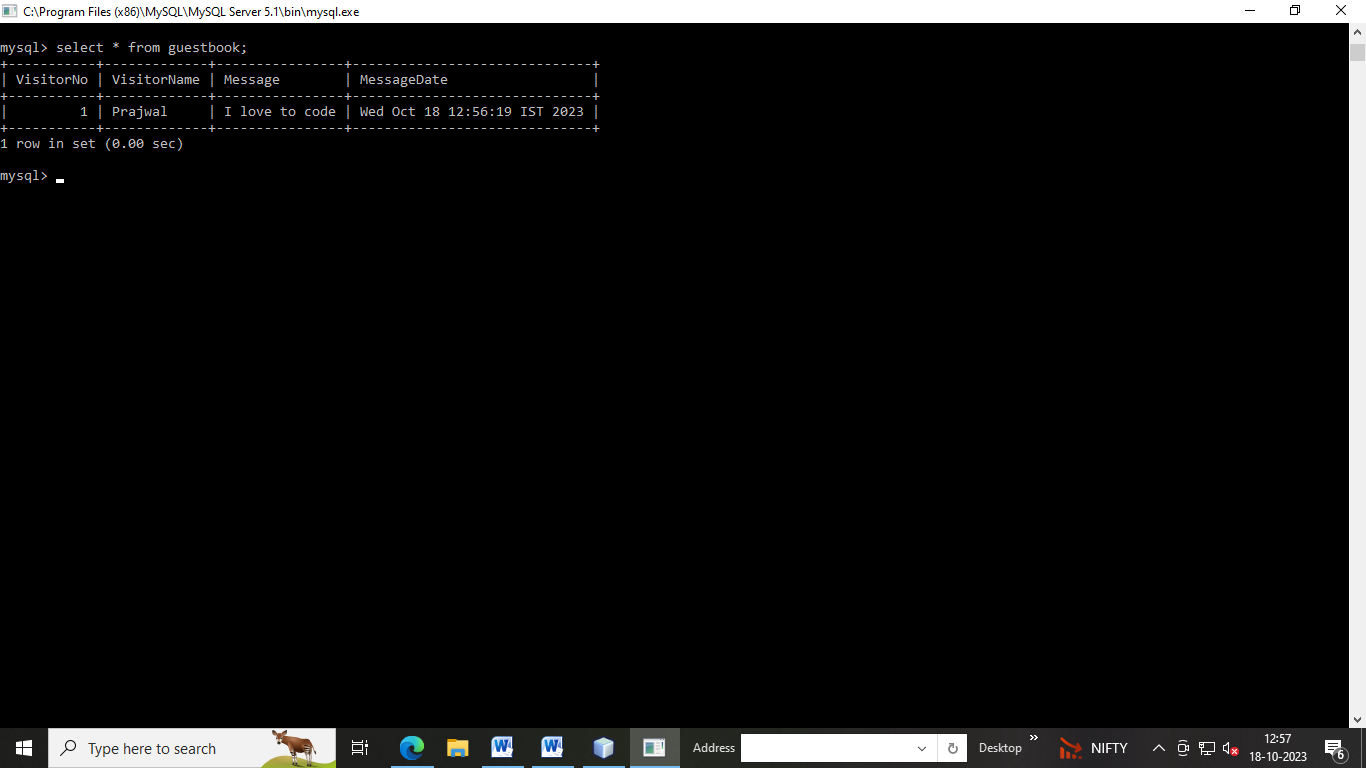
</persistence-unit>

</persistence>

**OUTPUT =**



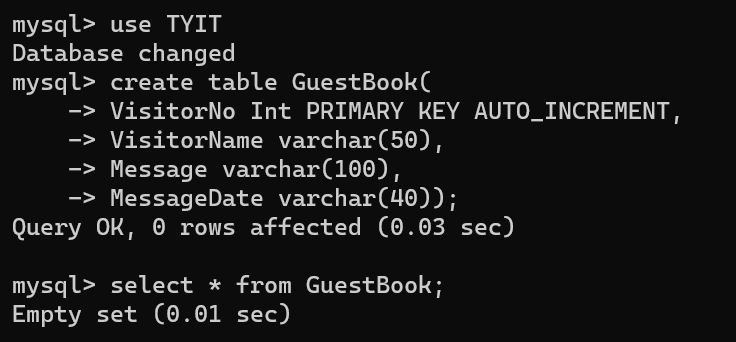


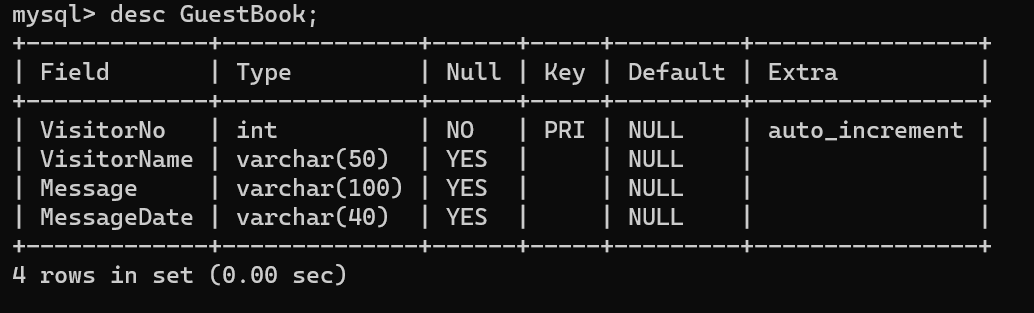


**Practical 9B**

B] AIM : Develop a Hibernate application to store Feedback of Website Visitor in MySQL Database.

**Database =**





**Program =**

**GuestBook.java**

package p1;

import javax.persistence.Column;

import javax.persistence.Entity;

import javax.persistence.GeneratedValue;

import javax.persistence.Id;

import javax.persistence.Table;

@Entity

@Table(name="GuestBook")

public class GuestBook implements java.io.Serializable {

@Id

@GeneratedValue

@Column(name="VisitorNo")

private Integer visitorNo;

@Column(name="VisitorName")

private String visitorName;

@Column(name="Message")

private String message;

@Column(name="MessageDate")

private String messageDate;

public GuestBook() {

}

public GuestBook(String visitorName, String message, String messageDate) {

this.visitorName = visitorName;

this.message = message;

this.messageDate = messageDate;

}

public Integer getVisitorNo() {

return visitorNo;

}

public void setVisitorNo(Integer visitorNo) {

this.visitorNo = visitorNo;

}

public String getVisitorName() {

return visitorName;

}

public void setVisitorName(String visitorName) {

this.visitorName = visitorName;

}

public String getMessage() {

return message;

}

public void setMessage(String message) {

this.message = message;

}

public String getMessageDate() {

return messageDate;

}

public void setMessageDate(String messageDate) {

this.messageDate = messageDate;

}

}

**Hibernate.cfg.xml**

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

<!DOCTYPE hibernate-configuration PUBLIC "-//Hibernate/Hibernate Configuration DTD 3.0//EN" "http://www.hibernate.org/dtd/hibernate-configuration-3.0.dtd">

<hibernate-configuration>

<session-factory>

<property name="hibernate.dialect">org.hibernate.dialect.MySQLDialect</property>

<property name="hibernate.connection.driver\_class">com.mysql.jdbc.Driver</property>

<property name="hibernate.connection.url">jdbc:mysql://localhost:3306/GuestBook?zeroDateTimeBehavior=convertToNull</property>

<property name="hibernate.connection.username">root</property>

<property name="hibernate.connection.password">hello</property>

<mapping class="myApp.GuestBook"/>

</session-factory>

</hibernate-configuration>

**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>Guest Book</title>

</head>

<body style="background-color: pink;">

<table style="width: 100%; alignment-adjust: central; border: 0px;">

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Sign the Guest Book

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</tr>

</table>

</td>

</tr>

<tr style="text-align: left; vertical-align: top;">

<td style="height: 20px;"><hr /></td>

</tr>

<tr>

<td>

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

<table style="border-spacing: 2px; border: 0px;">

<tr>

<td style="text-align: right; font-size:15px; font-family:Arial,Times,serif; font-weight:bold;">

Visitor Name:

</td>

<td>

<input name="guest" maxlength="25" size="50" />

</td>

</tr>

<tr>

<td style="text-align: right; font-size:15px; font-family:Arial,Times,serif; font-weight:bold;">

Message:

</td>

<td>

<textarea rows="5" cols="36" name="message"></textarea>

</td>

</tr>

<tr>

<td colspan="2" style="text-align: right;">

<input type="submit" name="btnSubmit" value="Submit" />

</td>

</tr>

</table>

</form>

</td>

</tr>

</table>

</body>

</html>

**GuestBookView.jsp**

<%@page import="java.util.Iterator,org.hibernate.Transaction,org.hibernate.service.ServiceRegistryBuilder,org.hibernate.cfg.Configuration,org.hibernate.service.ServiceRegistry,java.util.List,myApp.GuestBook,org.hibernate.SessionFactory"%>

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

<!DOCTYPE html>

<%!

SessionFactory sessionFactory;

ServiceRegistry serviceRegistry;

org.hibernate.Session hibernateSession;

List<GuestBook> guestbook;

%>

<%

Configuration configuration = new Configuration();

configuration.configure();

serviceRegistry = new ServiceRegistryBuilder().applySettings(configuration.getProperties()).buildServiceRegistry();

sessionFactory = configuration.buildSessionFactory(serviceRegistry);

hibernateSession = sessionFactory.openSession();

Transaction transaction = null;

String submit = request.getParameter("btnSubmit");

if(submit != null && ("Submit").equals(submit)) {

GuestBook gb = new GuestBook();

try {

transaction = hibernateSession.beginTransaction();

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

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

String messageDate = new java.util.Date().toString();

gb.setVisitorName(guest);

gb.setMessage(message);

gb.setMessageDate(messageDate);

hibernateSession.save(gb);

transaction.commit();

} catch (RuntimeException e) {

if(transaction != null) transaction.rollback();

throw e;

}

response.sendRedirect("GuestBookView.jsp");

}

try {

hibernateSession.beginTransaction();

guestbook = hibernateSession.createQuery("from GuestBook").list();

} catch (RuntimeException e) {

throw e;

}

hibernateSession.close();

%>

<html>

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<%=objGb.getMessage()%>

<br /><br />

</td>

</tr>

<%

}

%>

</table>

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</table>

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</html>