**Pract1A Create a simple calculator application using servlet.**

**1. Create java Web Project in NetBean IDE. Click File Menu and select new Project 2. Write following code in index.html file**

<body> <div>

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

Enter First Number <input type="text" name="txtN1" ><br>

Enter Second Number <input type="text" name="txtN2" ><br>

Select an Operation

<input type="radio" name="opr" value="+">ADDTION

<input type="radio" name="opr" value="-">SUBSTRACTION

<input type="radio" name="opr" value="\*">MULTIPLY

<input type="radio" name="opr" value="/">DIVIDE <br>

<input type="reset">

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

</form> </div> </body>

**3. Right Click Project and add Servlet “CalcServlet” give package name “mypackage”**

**4. Add following code to CalcServlet.java**

public class CalcServlet extends HttpServlet {

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

PrintWriter out = response.getWriter();

/\* TODO output your page here. You may use following sample code. \*/

out.println("<html><head><title>Servlet CalculatorServlet</title></head><body>");

double n1 = Double.parseDouble(request.getParameter("txtN1"));

double n2 = Double.parseDouble(request.getParameter("txtN2"));

double result =0;

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

if(opr.equals("+")) result=n1+n2; if(opr.equals("-")) result=n1-n2;

if(opr.equals("\*")) result=n1\*n2; if(opr.equals("/")) result=n1/n2;

out.println("<h1> Result = "+result); out.println("</body></html>");}}

**5. right click the project and selct “Clean and build”. Again right click and select “run”**

**Pract 1 B Create a servlet for a login page. If the username and password are correct then it says message “Hello <username>” else a message “login failed”**

**1. Create java Web Project in NetBean IDE. 2. index.html code**

<body> <div>

<form action="LoginServlet">

<h1>Login Page</h1>

Enter Username <input type="text" name="txt1"/><p>

Enter Password <input type="password" name="txt2"/><p>

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

<input type="reset"/>

</form> </div> </body>

**3. LoginServlet.java code**

public class LoginServlet extends HttpServlet {

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

PrintWriter out = response.getWriter();

/\* TODO output your page here. You may use following sample code. \*/

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

out.println("<html>");

out.println("<head>");

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

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

out.println("<body>");

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

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

if(un.equals("Admin") && ps.equals("Admin123")) {

out.println("Hello" + un);} else{

out.println("Login Failed");}

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

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

**4. run the project**

**Pract 1C 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.**

1. Create java Web Project in NetBean IDE. 2. index.html code

<body>

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

<h1>Registration Form</h1>

Username <input type="text" name="uname"><br><br>

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

Email <input type="text" name="email"><br><br>

Country <input type="text" name="country"><br><br>

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

</form> </body>

**3. Click Services tab click Databases right click JavaDB and select Create Database. Give name TYEJava and click Ok**

**4. right click driver select connect and click ok**

**5. select App right click Table and selectt Create Table. Give table name “Registration and click Add column.**

**6. Create Column with following details**

**7. right click Registration table and select View Data. Click Insert Record icon to insert Record**

**8. add Servlet and add following code to regiservlet.java**

import java.sql.\*;

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

public class regiservlet extends HttpServlet {

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

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

try{

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

Connection con=DriverManager.getConnection("jdbc:derby://localhost:1527/tyej");

PreparedStatement pst=con.prepareStatement("insert into registration values(?,?,?,?)");

pst.setString(1,request.getParameter("uname"));

pst.setString(2,request.getParameter("pass"));

pst.setString(3,request.getParameter("email"));

pst.setString(4,request.getParameter("country"));

int cnt=pst.executeUpdate();

out.println("Welcome new user");

pst.close(); }

catch(Exception e) {

System.out.println(e.getMessage()); } }}}

**9. run the project**

**Implement the following Servlet applications with Cookies and Sessions.**

**Pract 2A Using Request Dispatcher Interface create a Servlet which will validate the password entered by the user, if the user has entered "Servlet" as password, then he will be forwarded to Welcome Servlet else the user will stay on the index.html page and an error message will be displayed.**

**1. Create java Web Project in NetBean IDE. 2. index.html code**

<body>

<form action="LoginServlet" >

Enter User ID<input type="text" name="txtId"><br>

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

<input type="reset"><input type="submit" value=" Click to Login " >

</form>

</body>

**3. Add 2 Servlets LoginServlet and WelcomeServlet 4. LoginServlet.java code**

public class LoginServlet extends HttpServlet {

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

PrintWriter out = response.getWriter();

/\* TODO output your page here. You may use following sample code. \*/

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

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

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

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

if(uname.equals("admin") && upass.equals("servlet")) {

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

rd.forward(request, response); }

else {

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

out.println("<h1> Login Fail !!! </h1>");

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

rd.include(request, response); }

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

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

**5. WelcomeServlet.java code**

public class WelcomeServlet extends HttpServlet {

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

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

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

out.println("<html>");

out.println("<head>");

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

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

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

out.println("<h1>Wecome Page</h1>");

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

out.print ("Welcome " + n);

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

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

**6. run the project**

**Pract 2B Create a servlet that uses Cookies to store the number of times a user has visited servlet.**

**1. Create java Web Project in NetBean IDE.**

**2. index.html code**

<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="Servlet1" >

Enter Your Name <input type="text" name="txt1"><br>

<input type="submit" value="~~~ Click to Enter ~~~">

</form>

</body>

</html>

**3. Add Servlet Servlet1.java code**

static int count=1;

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. \*/

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

out.println("<html>");

out.println("<head>");

out.println("<title>Servlet Servlet1</title>");

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

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

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

String initcnt=String.valueOf(count);

Cookie mycookie=new Cookie("NumberofVisits",initcnt);

response.addCookie(mycookie);

int cookieval=Integer.parseInt(mycookie.getValue());

if(cookieval==1) {

out.println("Welcome "+ nm +" You visited first time") }

else {

out.println(nm+" visited "+count+" times"); }

count++;}}

**4. run the project**

**Pract 2CAim- 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.**

**1. Create java Web Project in NetBean IDE 2. Index.html code**

<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="sessioncnt" method="post">

<input type="submit" value="Go to Servlet for Session Demo"/>

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

**3. Add Servlet sessioncnt.java code**

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 mysession=request.getSession(true);

Integer visitcnt;

if(!mysession.isNew())

{

visitcnt=(Integer)mysession.getAttribute("sessionVisit");

if(visitcnt==null)

visitcnt=new Integer(1);

else

visitcnt=new Integer(visitcnt.intValue()+1);

}

else

visitcnt=new Integer(1);

mysession.setAttribute("sessionVisit", visitcnt);

out.println("<html><body>You visited this page "+visitcnt +" times");

out.println("<br>Your Session ID is "+mysession.getId()+"</body></html>"); } }

**4. run the project**

**Practical 3 Implement the Servlet IO and File applications.**

**Pract 3 ACreate a Servlet application to upload and download a file..**

**1. Create java Web Project in NetBean IDE 2. index.html code**

<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="uploadservlet" method="POST" enctype="multipart/form-data">

Select File <input type="file" name="file" /><p>

<input type="submit" value="Upload file" name="upload" />

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

**3. Add Servlet uploadservlet.java code**

import java.io.\*;

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

PrintWriter out = response.getWriter();

Part filePart=request.getPart("file");

String filename=filePart.getSubmittedFileName().toString();

out.print("<br><br><hr> file name: "+filename);

OutputStream os=null;

InputStream is=null;

try{

//os=new FileOutputStream(new File(getServletContext().getRealPath("/")+"upload.pdf"));

os=new FileOutputStream(new File("E:\\"+"upload.pdf"));

is=filePart.getInputStream();

int read=0;

while ((read = is.read()) != -1){

os.write(read); }

out.println("<br>file uploaded sucessfully...!!!"); }

catch(FileNotFoundException e)

{out.print(e);} }

**4. add download.html file**

<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>File Download Application</h1>

Click <a href="downloadservlet?filename=upload.pdf">download</a>

</body> </html>

**5. add upload.pdf in Web-INF folder of application**

**6. Add Servlet downloadservlet.java**

import java.io.\*;

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

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

ServletContext context = getServletContext();

InputStream is = context.getResourceAsStream("/" + filename);

//ServletOutputStream out = response.getOutputStream(); // any of the two works

PrintWriter out=response.getWriter();

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

// if comment this statement then it wl ask you about the editor with which you want to open the file

int i;

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

out.write(i); }

is.close();

out.close(); }

**7. run index.html file**

8**. run the download.html file**

**Pract 3 BDevelop Simple Servlet Question Answer Application using Database.**

**1. Create java Web Project in NetBean IDE 2. index.html code**

<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>Welcome to Quiz</h1>

<a href="QuizServlet">start quiz </a> </body> </html>

**3. Create Quiz table in database with following fields**

QNo – Integer , Que- Varchar(50), Ans1- Varchar(50),Ans1- Varchar(50),Ans2 - Varchar(50),

Ans3- Varchar(50),Ans4- Varchar(50),Ans- Varchar(50)

4. **Add Servlet QuizServlet.java code**

import java.sql.\*;

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. \*/

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

out.println("<html>");

out.println("<head>");

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

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

out.println("<body>");

out.println("<form action=ShowResult method=post>");

try {

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

Connection con=DriverManager.getConnection("jdbc:derby://localhost:1527/tyej");

Statement st=con.createStatement();

ResultSet res=st.executeQuery("Select \* from quiz");

out.println("<table>");

int qno=0;

while(res.next()) {

qno++;

out.println("<tr><td>"+res.getString(1)+"</td><td>"+res.getString(2)+"</td></tr>");

String nm="r"+qno;

out.println("<tr><td><input type=radio name=r");out.print("qno value="+res.getString(3)+">"+res.getString(3)+"</td></tr>");

out.println("<tr><td><input type=radio name="+qno+"value="+res.getString(4)+">"+res.getString(4)+"</td></tr>");

out.println("<tr><td><input type=radio name="+qno+"value="+res.getString(5)+">"+res.getString(5)+"</td></tr>");

out.println("<tr><td><input type=radio name="+qno+"value="+res.getString(6)+">"+res.getString(6)+"</td></tr>"); }

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

catch(Exception e) {

System.out.println(e.getMessage());}

out.println("<input type=submit value=submit>");

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

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

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

5. **Add Servlet ShowResult.java code**

import java.sql.\*;

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. \*/

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

out.println("<html>");

out.println("<head>");

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

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

out.println("<body>");

try {

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

Connection con=DriverManager.getConnection("jdbc:derby://localhost:1527/tyej");

Statement st=con.createStatement();

ResultSet res=st.executeQuery("Select ans from quiz");

int cnt=0;

int qno=0;

while(res.next()){

qno++;

String qn=request.getParameter("r"+qno);

out.println(qn);

out.println(res.getString(1));

if(res.getString(1).equals(qn)) {

cnt++;

out.println("Correct"); }

else

out.println("Incorrect"); }

out.println("Your Score is "+cnt); }

catch(Exception e){

System.out.println(e.getMessage());}

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

out.println("</html>");}} **6. run the project**

**Pract 3 CCreate simple Servlet application to demonstrate Non-Blocking Read Operation.**

**1. Create java Web Project in NetBean IDE 2. index.html page**

<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="nbserver" method="POST">

<h3> Click start for Non Blocking Read</h3>

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

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

**3. Add product.txt file in WEB-INF folder of Applicationhaving following content**

1. Computer 40000

2. Printer 20000

3. Scanner 1000

4. Pen Drive 500

**4. Add Servlet nbserver.java code**

import java.io.\*;  
import java.net.\*;

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

String filepath="/WEB-INF/product.txt";

ServletContext cnt=getServletContext();

InputStream in=cnt.getResourceAsStream(filepath);

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

/\* TODO output your page here. You may use following sample code. \*/

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

out.println("<html>");

out.println("<head>");

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

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

out.println("<body>");

String path="http://"+request.getServerName()+":"+request.getServerPort()+request.getContextPath()+"/readnbservlet";

out.println("<h1>Reading Data from file</h1>");

out.flush();

URL url=new URL(path);

HttpURLConnection mycon=(HttpURLConnection)url.openConnection();

mycon.setChunkedStreamingMode(4);

mycon.setDoOutput(true);

mycon.connect();

if(in!=null) {

InputStreamReader isr=new InputStreamReader(in);

BufferedReader br=new BufferedReader(isr);

String readtext="";

try {

while((readtext=br.readLine())!=null){

out.println(readtext);

out.flush();} } }

catch(Exception e) {

out.println(e.getMessage()); } }

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

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

**5. Add class readlistener.java code**

import java.io.\*;

import javax.servlet.\*;

public class readlistener implements ReadListener{

ServletInputStream sin=null;

AsyncContext acon=null;

String mydata;

public readlistener(ServletInputStream in, AsyncContext ac) {

sin=in;

acon=ac;}

@Override

public void onDataAvailable() {

try {

StringBuilder sb=new StringBuilder();

int len=-1;

byte b[]=new byte[1024];

while(sin.isReady()&&(len=sin.read(b))!=-1)

mydata=new String(b,0,len);}

catch(Exception e){

System.out.println(e.getMessage());}}

@Override

public void onAllDataRead(){

System.out.println("Called AllDataRead");

acon.complete();}

@Override

public void onError(Throwable t){

acon.complete();}}

**6. Add Servlet readnbservlet.java code**

import javax.servlet.\*;  
import java.io.\*;

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. \*/

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

out.println("<html>");

out.println("<head>");

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

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

out.println("<body>");

AsyncContext cnt=request.startAsync();

ServletInputStream ist=request.getInputStream();

ist.setReadListener(new readlistener(ist,cnt));

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

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

}

}

**7. run the project**

**Practical 4 Implement the following JSP applications**

**Pract 4 ADevelop a simple JSP application to display values obtained from the use of intrinsic objects of various types.**

**1. Create java Web Project in NetBean IDE**

**2. add index.jsp file**

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

<h1>Objects of various type</h1>

<% PrintWriter pw=response.getWriter();%>

<B>Use of Response Object</b>

<%pw.println("This is example of Object"); %>

<br><b>Use of Request object</b>

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

<br><b>Use of Config object</b>

<%=config.getServletName() %>

<br><b>Use of Application object</b>

<%=application.getServerInfo() %>

<br><b>Use of Page object</b>

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

<br><b>Use of Session object</b>

<%=session.getCreationTime() %>

</body>

</html>

**3. Run the application**

**Pract 4 B 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).**

**1. Create java Web Project in NetBean IDE 2. add index.jsp file**

<%@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 method="post" action="val.jsp">

<h1>Registration</h1>

Enter Name <input type="text" name="pname"/>

<br><br> Enter Age <input type="text" name="age"/>

<br><br> Enter Email <input type="text" name="email"/>

<br><br> Select Gender <input type="radio" name="gender" value="Male"/>Male

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

<br><br> Select Hobbies <input type="checkbox" name="hobbies" value="Acting"/>Acting

<input type="checkbox" name="hobbies" value="Reading"/>Reading

<input type="checkbox" name="hobbies" value="Dancing"/>Dancing

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

</form>

</body>

</html>

**3. add another jsp page val.jsp file**

<%@page language="java" 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>

<%

int age=0;

String nm=request.getParameter("pname");

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

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

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

String hb[]=request.getParameterValues("hobbies");

if(nm.isEmpty()|| ag.isEmpty()|| email.isEmpty()|| gender.isEmpty())

{

out.println("<font color='red'>Fill all Information</font>");

}

try {

age=Integer.parseInt(ag.trim()); }

catch(NumberFormatException e) {

out.println("<font color='red'>Age must be number </font"); }

if(age<18 || age>60){

out.println("<font color='red'>Age must be 18 to 60</font>"); }

%>

<B> Information </b>

Name is <%=nm%>

<br> Age is <%=age%>

<br> Email is <%=email%>

<br> Gender is <%=gender%>

<br> Hobbies

<%

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

{

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

{

out.println(hb[i]);

}

}

%>

</body>

</html>

**4. Run the application**

**Pract 4 C Create a registration and login JSP application to register and authenticate the user based on username and password using JDBC.**

**1. Create java Web Project in NetBean IDE 2. add index.jsp file**

<%@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="Register.jsp" >

<h1> New User Registration Page</h1>

Enter User Name <input type="text" name="txt1" ><br>

Enter Password <input type="password" name="txt2" ><br>

Re-Enter Password<input type="password" name="txt3" ><br>

Enter Email<input type="text" name="txt4" ><br>

Enter Country Name <input type="text" name="txt5" ><br>

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

<p><a href="login.jsp">click here for login</a></p>

</form>

</body>

</html>

**3. Create Registration table in database with following fields**

**Username – Varchar(20), password – varchar(20), Email – varchar(50), Country – Varchar(20)**

**4. add Register.jsp file**

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

<!DOCTYPE html>

<html>

<head>

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

<title>JSP Page</title>

</head><body>

<h1>Registration JSP Page</h1>

<%

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

String pass1 = request.getParameter("txt2");

String pass2 = request.getParameter("txt3");

String email = request.getParameter("txt4");

String ctry = request.getParameter("txt5");

if(pass1.equals(pass2)) {

try {

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

Connection con=DriverManager.getConnection("jdbc:derby://localhost:1527/tyej");

PreparedStatement stmt = con.prepareStatement("insert into registration values (?,?,?,?)");

stmt.setString(1, uname);

stmt.setString(2, pass1);

stmt.setString(3, email);

stmt.setString(4, ctry);

int row = stmt.executeUpdate();

if(row==1){

out.println("Registration Successful");

%>

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

<% }

else {

out.println("Registration FFFFFAAAIIILLLL !!!!"); } }

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

else {

out.println("<h1>Password Mismatch</h1>"); }

%>

</body>

</html>

**5. add login.jsp file**

<%@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>

<h1>Login Page</h1>

<form action="check.jsp" >

Enter User Name <input type="text" name="txt1" ><br>

Enter Password <input type="password" name="txt2" ><br>

<input type="reset" ><input type="submit" value="~~~LOGIN~~" ></form>

</body> </html>

**6. add check.jsp file**

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

<!DOCTYPE html>

<html> <head>

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

<title>JSP Page</title>

</head> <body>

<%

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

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

Try {

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

Connection con=DriverManager.getConnection("jdbc:derby://localhost:1527/tyej");

PreparedStatement stmt = con.prepareStatement("select password from registration 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>password does not match !!!!!</h1>"); } }

else {

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

} }

catch(Exception e)

{out.println(e);} %>

</body>

</html>

**7. Run the Application**

**Practical 5 Implement the following JSP JSTL and EL Applications.**

**Pract 5 BCreate a JSP page to demonstrate the use of Expression language.**

**1. Create java Web Project in NetBean IDE 2. add index.jsp file**

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

<%

application.setAttribute("subject", "EJava");

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">

<h1>Expression Language</h1>

Enter First Name :<input type="text" name="txt1" />

Enter last Name :<input type="text" name="txt2" />

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

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

**3. Create show.jsp**

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

<% pageContext.setAttribute("colour", "pink");%>

<!DOCTYPE html>

<html> <head>

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

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

<body bgcolor="$[pageScope.colour]">

<h1>Welcome ${param.txt1} ${param.txt2}</h1>

Use of Application Object

<p>Subject Name :<b>${applicationScope.subject}</b></p>

Use of Session Object

<p>Country Name :<b>${sessionScope.Country}</b></p>

Use of Comparisons

<p><b>Is 10 less than 20? ${10<20}</b></p>

<p><b>Is 10 equal 10? ${10==10}</b></p>

<p><b>Is 10 greater than 5? ${10>5}</b></p>

Use of Maths

<p><b>10+20= ${10+20}</b></p>

<p><b>10\*20= ${10\*20}</b></p>

</body> </html>

**Pract 5CCreate a JSP application to demonstrate the use of JSTL**

**1. Create java Web Project in NetBean IDE 2. download jstl-1.2.jar file. Right click libraries folder of project and select Add Jar/Folder and add jstl-1.2.jar file 3. add index.jsp file 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="jstldemo.jsp" method="POST">

<h1>Expression Language</h1>

Enter First Name :<input type="text" name="txt1" />

Enter last Name :<input type="text" name="txt2" />

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

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

**4 Add jstldemo.jsp page**

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

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

<!DOCTYPE html>

<html> <head>

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

<title>JSP Page</title>

</head> <body> <h1>JSTL Example</h1>

<p><b>First Name <c:out value="${param.txt1}"></c:out></b></p>

<p><b>last Name <c:out value="${param.txt2}"></c:out></b></p>

<br>Use of If statement

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

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

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

</c:if> <br><br>

Use of For Each Statement

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

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

</c:forEach><br><br>

Use of Exception Handling

<c:catch var="ex">

<% int num=10/0;%>

</c:catch>

<b>Exception is ${ex}</b> </body> </html>

**5 Run index.jsp page**

**Practical 6 Implement the following EJB Applications.**

**Pract 6 ACreate a Currency Converter application using EJB.**

**1. Create java Web Project in NetBean IDE Index.html**

<body>

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

Enter Amount <input type="text" name="txt1" />

Select Conversion Type

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

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

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

</form> </body>

**2. Right click Project Select New -> Other->Enterprise JavaBean->Select Stateless Session Bean. Give name ccbean and package name mypackage. 3. ccbean.java code**

package mypackage;

import javax.ejb.Stateless;

@Stateless

public class ccbean {

public ccbean(){}

public double r2Dollor(double r)

{ return r/83.07; }

public double d2Rupees(double d)

{ return d\*83.07; } }

4. **Right click Project Select New ->servlet. Give name ccservlet package name myservlet**

**5. ccservlet.java**

import javax.ejb.EJB;

import mypackage.ccbean;

public class ccservlet extends HttpServlet {

@EJB ccbean obj;

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

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

double amt = Double.parseDouble(request.getParameter("txt1"));

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

out.println("<h1>"+amt+ " Rupees = "+obj.r2Dollor(amt)+" Dollors</h1>"); }

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

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

**Pract 6 B Develop a Simple Room Reservation System Application Using EJB.**

**1. Create Web Application in NetBean. 2. Add index.jsp page**

<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="reservationservlet" method="POST">

<h1> Room Reservation </h1>

Customer name <input type="text" name="txt1" value="" size="20" /><p></p>

Room Type<select name="rt">

<option>Deluxe</option>

<option>Suite</option>

<option>General</option>

</select><p></p>

Payment Mode

<select name="pm">

<option>Cash</option>

<option>Cheque</option>

</select>

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

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

**3. Right click Project Select New -> Other->Enterprise JavaBean->Select Stateless Session Bean. Give name reservationbean and package name mypackage. reservationbean.java code**

package mypackage;

import javax.ejb.Stateless;

import java.util.ArrayList;

@Stateless

public class reservationbean {

public String welcome(String cust){

return "Hello "+ cust + " Welcome ";}

public String roomtype(String rt){

return "You have Selected "+ rt + " Room ";}

public String payment(String rt) {

if(rt.equalsIgnoreCase("Suite"))

return "You have have to pay 8000 ";

else if(rt.equalsIgnoreCase("Deluxe"))

return "You have have to pay 5000 ";

else return "You have have to pay 2000";}}

4. **Right click Project Select New ->servlet. Give name reservationservlet package name myservlet**

**reservationservlet.java**

import javax.ejb.EJB;

import mypackage.reservationbean;

@WebServlet(urlPatterns = {"/reservationservlet"})

public class reservationservlet extends HttpServlet {

@EJB reservationbean obj;

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. \*/

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

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

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

out.println(obj.welcome(nm)+"<br><br>");

out.println(obj.roomtype(rt)+"<br><br>");

out.println(obj.payment(rt)+"<br><br>");

out.println("Thnks for giving "+pm);

}

}

**5. Run the application**

**Practical 7 Implement the following EJB applications with different types of Beans.**

**Pract 7A Develop simple EJB application to demonstrate Servlet Hit count using Singleton Session Beans.**

**1. Create Web Application in NetBean.**

**2. Add index.jsp page**

**index.jsp**

<body> <form action="hcservlet" method="POST">

<input type="submit" value="Show Heat Count" />

</form> </body>

3. **Right click Project Select New -> Other->Enterprise JavaBean->Select Session Bean. Select SIngleton Give name htbean and package name mypackage.**

**htbean.java**

@Singleton

public class htbean {

private int count;

public synchronized int gethc(){

return ++count;}}

4. **Right click Project Select New ->servlet. Give name hcservlet package name myservlet**

**5. hcservlet.java**

import javax.ejb.EJB;

import mypackage.htbean;

public class hcservlet extends HttpServlet {

@EJB htbean obj;

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. \*/

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

out.println("<html>");

out.println("<head>");

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

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

out.println("<body>");

out.println("<h1>You visited the page " + obj.gethc() + " times</h1>");

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

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

**Pract 7B Develop simple visitor Statistics application using Message Driven Bean [Stateless Session Bean].**

**1. Create Web Application in NetBean.**

**2. Add index.jsp page**

**index.jsp**

<%@page import="javax.jms.\*, javax.naming.InitialContext"%>

<%@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>

<h1>Welcome To Message Driven Bean</h1> <%

try {

InitialContext ctx=new InitialContext();

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

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

Connection con=confact.createConnection();

Session mysess=con.createSession(false, Session.AUTO\_ACKNOWLEDGE);

MessageProducer msgp=mysess.createProducer(q);

TextMessage msg=mysess.createTextMessage();

msg.setText(request.getRemoteAddr());

msgp.send(msg); }

catch(Exception e)

{System.out.println(e.getMessage());

}

%>

</body> </html>

**3. Create table Visitorstat having following fields**

Host – Varchar(20), Visitcount – Integer

4. **Right click Project Select New -> Other->Enterprise JavaBean->Select Session Bean. Select Stateless Give name vstateless and package name mypackage.**

**Vstateless.java code**

import javax.ejb.Stateless;

import java.sql.\*;

import javax.annotation.PostConstruct;

import javax.annotation.PreDestroy;

@Stateless

public class vstateless {

Connection con;

ResultSet rs;

Statement st;

@PostConstruct

public void connect(){

try {

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

con=DriverManager.getConnection("jdbc:derby://localhost:1527/tyej");

System.out.println("Connection Success"); }

catch(Exception e){

System.out.println(e.getMessage());}}

@PreDestroy

public void disconnect(){

try{

con.close();

System.out.println("Connection Closed"); }

catch(Exception e){

System.out.println(e.getMessage());}}

public void addVisitor(String host){

try {

st=con.createStatement();

st.executeUpdate("insert into visitorstat(host,visitcount) values('" + host + "',1)"); }

catch(Exception e){

System.out.println(e.getMessage());}

try {

st=con.createStatement();

st.executeUpdate("update visitorstat set visitcount=visitcount+1 where host='" + host + "'"); }

catch(Exception e) {

System.out.println(e.getMessage()); }}}

5. **Right click Project Select New -> Other->Enterprise JavaBean->Select Message Driven Bean. Give name MsgDrv and package name mypackage.**

**MsgDrv.java**

import javax.ejb.\*;

import javax.jms.\*;

@MessageDriven(activationConfig = {

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

,

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

})

public class MsgDrv implements MessageListener {

@EJB

vstateless vs;

@Resource

MessageDrivenContext mdc;

public MsgDrv() {}

@Override

public void onMessage(Message message) {

try {

if(message instanceof TextMessage){

TextMessage msg=(TextMessage)message;

vs.addVisitor(msg.getText());}}

catch(Exception e){

mdc.setRollbackOnly();}}}

**6. Run the Application7. View Record in table**

**Pract 7CDevelop simple Marks Entry Application to demonstrate accessing Database using EJB.**

**1. Create Web Application in NetBean. 2. Add index.jsp page index.jsp**

<%@page contentType="text/html" pageEncoding="UTF-8" import="javax.naming.InitialContext, mypackage.marksbean"%><!DOCTYPE html><%!

private static marksbean mb;

public void jspInit(){

try {

InitialContext ic=new InitialContext();

mb=(marksbean)ic.lookup("java:global/ejpract7c/marksbean"); }

catch(Exception e){

System.out.println("Error "+e.getMessage()); }}

%><%

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

mb.addmarks(request.getParameter("txt1"), request.getParameter("txt2"), request.getParameter("txt3"), request.getParameter("txt4"));

%>

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

<title>JSP Page</title>

</head> <body> <h1>Marks Entry</h1>

<form name="result" method="POST">

Enter Student Name <input type="text" name="txt1" value="" /><p></p>

Enter Marks of First SUbject <input type="text" name="txt2" value="" /><p></p>

Enter Marks of Second SUbject <input type="text" name="txt3" value="" /><p></p>

Enter Marks of Third SUbject <input type="text" name="txt4" value="" /><p></p>

<input type="submit" value="Insert Marks" name="insert" />

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

**3. Create Table marks having field**

SName – Varchar(20), Sub1 – Varchar(20), Sub2 – Varchar(20), Sub3 – Varchar(20)

**4.Right click Project Select New -> Other->Enterprise JavaBean->Select Session Bean. Select Stateful Give name marksbean and package name mypackage.**

import javax.ejb.Stateful;

import java.sql.\*;

@Stateful

public class marksbean {

public void addmarks(String nm,String s1,String s2,String s3) {

try {

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

Connection con=DriverManager.getConnection("jdbc:derby://localhost:1527/tyej");

Statement st=con.createStatement();

st.executeUpdate("insert into marks values('" + nm + "','" + s1 + "','" + s2 + "','" + s3 + "')");}

catch(Exception e) { System.out.println("error1 "+e.getMessage()); }}} **5. Run the Application**