Practical 1

Q.1 a) Create a simple calculator application using servlet.

CODE:

index.html

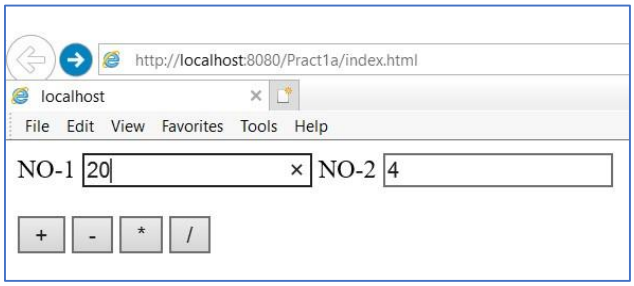
```
<html>
    <body>
     <form method=post action="CalcServlet">
        NO-1 <input type=text name="t1">
        NO-2 <input type=text name="t2">  <br> <br>
        <input type=submit value="+" name="btn">
        <input type=submit value="-" name="btn">
        <input type=submit value="*" name="btn">
        <input type=submit value="/" name="btn">
    </form>
  </body>
</html>
```

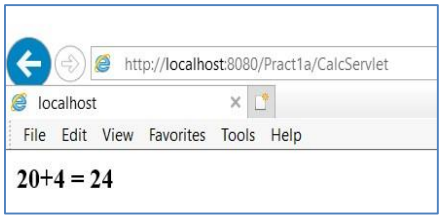
CalcServlet.java

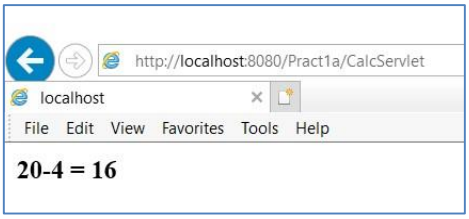
```
import java.io.*; import javax.servlet.*;
import javax.servlet.http.*; public class
CalcServlet extends HttpServlet
{    public void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException
  {        response.setContentType("text/html");
PrintWriter out = response.getWriter();              int
a=Integer.parseInt(request.getParameter("t1"));
```

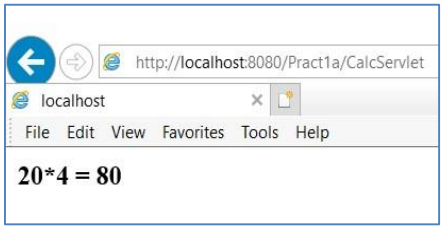
```
int b=Integer.parseInt(request.getParameter("t2"));

int c=0;

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

             if (op.equals("+"))

                    c=a+b;

              else if (op.equals("-"))

                    c=a-b;

             else if (op.equals("*"))

                    c=a*b;

             else if (op.equals("/"))

                    c=a/b;

          out.println("<b>"+a+op+b+" = "+c+"<b>");

          }

  }
```

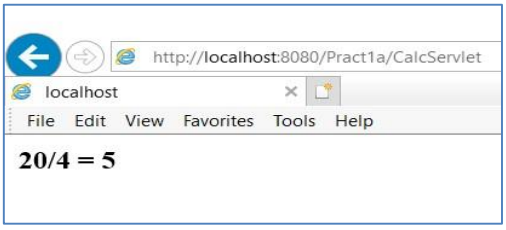
OUTPUT:











Q.1 b) Create a servlet for a login page. If the username and password are correct then it says message "Hello " else a message "login failed".

CODE:

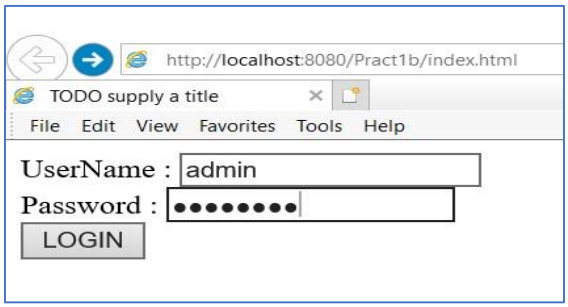
index.html <html>

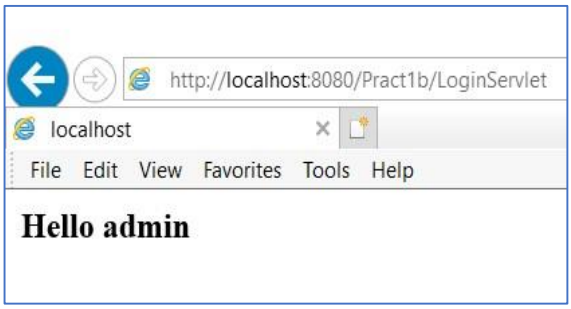
```
   <body>
      <form action="LoginServlet" method="post">
         UserName : <input type="text" name="uname"><br>
         Password : <input type="password" name="pw"> <br>
         <input type="submit" value="LOGIN">
       </form>
   </body>
</html>
```

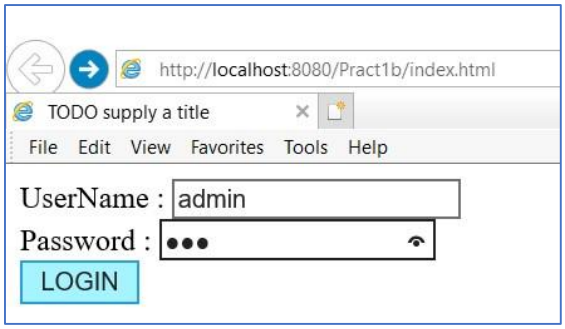
LoginServlet.java

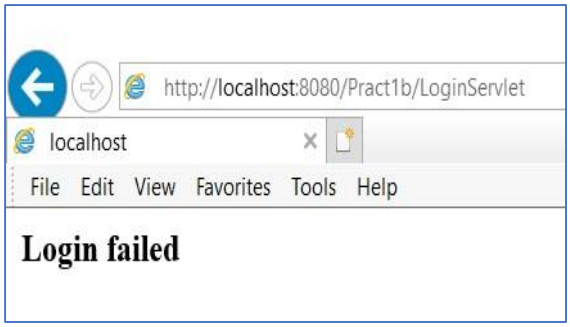
```
import java.io.*; import javax.servlet.*; import
javax.servlet.http.*; public class LoginServlet
extends HttpServlet {
   public void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException
 {
response.setContentType("text/html");
   PrintWriter out = response.getWriter();
    String username=request.getParameter("uname");
    String password=request.getParameter("pw");
    String msg="";
    if (username .equals("admin") && password.equals("admin123"))
msg="Hello "+username;
    else          msg="Login failed";
out.println("<b>"+msg+"<b>");
  }
}
```

OUTPUT:









Q.1 c) Create a registration servlet in Java using JDBC. Accept the details such as Username, Password, Email, and Country from the user using HTML Form and store the registration details in the database.

Code:

<u>MySql Command from mysql software</u>:-

1. Select **services ->** expand **databases** -> right click on **MySQL server at localhost:3306[disconnected] ->** click on **connect ->** enter password **(tiger) ->** OK
2. Again right click on **MySQL server at localhost:3306 ->** select **Create database ->** enter database name and select the check box to grant permission.
3. Right click on **Table** under your daatbase

4. Enter table name user by replacing untitled. Click on **Add column,** name -> username, type-> varchar, size-> 20, select checkbox of primary key, again click on **Add column** password varchar size 20, again click on **Add column** emailid varchar(20), again click **Add column** country varchar 10;
5. add mysql-connector to library folder of the current application

index.html

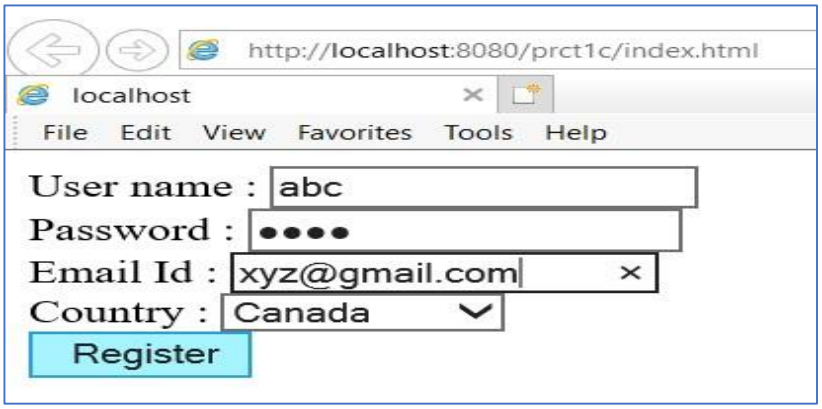
```
<html>
  <body>
    <form action="RegistrationServlet" method="post">
      User name : <input type="text" name="uname">  <br>
      Password : <input type="password" name="pw"><br>
      Email Id : <input type="text" name="email">  <br>
      Country : <select name="coun">
        <option>select...
        <option> India
        <option> Bangladesh
        <option> Bhutan
        <option> Canada
      </select> <br>
      <input type="submit" value=" Register">
    </form>
  </body>
</html>
```

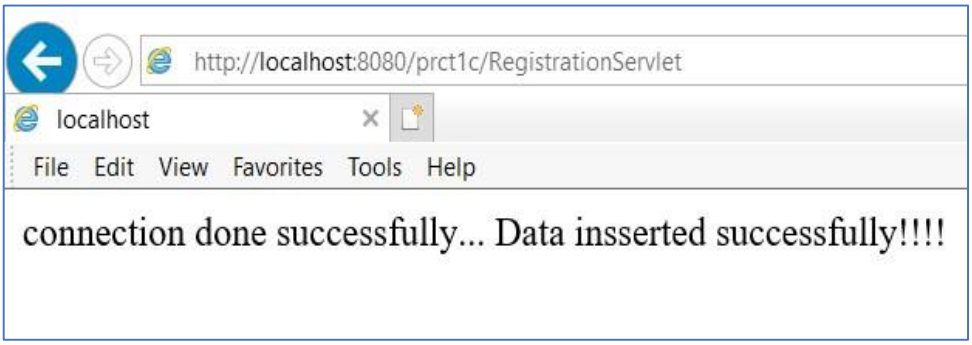
RegistrationServlet.java

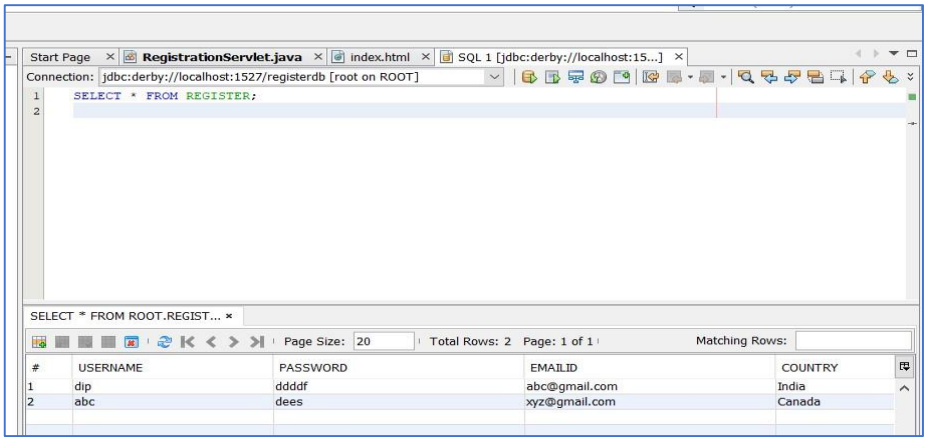
```
import java.io.*; import java.sql.*; import
javax.servlet.*; import javax.servlet.http.*; public
class RegistrationServlet extends HttpServlet
{     public void doPost(HttpServletRequest request, HttpServletResponse response) throws IOException,
ServletException
```

```
{    Connection con=null;
PreparedStatement ps=null;
response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        String username=request.getParameter("uname");
        String password=request.getParameter("pw");
        String emailid=request.getParameter("email");
String country=request.getParameter("coun");
        try
        {   Class.forName("com.mysql.jdbc.Driver");
            con=DriverManager.getConnection("jdbc:mysql://localhost:3306/registerdb","root","tiger");
out.println("connection done successfully...");              ps=con.prepareStatement("insert into user
values (?,?,?,?)");             ps.setString(1,username);             ps.setString(2,password);
ps.setString(3,emailid);             ps.setString(4,country);             ps.execute();

            out.print("Data insserted successfully!!!!");
        }
      catch(Exception e)  {    out.println(e);   }
out.println("<b>"+"<b>");
    }
}
```

OUTPUT:







PRACTICAL 2

Q.2 a) 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.

CODE:

Index.html

```
<html>
   <body>
    <form method="post" action="ValidateServlet">
        User Name: <input type="text" name ="un"><br>
        Password: <input type="password" name ="pw"><br>
        <input type="submit" value="Login">
    </form>
   </body>
</html>
```

ValidateServlet.java

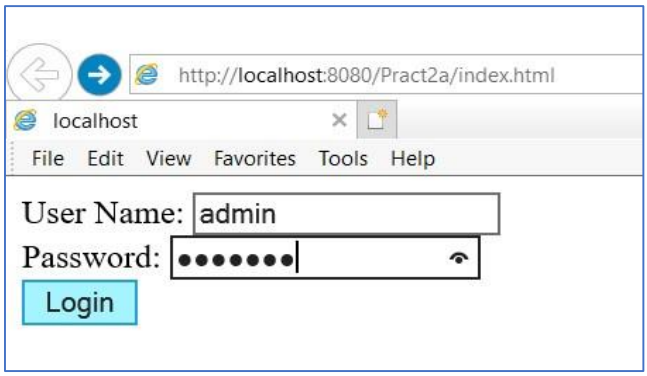
```
import java.io.*; import javax.servlet.*; import
javax.servlet.http.*; public class
ValidateServlet extends HttpServlet
{     public void doPost(HttpServletRequest req, HttpServletResponse res)throws IOException,
ServletException
    {         res.setContentType("text/html");
            PrintWriter out=res.getWriter();
             String username=req.getParameter("un");
            String password=req.getParameter("pw");
             if(password.equals("Servlet"))
            {
                req.setAttribute("s1username",username);
req.setAttribute("s1password",password);
                RequestDispatcher rd= req.getRequestDispatcher("/WelcomeServlet");
                 rd.forward(req, res);
```

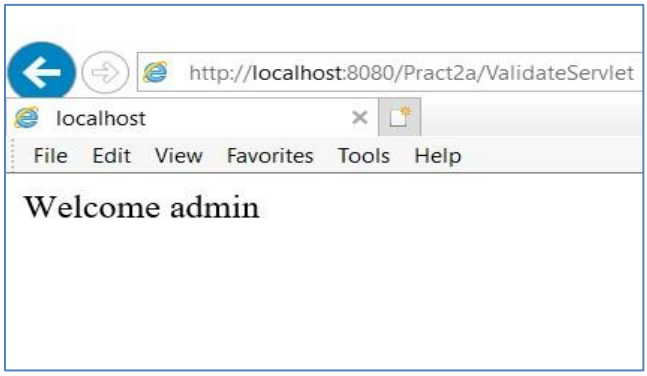
```
            }
else
          {
                out.print("Incorrect password");
                RequestDispatcher rd= req.getRequestDispatcher("/index.html");
                rd.include(req, res);
           }
       }
}
```

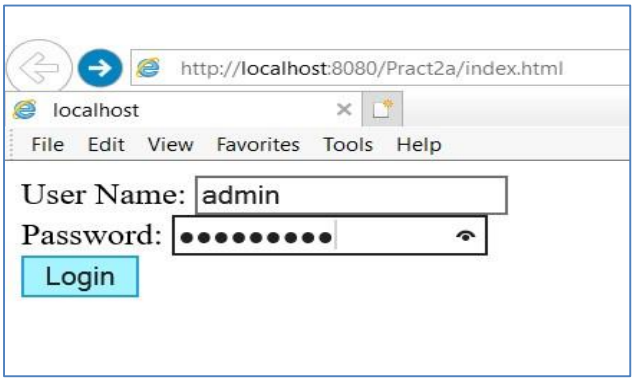
WelcomeServlet.java

```
import java.io.*; import javax.servlet.*; import
javax.servlet.http.*; public class
WelcomeServlet extends HttpServlet
{
   public void doPost(HttpServletRequest req, HttpServletResponse res) throws ServletException,
IOException
 {        res.setContentType("text/html");
try (PrintWriter out = res.getWriter()) {
          String s2username = (String)req.getAttribute("s1username");
String     s2password     =     (String)req.getAttribute("s2password");
out.println("Welcome "+s2username);
   }
}
}
```

OUTPUT:







Q.2 b) Create a servlet that uses Cookies to store the number of times a user has visited servlet.

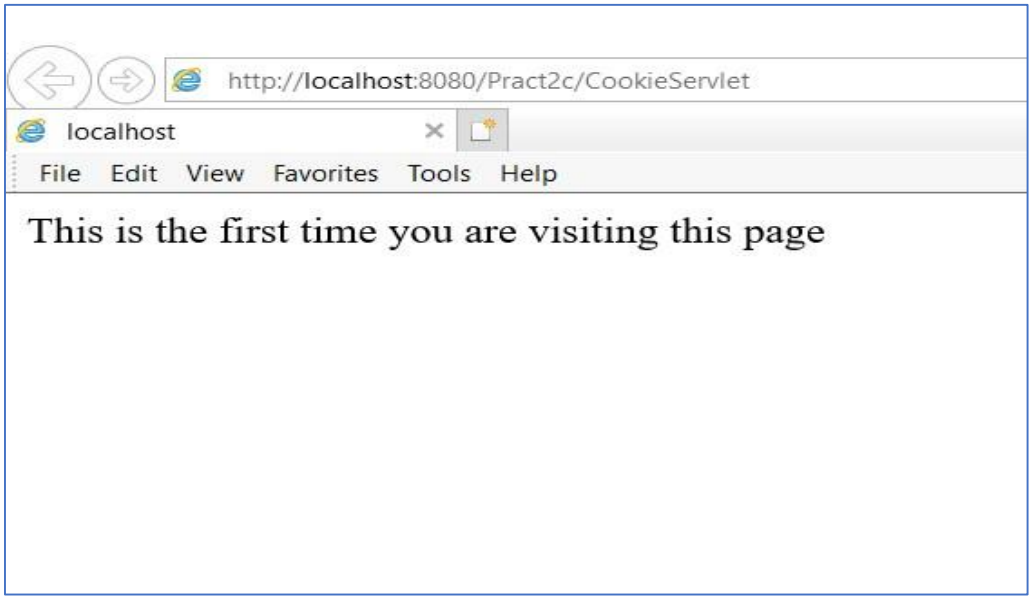
CODE:

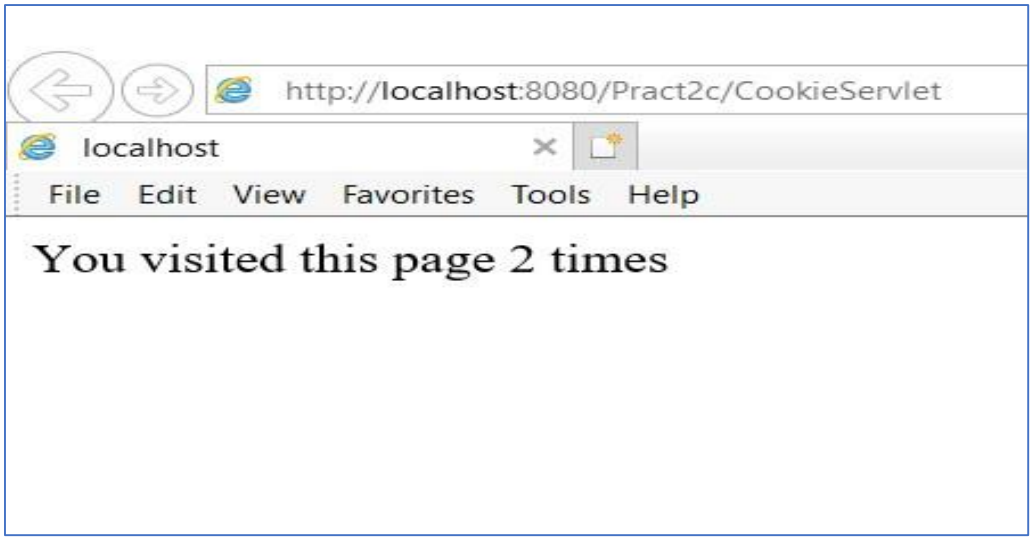
CookieServlet.java

```
/*
* 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.
 */
package pract2;


import java.io.*; import javax.servlet.*; import
javax.servlet.http.*; public class CookieServlet
extends HttpServlet
{
   private 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("This is the first time you are visiting this page");
         }
else
         {       synchronized(CookieServlet.this)
                 {  out.println("You visited this page "+i+" times");
                 }
}        i++;
```

```
    }
}
```

OUTPUT:





Q.2 c) Create a servlet demonstrating the use of session creation and destruction. Also check whether the user has visited this page first time or has visited earlier also using sessions.

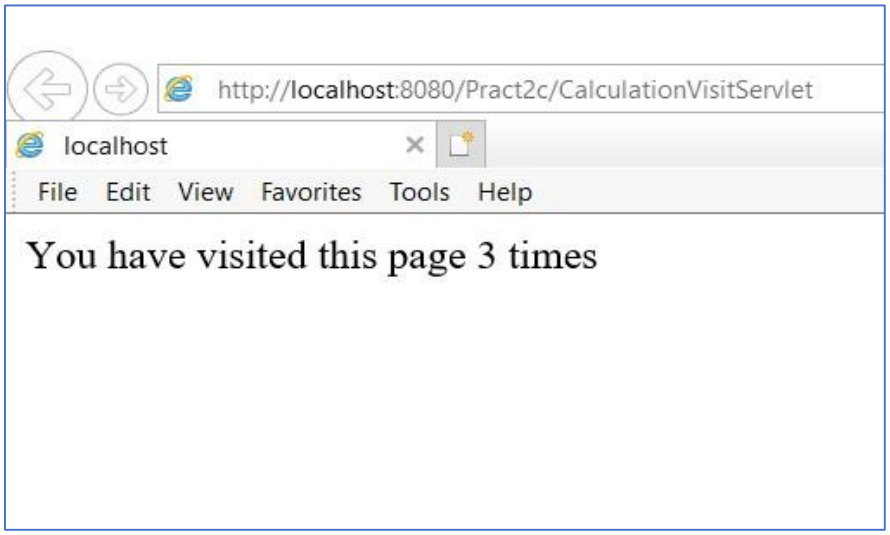
CODE:

CalculationVisitServlet.java

```
package sessionapp;

/*
* 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.
 */
package pract2;
/*
* 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.
 */

import java.io.*; import javax.servlet.*; import
javax.servlet.http.*; public class
HttpSessionServlet extends HttpServlet
{       private int
counter;
    public void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException,
IOException
  {
      response.setContentType("text/html");
      PrintWriter  out  =  response.getWriter();
HttpSession       session=request.getSession(true);
if(session.isNew())
      {
         out.print("This is the first time you are visiting this page");
           ++counter;
      }
else      {
```

```
synchroni
zed(HttpS
essionSer
vlet.this)

            {
if(counter==10)
                    {      session.invalidate();
counter=0;
request.getSession(false);
                     }
else
                    out.print("You have visited this page "+(++counter)+ " times");
            }
        }
    }
}
```

OUTPUT:



PRACTICAL 3

Q.3 a) Create a Servlet application to upload and download a file.

CODE:

Uploading a file

Index.html

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

Select File to Upload:<input type="file" name="file" id="file">

Destination <input type="text" value="/tmp" name="destination">

<br>
```

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

FileUploadServlet.java

```
package fileservletapp;
import java.io.*; import javax.servlet.*; import
javax.servlet.annotation.MultipartConfig; import
javax.servlet.http.*; @MultipartConfig public class
FileUploadServlet extends HttpServlet {
public void doPost(HttpServletRequest req,HttpServletResponse res) throws ServletException, IOException
{
res.setContentType("text/html");
PrintWriter out = res.getWriter();
String path=req.getParameter("destination");
Part filePart=req.getPart("file");
String sfilePart=req.getPart("file").toString();
out.print("<br> filePart: "+sfilePart);
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(path+File.separator+filename));
is=filePart.getInputStream(); int read=0; byte[] b=new byte[1024];
while ((read = is.read(b)) != -1) { os.write(b, 0, read);
}
out.println("<br>file uploaded sucessfully...!!!");
}
```

```
   catch(FileNotFoundException e){out.print(e);}
} }
```

Downloading a file

Index.html

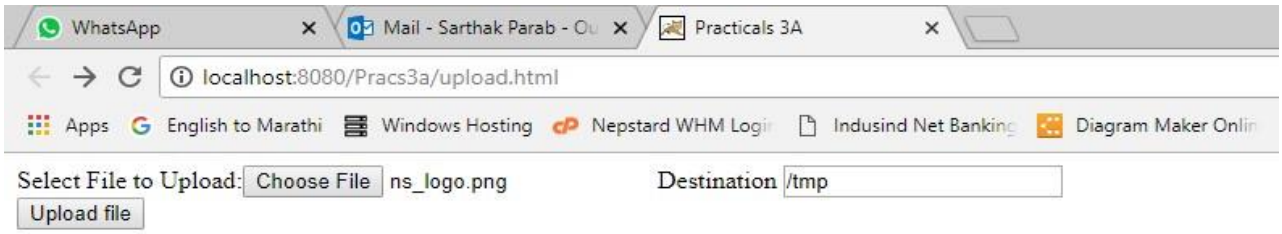
```
<body>
      <h1>File Download Application</h1>
      Click <a href="DownloadServlet?filename=SampleChapter.pdf">Sample Chapter</a>
      <br/><br/>
      Click <a href="DownloadServlet?filename=TOC.pdf">Table Of Contents</a>
</body>
```

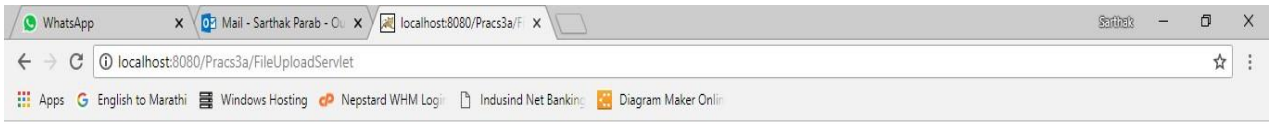
DownloadServlet.java package

```
filedownloadapp; import java.io.*; import
javax.servlet.*; import javax.servlet.http.*; public
class DownloadServlet extends HttpServlet
{      public void doGet(HttpServletRequest request, HttpServletResponse response)
                  throws ServletException, IOException
{             response.setContentType("APPLICATION/OCTET-STREAM");
              String filename = request.getParameter("filename");
              ServletContext context = getServletContext();
                   InputStream is = context.getResourceAsStream("/" + filename);
ServletOutputStream os = response.getOutputStream();          response.setHeader("Content-
Disposition","attachment; filename=\"" + filename + "\"");  // if comment this statement then it will
ask you about the editor with which you want to open the file
              int i;
              byte b[]=new byte[1024];
```

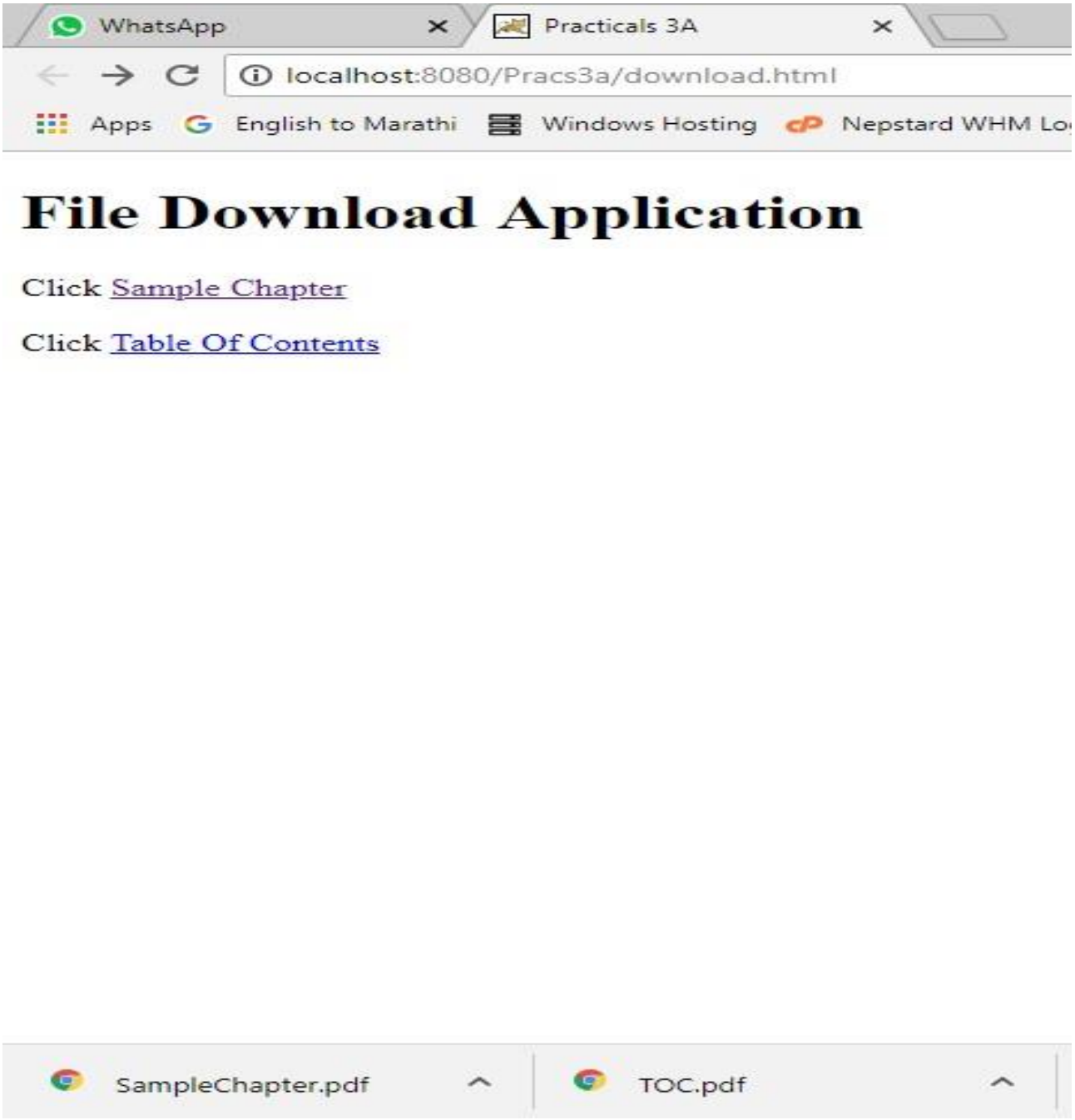
```
                while ((i=is.read(b)) != -1) {

            os.write(b);

           }

                is.close();

                os.close();

    }

}
```

OUTPUT:





filePart: File name=ns_logo.png, StoreLocation=C:\Users\Sarthak\AppData\Roaming\NetBeans\8.0.2\config\GF_4.1\domain1\generated\jsp\Pracs3a\upload__665e6b4f_1665e440109__7ffb_00000000.tmp, size=159983bytes, isFormField=false, FieldName=file



Q.3 b) Develop Simple Servlet Question Answer Application using Database.

Create a table in mysql

- Click on 'Services' tab
- Create a database
- Database name: queansdb Table name: queans
- Fields:
  - queno integer primary key
  - question varchar 200
  - opt1 varchar 100
  - opt2 varchar 100
  - opt3 varchar 100
  - opt4 varchar 100
  - anskey varchar 1

Insert min 2 records

Right click on table-> click on 'view data' -> right click on empty dataset -> insert a record

> click on 'Add Row' -> OK **add**

mysql connector to Libray

- click on projects tab
- right click on libraries
- click on add jar
- browse the connector 'mysql-connector-java-5.1.23-bin' in folder: C:\Program Files\NetBeans 8.0\ide\modules\ext

click on OK

CODE:

QueAnsDBServlet.java

```
package dbapp; import javax.servlet.*; import

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

java.sql.*; public class QueAnsDBServlet extends

HttpServlet

{

  public void doGet(HttpServletRequest request, HttpServletResponse response)  throws
ServletException, IOException

 {

   response.setContentType("text/html");

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

```
   try
   {
     out.print("<html><body><br>");
out.println("<form method='post' action='Marks'>");
     Class.forName("com.mysql.jdbc.Driver");
     Connection con=DriverManager.getConnection("jdbc:mysql://localhost/queansdb","root","tiger");
     Statement st = con.createStatement();
     String sql="select * from queans";
ResultSet rs = st.executeQuery(sql);
int i=0;
     out.print("<center>Online Exam</center>");
while(rs.next())
       {
i++;
         out.print("<br><br><hr>"+rs.getInt(1)+"    ");
out.print(rs.getString(2));          out.print("<br><input type=radio name="+i+"
value=1>"+rs.getString(3));          out.print("<br><input type=radio
name="+i+" value=2>"+rs.getString(4));          out.print("<br><input
type=radio name="+i+" value=3>"+rs.getString(5));
out.print("<br><input type=radio name="+i+" value=4>"+rs.getString(6));
         String ans="ans"+i;
         out.println("<br><input type=hidden name="+ans+" value="+rs.getString(7)+">");
       }
         out.println("<br><input type=hidden name=total value="+i+">");
out.println("<input type=submit value=submit>");
```

```
        out.println("</form>");
out.print("</body></html>");
  }
catch(Exception e)
  {
    out.println("ERROR "+e.getMessage());
   }
 }
}
```

Marks.java package dbapp; import

javax.servlet.*; import

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

public class Marks extends

HttpServlet

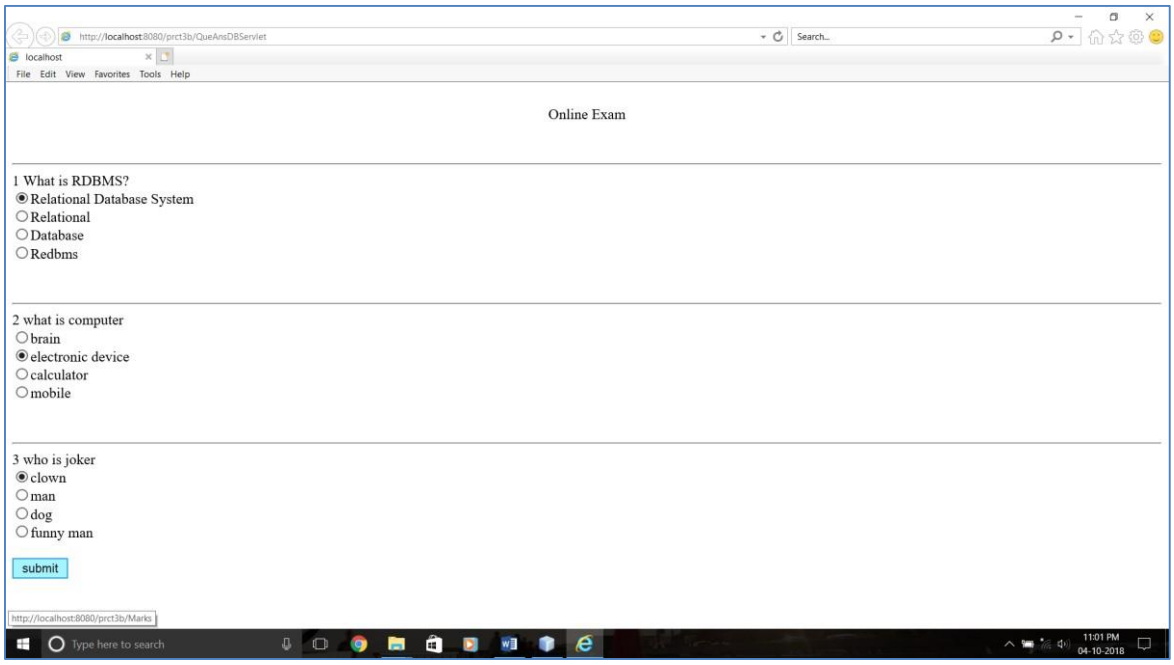
{ public void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

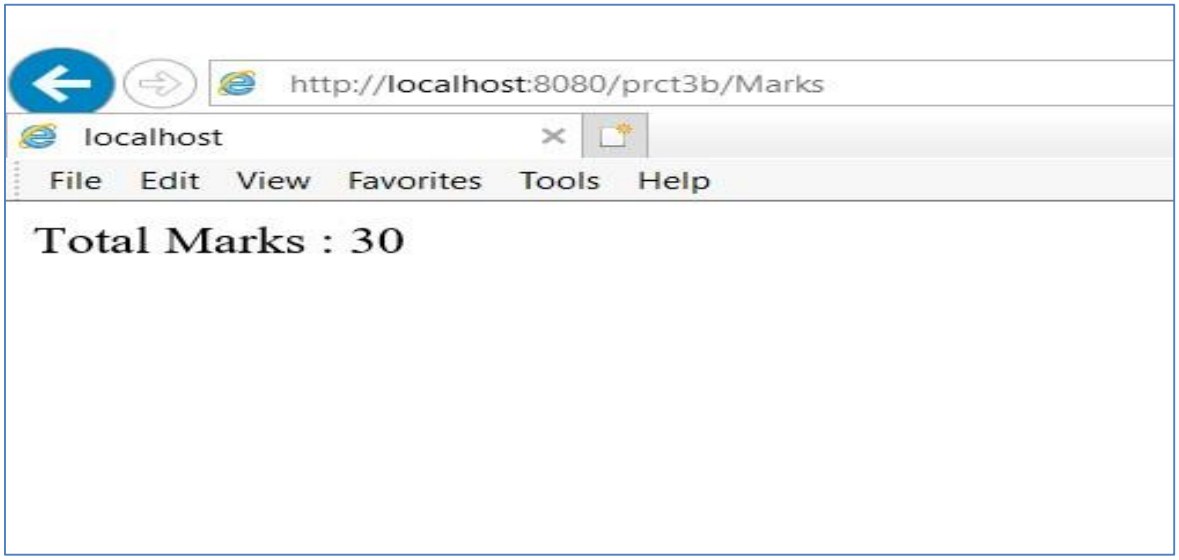
```
      {   response.setContentType("text/html");
          PrintWriter out = response.getWriter();
    try
     {  out.print("<html><body>");          int
total=Integer.parseInt(request.getParameter("total"));
int marks=0;          for(int i=1; i<=total; i++)
        {
```

```
            String sel=request.getParameter(new Integer(i).toString());
String  ans=request.getParameter("ans"+i);                    if
(sel.equals(ans)) marks++;
            }
        out.println("Total Marks : "+marks);
out.print("</body></html>");
    }
    catch(Exception e)
    {
            out.println("ERROR "+e.getMessage());
    }
  }
}
```

Righclick on QueAnsDbServlet and Run

OUTPUT:





Q.3 c) Create simple Servlet application to demonstrate Non-Blocking Read Operation.

CODE:

Index.html

```
<html>
   <body>

      <a href="NonBlockingServlet">Non Blocking Servlet</a>

   </body>

</html>
```

ReadingListener.java package nonblkapp; import

java.io.*; import java.util.logging.Level; import

java.util.logging.Logger; import javax.servlet.*; public

class ReadingListener implements ReadListener

{   ServletInputStream input = null;

   AsyncContext ac = null;

```
   ReadingListener(ServletInputStream in, AsyncContext c) {
      input = in;
ac = c;    }
   @Override    public void
onDataAvailable()  {
   }
   public void onAllDataRead()
   {    ac.complete();
   }
   public void onError(Throwable t)
   {   ac.complete();
      t.printStackTrace();
   }
}
```

ReadingNonBlockingServlet.java

```
package nonblkapp; import java.io.*;
import javax.servlet.*; import
javax.servlet.annotation.WebServlet;
import javax.servlet.http.*;
@WebServlet (name = "ReadingNonBlockingServlet", urlPatterns =
{"/ReadingNonBlockingServlet"},asyncSupported = true ) public
class ReadingNonBlockingServlet extends HttpServlet {
@Override                protected    void    service(HttpServletRequest    request,
HttpServletResponse response)      throws ServletException, IOException
   {    response.setContentType("text/html");
```

```
        AsyncContext ac = request.startAsync();
ServletInputStream in=request.getInputStream();
in.setReadListener(new ReadingListener(in,ac));
   }
}
```

NonBlockingServlet.java

```
package nonblkapp; import
java.io.*;
import java.net.HttpURLConnection;
import java.net.URL; import
java.util.logging.Level; import
java.util.logging.Logger; import
javax.servlet.*; import
javax.servlet.annotation.WebServlet;
import javax.servlet.http.*;
@WebServlet(name = "NonBlockingServlet", urlPatterns = {"/NonBlockingServlet"}) public
class NonBlockingServlet extends HttpServlet {
   @Override
   protected void service(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {        response.setContentType("text/html");
      PrintWriter out = response.getWriter();
      String filename = "booklist.txt";
```

```
ServletContext c = getServletContext();

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

InputStreamReader isr = new InputStreamReader(is);

BufferedReader br = new BufferedReader(isr);

String path = "http://" + request.getServerName() + ":" + request.getServerPort() +
request.getContextPath() + "/ReadingNonBlockingServlet";  out.println("<h1>File
Reader</h1>");

//out.flush();

URL url = new URL(path);

HttpURLConnection hc = (HttpURLConnection) url.openConnection();
hc.setChunkedStreamingMode(2); //2bytes at a time
hc.setDoOutput(true); // true if URL connection done


hc.connect();

String text = "";

System.out.println("Reading started...");

BufferedWriter bw = new BufferedWriter(new OutputStreamWriter(hc.getOutputStream()));
while ((text = br.readLine()) != null)

{  bw.write(text);
bw.flush();
out.println(text+"<br>");
out.flush();  try

{

Thread.sleep(1000);

}

catch (Exception ex)
```

```
            {
out.print(ex);
            }
        }
        bw.write("Reading completed...");
bw.flush();        bw.close();
    }
}
```

OUTPUT:

PRACTICAL 4

Q.4 a) Develop a simple JSP application to display values obtained from the use of intrinsic objects of various types.

CODE:

index.jsp

```
<html>

<body>

<form action="implicitObjectEx.jsp">

Enter your name:<input type="text" name="myname"><br>

Enter your email id:<input type="text" name="mymailid"><br>

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

</form>

</body> </html>
```

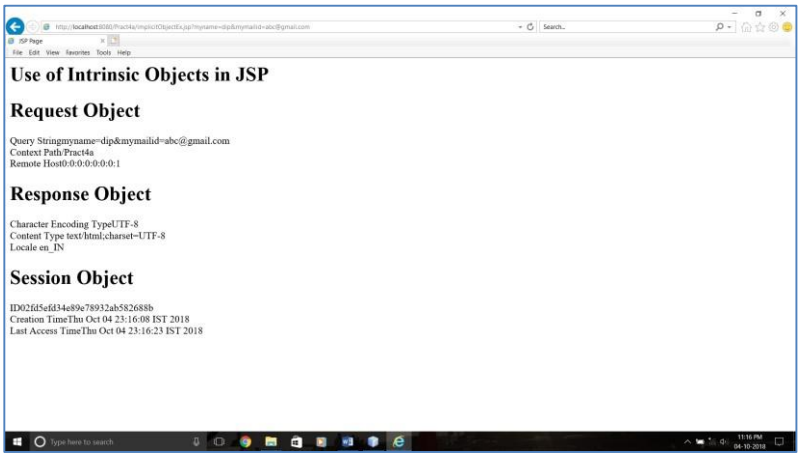
implicitObjectEx.js

p

```
<%@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:



Q.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).

CODE:

Index.jsp

```
<html>
<body>
<form action="Validate.jsp">
Enter Your Name <input type="text" name="name"><br>
Enter Your Age <input type="text" name="age"><br>
Select Hobbies <input type="checkbox" name="hob" value="Singing">Singing
<input type="checkbox" name="hob" value="Reading">Reading Books
<input type="checkbox" name="hob" value="Football">Playing Football<br>
Enter E-mail<input type="text" name="email"><br>
Select Gender <input type="radio" name="gender" value="male">Male
<input type="radio" name="gender" value="female">Female
<input type="radio" name="gender" value="other">Other<br>
<input type="hidden" name="error" value="">
<input type="submit" value="Submit Form">
</form >
</body>
</html>
```

CheckerBean.java

```
package mypack; import
java.beans.*; import
java.io.Serializable; import
java.util.regex.Matcher; import
java.util.regex.Pattern;

public class CheckerBean
{
String name,hob,email,gender,error;
int age; public CheckerBean()
{ name=""; hob=""; email="";
gender=""; error=""; age=0; }
public void setName(String
n)
```

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```
{
name=n;
} public String
getName()
{
return name;
}
public void setAge(int a)
{ age=a; } public
int getAge()
{ return
age;
} public void setHob(String
h)
{
hob=h;
} public String
getHob()
{ return
hob;
} public void setEmail(String
e)
{
email=e;
} public String
getEmail()
{ return
email;
}
public void setGender(String g)
{
gender=g;
}
public String getGender()
{ return
gender;
}
public String getError()
```

PREPARED BY: MS. BEENA

```
{ return
error;
} public boolean
validate()
{
boolean res=true; if(name.trim().equals(""))
{ error+="<br>Enter First
Name"; res=false; }
if(age<0||age>99)
{
error+="<br>Age Invalid"; res=false;
}
String emailregex="^[_A-Za-z0-9-]+(\\.[_A-Za-z0-9-]+)*@[A-Za-z0-9-]+(\\.[A-Za-z0-9
-]+)*(\\.[A-Za-z]{2,})$";
Boolean b=email.matches(emailregex);
if(!b) { error+="<br>email Invalid";
res=false; } return res;
}
}
```

Validate.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8" import="mypack.*"%>
<html>
<head>
<title>JSP Page</title>
</head>
<body>
<h1>Validation Page</h1>
<jsp:useBean id="obj" scope="request"
class="mypack.CheckerBean" >
<jsp:setProperty name="obj" property="*"/>
```

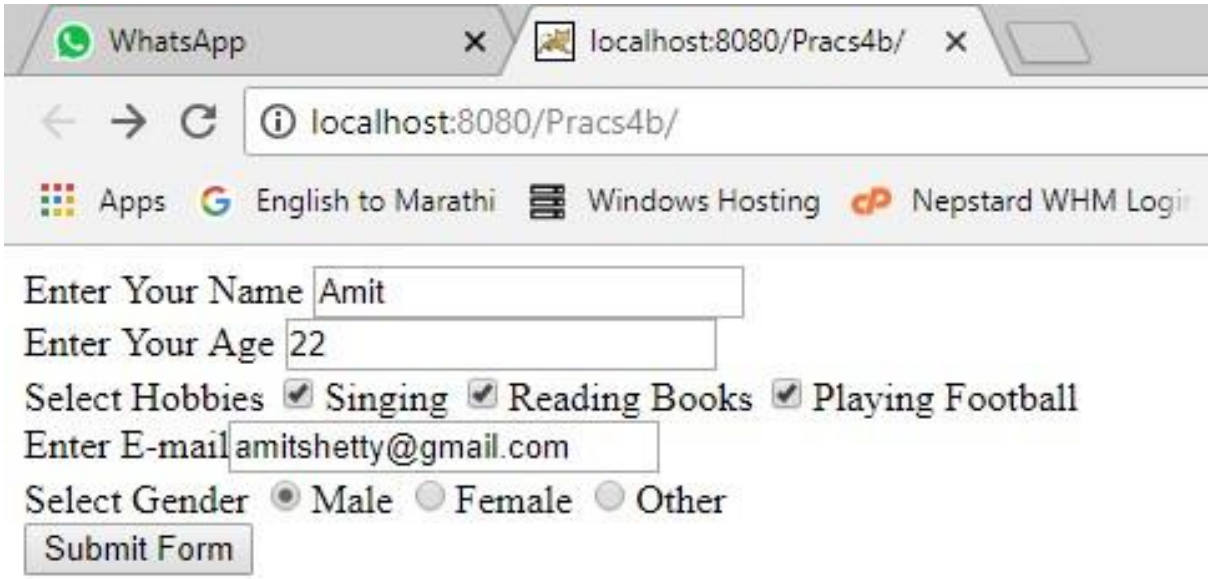
```
</jsp:useBean>
<%if(obj.validate())
{%>
<jsp:forward page="successful.jsp"/>
<% } else
{%>
<jsp:include page="index.html"/>
<%}%>
<%=obj.getError() %>
</body>
</html>
```

successful.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPEhtml>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>JSP Page</title>
</head>
<body>
<h1>DATA VALIDATED SUCCESSFULLY</h1>
</body>
</html>
```

OUTPUT:

PREPARED BY: MS. BEENA KAPADIA AND MS. PAYAL SHAH



DATA VALIDATED SUCCESSFULLY

Q.4 c) Create a registration and login JSP application to register and authenticate the user based on username and password using JDBC.

CODE:

Index.html

```
<html> <head>
<title>New User Registration Page</title>
</head>
<body>
<form action="Registration.jsp">
<h1>New User Registration Page</h1>
Enter User Name<input type="text" name="txtName"><br>
Enter Password<input type="password" name="txtPass1"><br>
Re-Enter Password<input type="password" name="txtPass2"><br>
Enter Email<input type="text" name="txtEmail"><br>
Enter Country Name<select name="txtCon">
<option>India</option>
<option>France</option>
<option>England</option>
<option>Argentina</option>
</select><br>
<input type="submit" value="REGISTER"><input  type="reset">
</form>
</body>
</html>
```

Registration.jsp

```
<%@page contentType="text/html" import="java.sql.*"%>
<html><body>
<h1>Registration JSP Page</h1>
<%
String uname=request.getParameter("txtName");
String pass1=request.getParameter("txtPass1");
String pass2=request.getParameter("txtPass2");
String email=request.getParameter("txtEmail");
String      ctry=request.getParameter("txtCon");
if(pass1.equals(pass2))
{ try
{
Class.forName("com.mysql.jdbc.Driver");
Connection
```

```
con=DriverManager.getConnection("jdbc:mysql://localhost:3306/logindb",”root”,”tiger”);
PreparedStatement stmt=con.prepareStatement("insert into userpass 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");}
else {
out.println("Registration FAILED!!!!");
%>
<jsp:include page="index.html"></jsp:include>
<%
}
}catch(Exception e){out.println(e);}
} else { out.println("<h1>Password
Mismatch</h1>");
%>
<jsp:include page="index.html"></jsp:include>
<% }
%>
</body>
</html>
```

Login.html

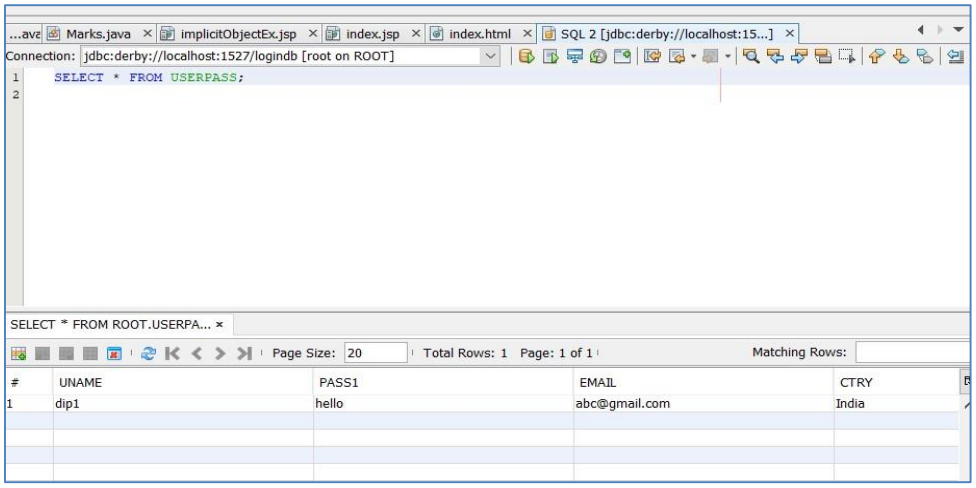
```
<html>
<body>
<h1>Login Page</h1>
<form action="Login.jsp">
Enter User Name<input type="text" name="txtName"><br>
Enter Password<input type="password" name="txtPass"><br>
<input type="submit" value="~~~LOGIN~~"><input type="reset">
</form>
</body>
</html>
```

Login.jsp

```
<%@page contentType="text/html" import="java.sql.*"%>
<html><body>
<h1>Registration JSP Page</h1>
<%
String uname=request.getParameter("txtName");
```

```
String pass=request.getParameter("txtPass");
ResultSet rs=null; try{
Class.forName("com.mysql.jdbc.Driver"); Connection
con=DriverManager.getConnection("jdbc:mysql://localhost:3306/logindb"",”root”,”tiger”);
Statement stmt=con.createStatement(); rs=stmt.executeQuery("select password from
userpass where username="'+uname+'"'); rs.next(); if(pass.equals(rs.getString(1)))
{
out.println("<h1>~~~LOGIN SUCCESSFULLL~~~</h1>");
} else { out.println("<h1>password  does not
match!!!!!</h1>");
%>
<jsp:include page="index.html"></jsp:include>
<%
}
}catch(Exception e){ out.println("<h1>User does
not exist!!!!!</h1>");
%>
<jsp:include page="index.html"></jsp:include>
<%
}
%>
</body>
</html>
```

OUTPUT:



PRACTICAL 5

Q.5 a) Create an html page with fields, eno, name, age, desg, salary. Now on submit this data to a JSP page which will update the employee table of database with matching eno.

CODE:

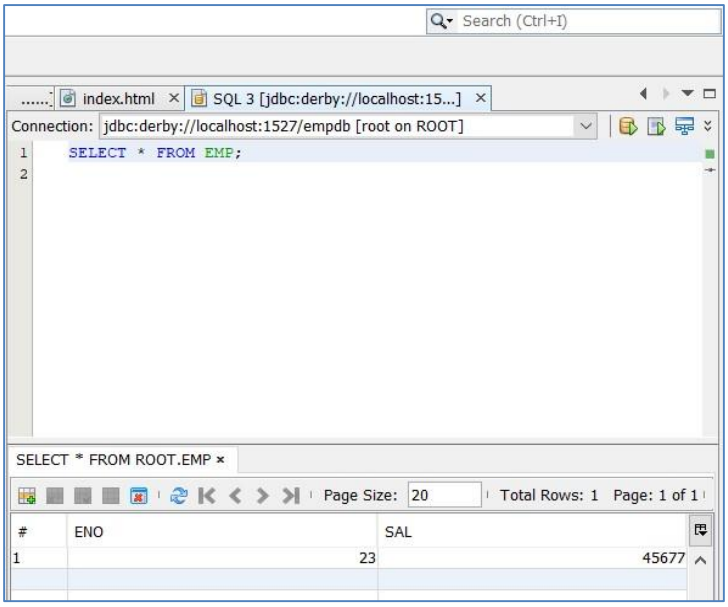
Index.html

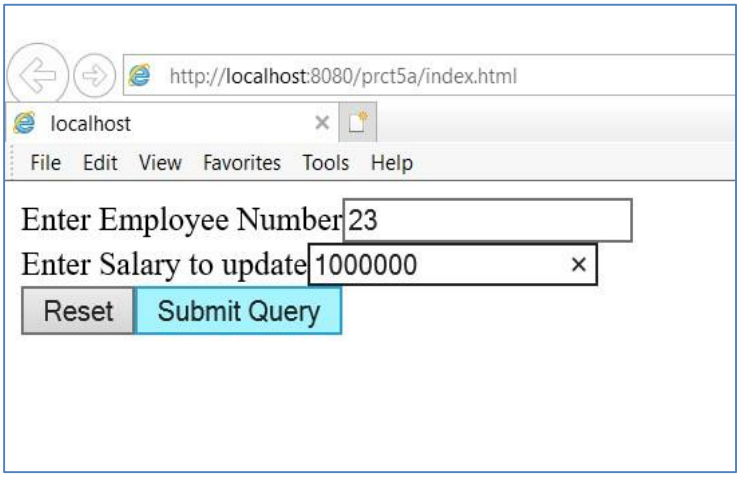
```
<html>
<body>
<form action="UpdateEmp.jsp" >
Enter Employee Number<input type="text" name="txtEno" ><br>
Enter Salary to update<input type="text" name="txtSal" ><br>
<input type="reset" ><input type="submit">
</form>
</body>
</html>
```

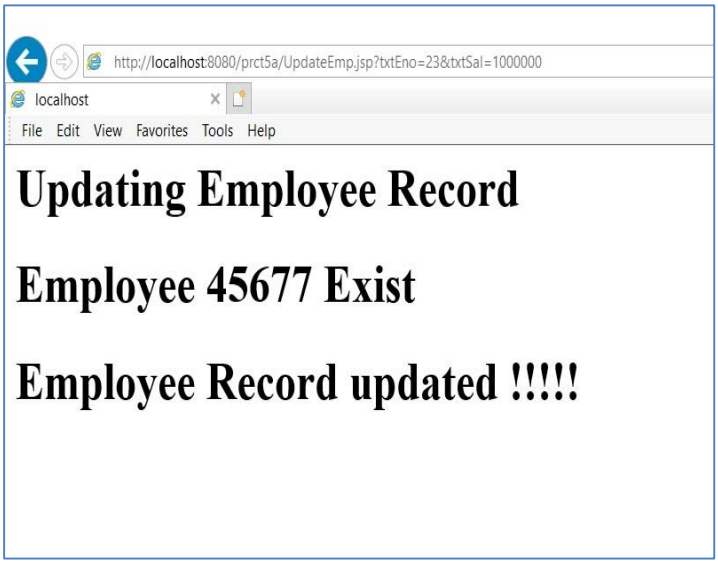
UpdateEmp.jsp

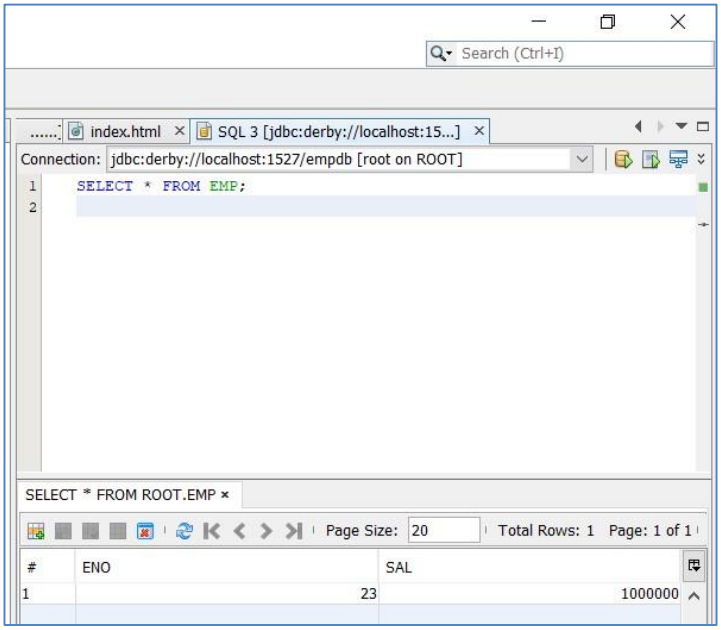
```
<%@page contentType="text/html" import="java.sql.*" %>
<html>
<body>
<h1>Updating Employee Record</h1>
<%
String eno=request.getParameter("txtEno");
String sal = request.getParameter("txtSal");
try{
Class.forName("com.mysql.jdbc.Driver");
Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/empdb","root","tiger");
PreparedStatement stmt = con.prepareStatement("select * from emp where
empno=?"); stmt.setString(1, eno);
ResultSet rs = stmt.executeQuery(); if(rs.next()){
out.println("<h1> Employee "+rs.getString(2)+" Exist </h1>");
PreparedStatement pst= con.prepareStatement("update emp set salary=? where empno=?");
pst.setString(1, sal); pst.setString(2, eno);
pst.executeUpdate(); out.println("<h1>Employee Record
updated !!!!!</h1>");
} else{ out.println("<h1>Employee Record not exist
!!!!!</h1>"); }
}catch(Exception e){out.println(e);}
%>
</body>
</html>
```

OUTPUT:


Search (Ctrl+I)
index.html
SQL 3 [jdbc:derby://localhost:15...]
Connection: jdbc:derby://localhost:1527/empdb [root on ROOT]
1 SELECT * FROM EMP;
2
SELECT * FROM ROOT.EMP ×
Page Size: 20
Total Rows: 1
Page: 1 of 1
ENO SAL
1 23 45677


http://localhost:8080/prct5a/index.html
localhost
File Edit View Favorites Tools Help
Enter Employee Number 23
Enter Salary to update 1000000
Reset
Submit Query


http://localhost:8080/prct5a/UpdateEmp.jsp?txtEno=23&txtSal=1000000
localhost
File Edit View Favorites Tools Help
Updating Employee Record
Employee 45677 Exist
Employee Record updated !!!!!


Search (Ctrl+I)
index.html
SQL 3 [jdbc:derby://localhost:15...]
Connection: jdbc:derby://localhost:1527/empdb [root on ROOT]
1 SELECT * FROM EMP;
2
SELECT * FROM ROOT.EMP
Page Size: 20
Total Rows: 1
Page: 1 of 1
ENO SAL
1 23 1000000

Q.5 b) Create a JSP page to demonstrate the use of Expression language.

CODE:

a. Index.jsp

```
<body>
<h3>welcome to index page</h3>
<%
session.setAttribute("user","Admin");
%>
<%
Cookie ck=new Cookie("name","mycookie"); response.addCookie(ck);
%>
<form action="ExpressionLanguage.jsp">
Enter Name:<input type="text" name="name" /><br/><br/>
<input type="submit" value="Submit"/>
</form> </body>
```

b. ExpressionLanguage.jsp

```
<body>
Welcome, ${ param.name }
Session Value is ${ sessionScope.user } Cookie
name is , ${cookie.name.value}
</body>
```

c. ELArithemeticOperator.jsp

```
<body>
<%-- arithmetic op --%>
5*5+4: ${5*5+4} <br>
1.4E4+1.4: ${1.4E4+1.4}<br> 10
mod 4: ${10 mod 4}<br>
15 div 3: ${15 div 3}<br>
</body>
```

d. ELLogicalOperator.jsp

```
<body>
<%-- LogicalOperator --%>
<h2>Logical Operator</h2> true and true: ${true and true}<br> true && false: ${true && false}<br> true or true: ${true or true}<br> true || false: ${true || false}<br> not true: ${not true}<br>
!false: ${!false}
</body>
```

e. ELRelationalOperator.jsp

```
<body>
<%-- RelationalOperator --%>
<h2>Relational Operator</h2>
10.0==10: ${10.0==10} <br>
10.0 eq 10: ${10.0 eq 10} <br>
((20*10)!= 200): ${((20*10)!= 200)} <br>
3 ne 3: ${3 ne 3} <br>
3.2>=2: ${3.2>=2} <br>
3.2 ge 2: ${3.2 ge 2} <br>
2<3: ${2<3} <br>
4 lt 6: ${4 lt 6} <br>
2 <= 4: ${2 <= 4} <br>
4 le 2: ${4 le 2}
</body>
```

f. ELconditional op

```
<body>
<h2>Conditional Operator</h2>

The result of 10>2 is: "${(10>1)?'greater':'lesser'}"
</body>
```

g. Empty Operator

```
<H1>Empty Operator Example</H1>
```

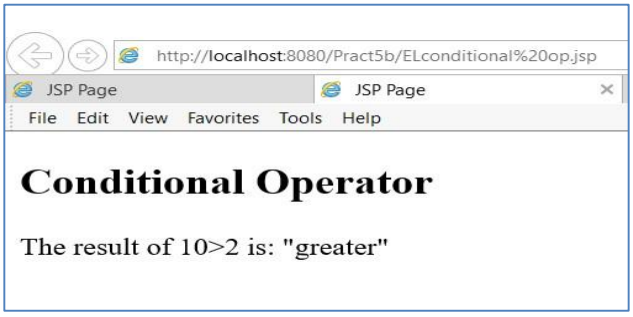
The Value for the Empty operator is:: ${empty "txxt"}

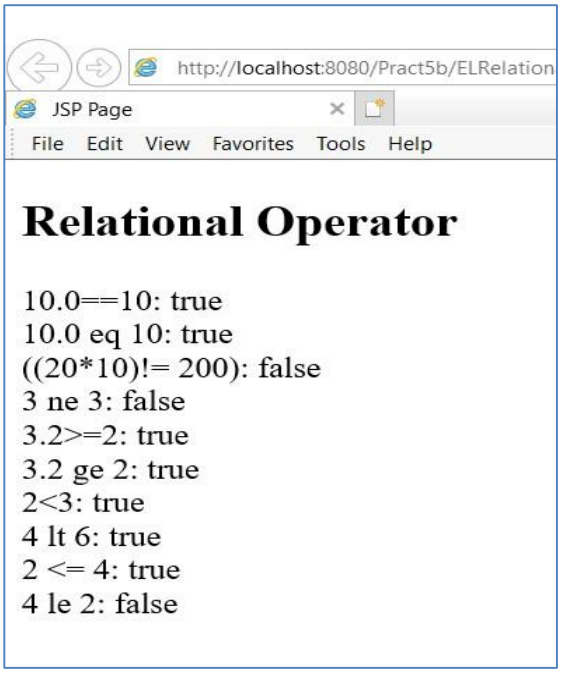
OUTPUT:

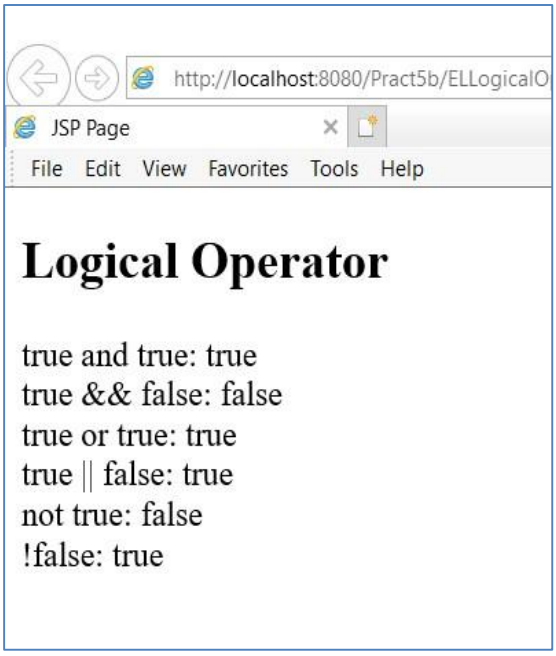
http://localhost:8080/Pract5b/Index.jsp
JSP Page
File Edit View Favorites Tools Help
welcome to index page
Enter Name:dip
Submit

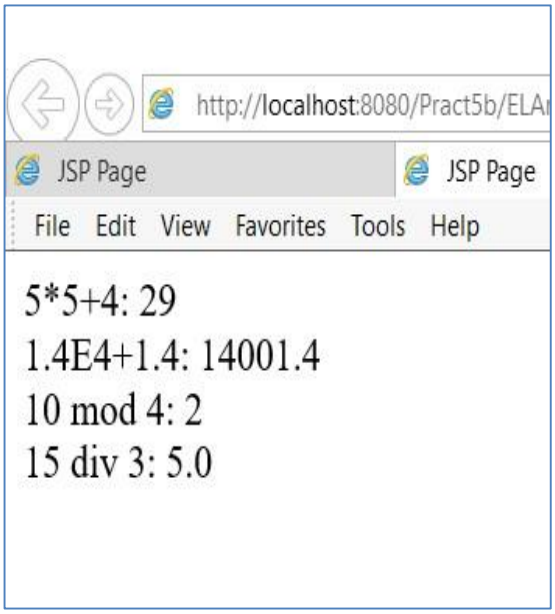
http://localhost:8080/Pract5b/ExpressionLanguage.jsp?name=dip
JSP Page
File Edit View Favorites Tools Help
Welcome, dip Session Value is Admin Cookie name is , mycookie

http://localhost:8080/Pract5b/Empty%20Operator.jsp
JSP Page
File Edit View Favorites Tools Help
Empty Operator Example
The Value for the Empty operator is:: false


http://localhost:8080/Pract5b/ELconditional%20op.jsp
JSP Page
JSP Page
File Edit View Favorites Tools Help
Conditional Operator
The result of 10>2 is: "greater"


http://localhost:8080/Pract5b/ELRelation
JSP Page
File Edit View Favorites Tools Help
Relational Operator
10.0==10: true
10.0 eq 10: true
((20*10)!= 200): false
3 ne 3: false
3.2>=2: true
3.2 ge 2: true
2<3: true
4 lt 6: true
2 <= 4: true
4 le 2: false


http://localhost:8080/Pract5b/ELLogicalO
JSP Page
File Edit View Favorites Tools Help
Logical Operator
true and true: true
true && false: false
true or true: true
true || false: true
not true: false
!false: true


http://localhost:8080/Pract5b/ELA
JSP Page
JSP Page
File Edit View Favorites Tools Help
5*5+4: 29
1.4E4+1.4: 14001.4
10 mod 4: 2
15 div 3: 5.0

Q.5 c) Create a JSP application to demonstrate the use of JSTL.

CODE:

index.html

```
<html><body>

<a href="setDemo.jsp"> SetDemo</a>

<a href="Maxif.html"> MaxIF</a>

<a href="forEachDemo.jsp"> ForEachDemo</a>

<a href="outDemo.jsp"> OutDemo</a>

<a href="URLDemo.jsp"> URLDemo</a>

<a href="choose_when_otherwise.jsp"> choose_when_otherwise</a>

</body></html>
```

setDemo.jsp

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

<c:set var="pageTitle" scope="application"

value="Dukes Soccer League: Registration" />

 ${pageTitle}
```

Maxif.html

```
<form action ="IFDemo.jsp">     x=<input

type="text" name="x"  /><br>     y=<input

type="text" name="y"  /><br>

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

   </form>
```

IFDemo.jsp

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

<c:set var="x" value="${param.x}"/>

<c:set var="y" value="${param.y}"/>

<c:if test="${x>y}">

   <font color="blue"><h2>The Ans is:</h2></font>

   <c:out value="${x} is greater than ${y}"/>

</c:if>
```

ForeachDemo.jsp

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

<c:forEach begin="1" end="10" var="i">

  The Square of <c:out value=" ${i}=${i*i}"/><br>

   </c:forEach>
```

outDemo.jsp

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

<c:set var="name" value="John"/>

My name is: <c:out value= "${name}" />
```

URLDemo.jsp

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

<c:url value="/index.html"/>
```

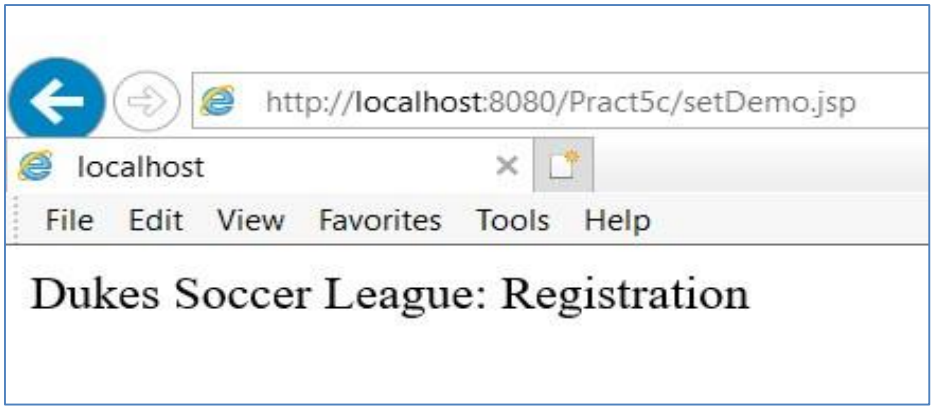
choose_when_otherwise.jsp

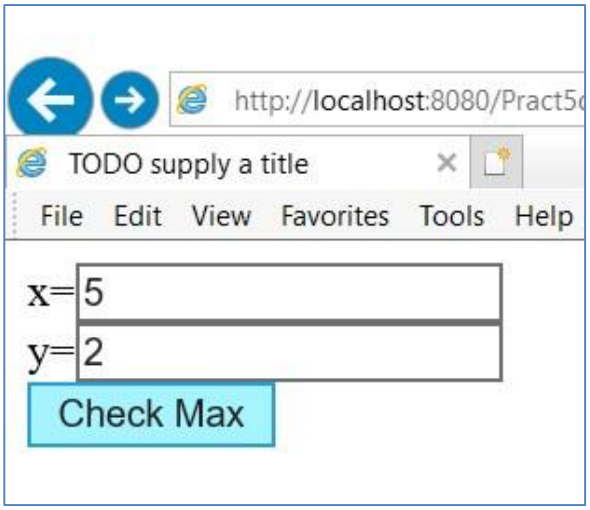
```
<%@taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>

<c:set var="income" value="${4000*4}"/>

Your Income is: <c:out value="${income}"/>

<c:choose>

   <c:when test="${income <=1000}">
```

PREPARED BY: MS. BEENA KAPADIA AND MS. PAYAL SHAH

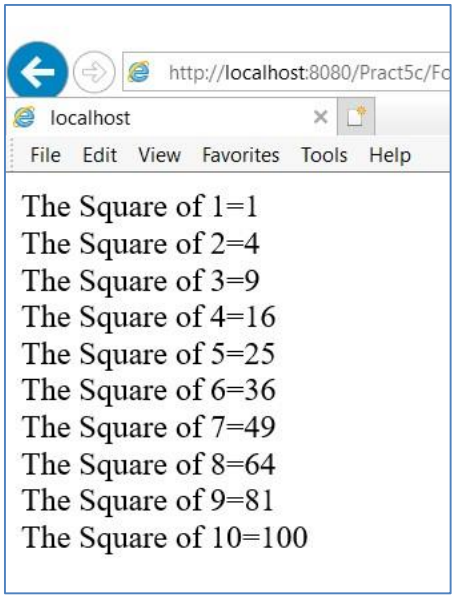
```
            Income is not good
        </c:when>
            <c:when test="${income > 10000}">
            Income is Very Good
        </c:when>
        <c:otherwise>
            Income is undetermined
        </c:otherwise>
    </c:choose>
```

OUTPUT:

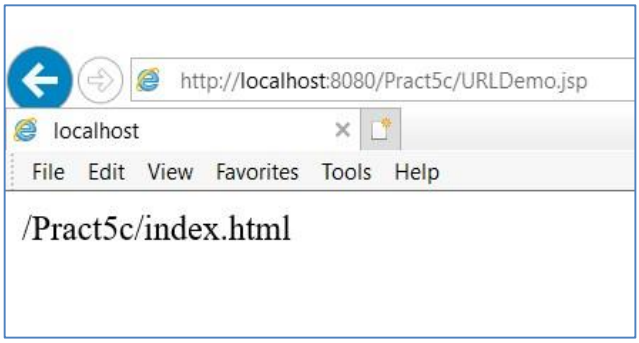


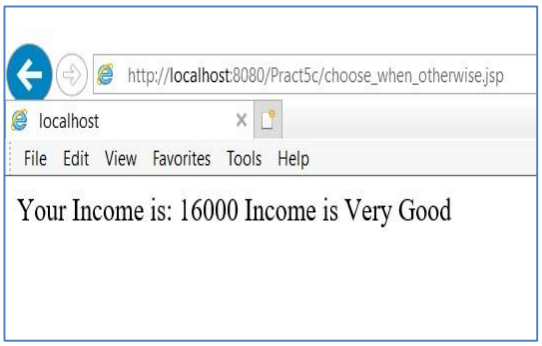


http://localhost:8080/Pract5c/IFD
localhost
File Edit View Favorites Tools Help
The Ans is:
5 is greater than 2


http://localhost:8080/Pract5c/Fo
localhost
File Edit View Favorites Tools Help
The Square of 1=1
The Square of 2=4
The Square of 3=9
The Square of 4=16
The Square of 5=25
The Square of 6=36
The Square of 7=49
The Square of 8=64
The Square of 9=81
The Square of 10=100

http://localhost:8080/Pract5c/out
localhost
File Edit View Favorites Tools Help
My name is: John


http://localhost:8080/Pract5c/URLDemo.jsp
localhost
File Edit View Favorites Tools Help
/Pract5c/index.html


http://localhost:8080/Pract5c/choose_when_otherwise.jsp
localhost
File Edit View Favorites Tools Help
Your Income is: 16000 Income is Very Good

PRACTICAL 6 Q.6 a)

Create a Currency Converter application using EJB.

CODE:

Index.html

```
<html><head><title>Currency Converter</title></head>
  <body>
    <form action="CCServlet" >
      Enter Amount <input type="text" name="amt"><br>
      Select Conversion Type
 <input type="radio" name="type" value="r2d" checked>Rupees to Dollar
 <input type="radio" name="type" value="d2r" >Dollar to Rupees<br>
      <input type="reset" ><input type="submit" value="CONVERT" >
    </form>
  </body>
</html>
```

Step 2 : Create a session bean named as *CCBean* in the package named *mybeans*. Select the option Stateless and click on Local Interface.

Here you will find two files created in the mybeans package named as *CCBean.java and CCBeanLocal.java* CCBeanLocal.java package mybeans; import javax.ejb.Stateless;

```
@Stateless public interface
CCBeanLocal { //default constructor
public double r2Dollar(double r);
public double d2Rupees(double d);
}
```

CCBean.java

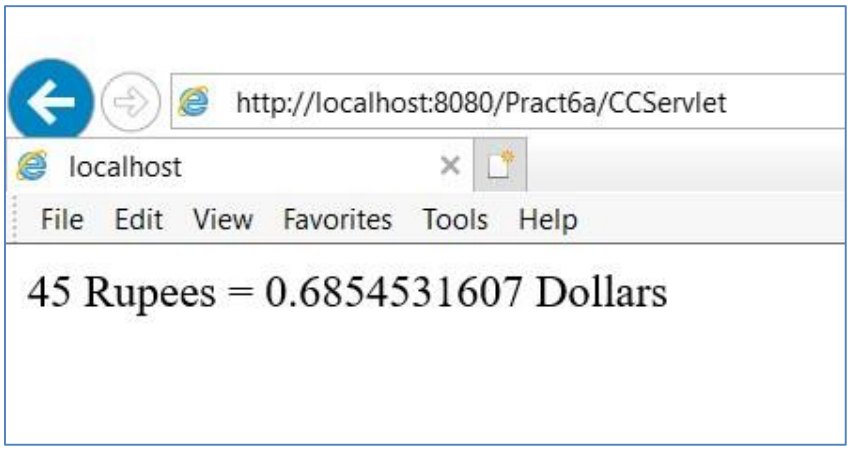
```
package mybeans; import
javax.ejb.Stateless;
@Stateless public class CCBean implements
CCBean1Local
{ public double r2Dollar(double
r)
{    return
r/65.65;
} public double d2Rupees(double
d)
{    return
d*65.65;
}
}
```

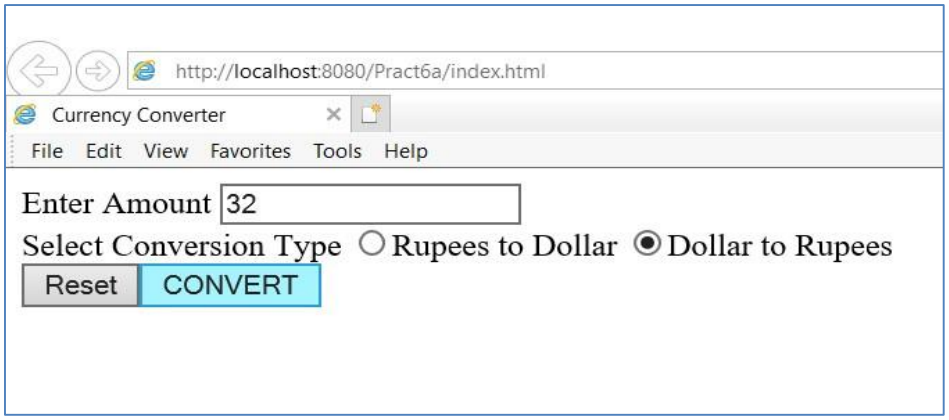
Step 3: Create a Servlet file name CCServlet in the package mypack.

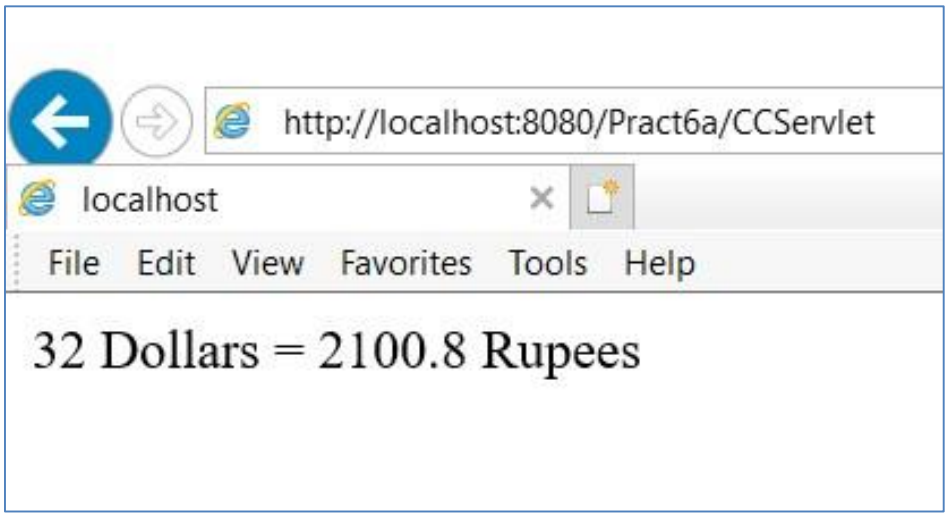
```
package mypack; import java.io.*; import
javax.servlet.*; import javax.servlet.http.*;
import javax.ejb.EJB; import
mybeans.CCBeanLocal; public class
CCServlet extends HttpServlet {
   @EJB CCBeanLocal obj;
public void doGet(HttpServletRequest request,  HttpServletResponse response)throws
ServletException, IOException
{ response.setContentType("text/html;charset=UTF-8");
PrintWriter out = response.getWriter(); double amt =
Double.parseDouble(request.getParameter("amt"));
if(request.getParameter("type").equals("r2d"))
```

```
{ out.println("<h1>"+amt+ " Rupees = "+obj.r2Dollar(amt)+"

Dollars</h1>");

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

{ out.println("<h1>"+amt+ " Dollars = "+obj.d2Rupees(amt)+"

Rupees</h1>");

}

}

}
```

OUTPUT:




http://localhost:8080/Pract6a/index.html
Currency Converter
File Edit View Favorites Tools Help
Enter Amount 32
Select Conversion Type Rupees to Dollar Dollar to Rupees
Reset CONVERT


http://localhost:8080/Pract6a/CCServlet
localhost
File Edit View Favorites Tools Help
32 Dollars = 2100.8 Rupees

Q.6 b) Develop a Simple Room Reservation System Application Using EJB.

CODE:

Index.html

```
<html>
  <head>
    <title>Room Reservation</title>
  </head>
  <body>
    <form method="post" action="RoomClient">
      <br> No of Rooms <input type=text name="t1">
      <br> <input type="submit" name="btn" value="CheckIN">
      <br> <input type="submit" name="btn" value="CheckOUT">
    </form>
  </body>
</html>
```

Step2: Create a session bean named as *RoomBean* in the package named *ejb*. Select the option Stateless and click on Local Interface.

Here you will find two files created in the ejb package named as *RoomBean.java and RoomBeanLocal.java*

RoomBeanLocal.java

```
package ejb; import
javax.ejb.Local;
@Local public interface
RoomBeanLocal {
    public int checkin(int no);
public int checkout(int no);
}
```

RoomBean.java

```
package ejb; import javax.ejb.Stateless; import
java.sql.*; @Stateless public class RoomBean
implements RoomBeanLocal { public int checkin(int
no) {
   try
   {
     Class.forName("com.mysql.jdbc.Driver");
     Connection
con=DriverManager.getConnection("jdbc:mysql://localhost/roomdb","root","tiger");
     String sql1 = "select * from room";
     Statement st=con.createStatement();
ResultSet rs=st.executeQuery(sql1);
     rs.next();       int
total=rs.getInt(1);
int occ=rs.getInt(2);
int free=total-occ;
     System.out.println(total);
System.out.println(free);
if (free>=no)
     {
        String sql2="update room set occ=?";
        PreparedStatement ps=con.prepareStatement(sql2);
        ps.setInt(1, occ+no);
      int res=ps.executeUpdate();
return res;
```

```
    }       else
return 0;
   }
   catch(Exception e)
   {
return 0;
   }
   }
   public int checkout(int no) {
   try
   {  Class.forName("com.mysql.jdbc.Driver");
     Connection
con=DriverManager.getConnection("jdbc:mysql://localhost/roomdb","root","tiger");
     String sql1 = "select * from room";
     Statement st=con.createStatement();
ResultSet rs=st.executeQuery(sql1);
     rs.next();              int
total=rs.getInt(1);      int
occ=rs.getInt(2);         if
(occ>=no)
     {
       String sql2="update room set occ=?";
       PreparedStatement ps=con.prepareStatement(sql2);
       ps.setInt(1, occ-no);
       int res=ps.executeUpdate();
return res;
```

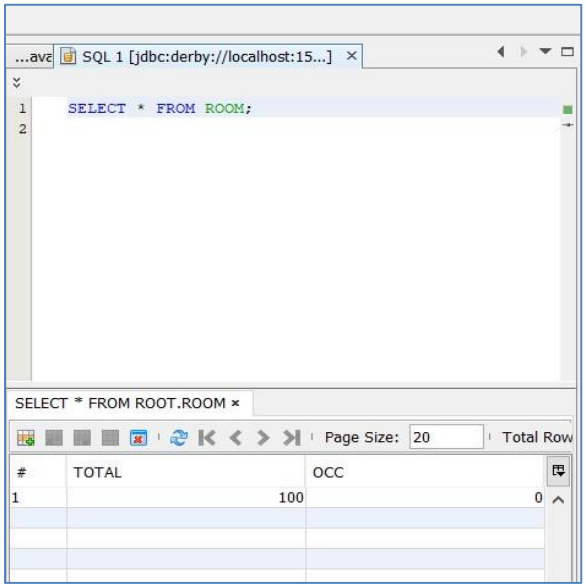
```
    }       else
return 0;
   }
   catch(Exception e)
   {
return 0;
   }
   }
}
```

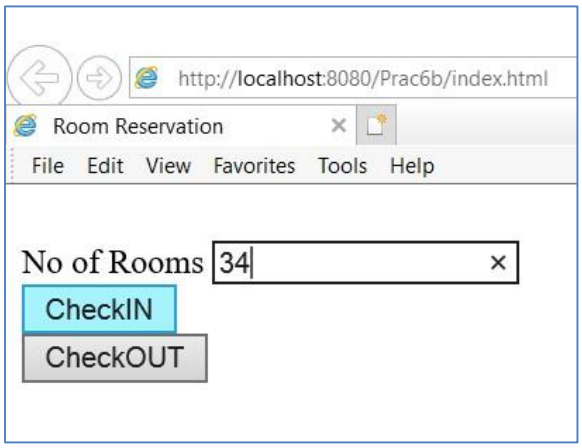
Step 3: Create a Servlet file named as RoomClient. Do not click on web.xml (Deployment Descriptor)

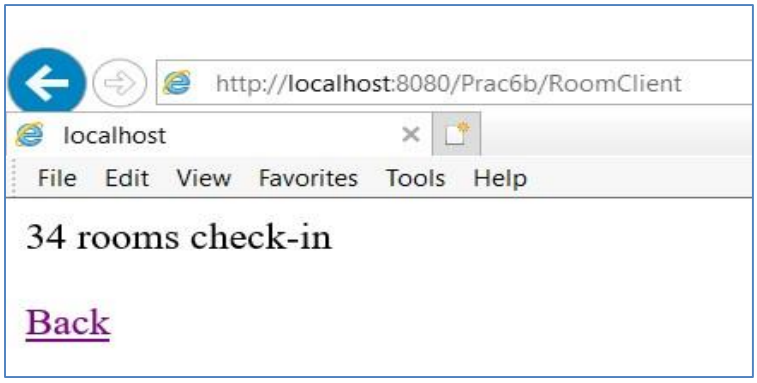
```
package servlet; import
ejb.RoomBeanLocal; import
java.io.*; import javax.ejb.EJB;
import javax.servlet.*; import
javax.servlet.http.*; import
javax.servlet.annotation.*;
@WebServlet(name = "roomclient", urlPatterns = {"/roomclient"}) public
class roomclient extends HttpServlet {
   @EJB RoomBeanLocal obj;     protected void doPost(HttpServletRequest request,
HttpServletResponse response)           throws ServletException, IOException {
response.setContentType("text/html");       PrintWriter out = response.getWriter();
      try    {                                                    int
no=Integer.parseInt(request.getParameter("t1"));
String b=request.getParameter("btn");

            int res=0;
        if(b.equals("CheckIN"))
        {
```

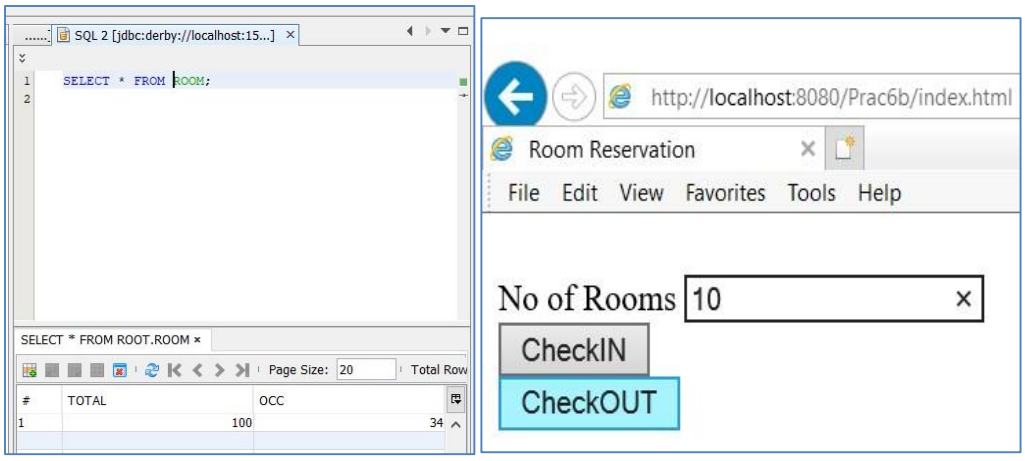
```
            res=obj.checkin(no);            if
(res==1)            out.println(no + " rooms
check-in");
        }
        if(b.equals("CheckOUT"))
        {
            res=obj.checkout(no);           if
(res==1)            out.println(no + " rooms
check-out");
        }               if(res==0)          out.println("Not possible
to do Check IN / OUT");         out.println("<br><br><a
href=index.html> Back </a>");
      }
finally {
out.close();
      }
   }
 }
```

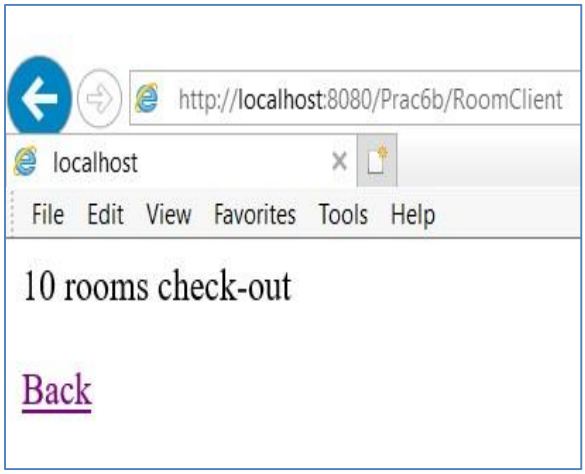
OUTPUT:

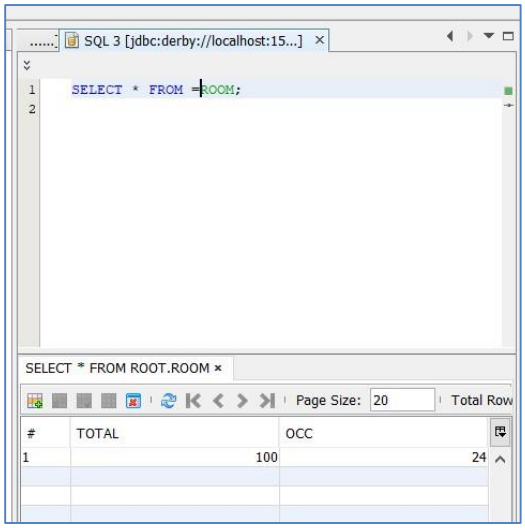

SQL 1 [jdbc:derby://localhost:15...]
SELECT * FROM ROOM;
SELECT * FROM ROOT.ROOM
Page Size: 20
Total Row
TOTAL OCC
1 100 0

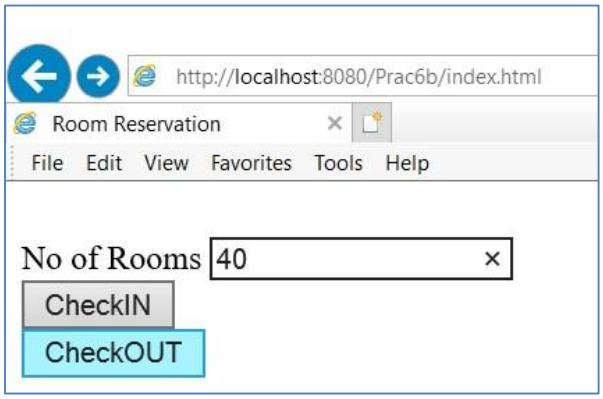

http://localhost:8080/Prac6b/index.html
Room Reservation
File Edit View Favorites Tools Help
No of Rooms 34
CheckIN
CheckOUT

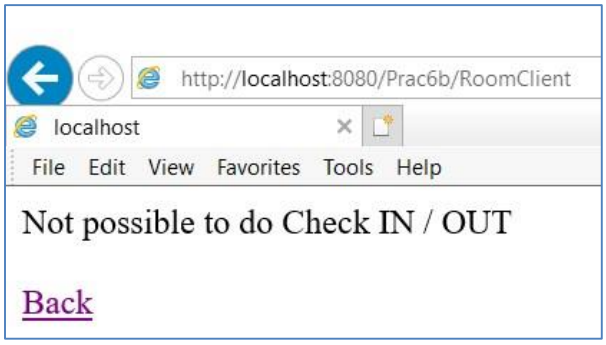

http://localhost:8080/Prac6b/RoomClient
localhost
File Edit View Favorites Tools Help
34 rooms check-in
Back

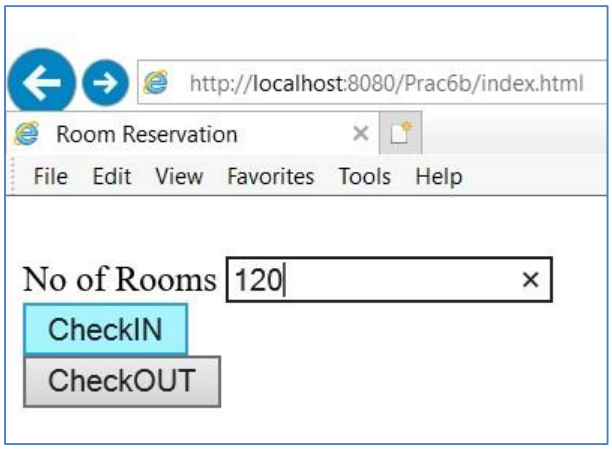

SQL 2 [jdbc:derby://localhost:15...]
SELECT * FROM ROOM;
SELECT * FROM ROOT.ROOM
Page Size: 20
Total Row
TOTAL OCC
1 100 34
http://localhost:8080/Prac6b/index.html
Room Reservation
File Edit View Favorites Tools Help
No of Rooms 10
CheckIN
CheckOUT

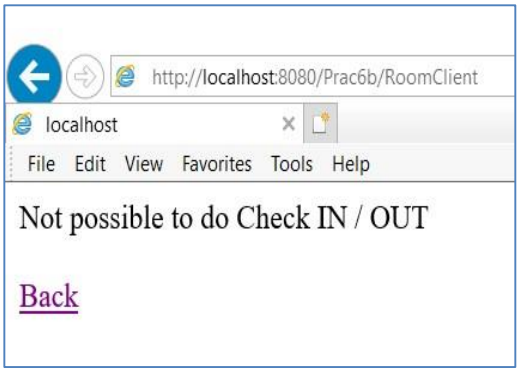

http://localhost:8080/Prac6b/RoomClient
localhost
File Edit View Favorites Tools Help
10 rooms check-out
Back


SQL 3 [jdbc:derby://localhost:15...]
SELECT * FROM ROOM;
SELECT * FROM ROOT.ROOM
Page Size: 20
Total Row
TOTAL OCC
1 100 24


http://localhost:8080/Prac6b/index.html
Room Reservation
File Edit View Favorites Tools Help
No of Rooms 40
CheckIN
CheckOUT


http://localhost:8080/Prac6b/RoomClient
localhost
File Edit View Favorites Tools Help
Not possible to do Check IN / OUT
Back


http://localhost:8080/Prac6b/index.html
Room Reservation
File Edit View Favorites Tools Help
No of Rooms 120
CheckIN
CheckOUT


http://localhost:8080/Prac6b/RoomClient
localhost
File Edit View Favorites Tools Help
Not possible to do Check IN / OUT
Back

Q.6 c) Develop simple shopping cart application using EJB [Stateful Session Bean].

CODE:

Step 1 creating application

File -> new project-> java web->web application -> Prac6CShoppingCartApp -> select Use dedicated folder for storing libraries -> finish

Step 2: Creating a stateful session bean

Source package -> new -> other -> enterprise java beans -> session bean -> next -> new session bean -> ejb name: ->ShoppingCart -> package: -> ejb -> session type option -> Stateful -> finish. ShoppingCart.java

```
package ejb; import

java.sql.*; import

java.util.*; import

javax.ejb.*; @Stateful

public class ShoppingCart

{   List<String> contents;   String

customerName;   private Connection

conn = null;   private ResultSet rs;

private Statement stmt = null;

private String query = null;   public

void initialize(String person)

  {   if (person != null) {

customerName = person;

        try {

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

            conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/cartdb", "root",
"tiger");

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

```
            System.err.println("Sorry failed to connect to the Database." + e.getMessage());
        }
    }
    contents = new ArrayList<>();
  }
  public void addBook(String title) {
    try {          stmt = conn.createStatement();          query = "INSERT INTO cart
VALUES('" + customerName + "','" + title + "')";          stmt.executeUpdate(query);
    } catch(SQLException e) {
        System.err.println("Sorry failed to insert values from the database table. " + e.getMessage());
    }
  }
  public void removeBook(String title) {
    try {          stmt =
conn.createStatement();
        query = "DELETE FROM cart WHERE UserName='" + customerName + "' AND
ItemName='" + title + "'";          stmt.executeUpdate(query);
    } catch(SQLException e) {
        System.err.println("Sorry failed to delete values from the database table. " + e.getMessage());
    }
  }
  public List<String> getContents() {
    try {          stmt = conn.createStatement();          query = "SELECT * FROM
cart WHERE UserName='" + customerName + "'";                    rs =
stmt.executeQuery(query);                                    while(rs.next()) {
contents.add(rs.getString("ItemName"));
```

```
            }
        } catch(SQLException e) {
            System.err.println("Sorry failed to select values from the database table. " + e.getMessage());
        }        return
contents;
    }
    @Remove()     public
void remove() {
contents = null;
    }
}
```

Step 3: creating a web client using index.jsp

Right click on wewb pages -> new -> JSP -> filename -> index -> finish.

```
<%@page import="java.util.Iterator, java.util.List, javax.naming.InitialContext,
ejb.ShoppingCart"%>
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<%!
    private static ShoppingCart cart;
    public void jspInit() {
        try {
            InitialContext ic = new InitialContext();            cart = (ShoppingCart)
ic.lookup("java:global/Prac6CShoppingCartApp/ShoppingCart");
        } catch (Exception ex) {
            System.out.println("Could not create cart bean." + ex.getMessage());
        }
    }
```

```
%>
<%
   if(request.getParameter("txtCustomerName") != null) {
cart.initialize(request.getParameter("txtCustomerName"));
   } else {
cart.initialize("Guest");
   }
   if (request.getParameter("btnRmvBook") != null) {
String books[] = request.getParameterValues("chkBook");
if (books != null) {            for (int i=0; i<books.length; i++) {
cart.removeBook(books[i]);
            }
        }
   }
   if (request.getParameter("btnAddBook") != null) {
String books[] = request.getParameterValues("chkBook");
if (books != null) {

            for (int i=0; i<books.length; i++) {
cart.addBook(books[i]);
            }
        }
   }
%>
<html>
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
```

```
    <title>Shopping Cart</title>
  </head>
  <body style="background-color: pink;">
    <h1 style="text-align: center;">Books For Sale</h1><br>
    <form method="post">
      Customer Name: <input type="text" name="txtCustomerName" value=<%=
request.getParameter("txtCustomerName")%> /><br>
        <b>Book Titles</b><br>
          <input type="checkbox" name="chkBook" value="Struts 2.0 For Beginners">Struts
2.0 For Beginners<br>
          <input type="checkbox" name="chkBook" value="Oracle 11g For
Professionals">Oracle 11g For Professionals<br>
          <input type="checkbox" name="chkBook" value="Hibernate 3 For
Beginners">Hibernate 3 For Beginners<br>
          <input type="checkbox" name="chkBook" value="Java Persistence API In EJB 3
For Beginners">Java Persistence API In EJB 3 For Beginners<br>
          <br>
          <input type='submit' value='Add To My Basket' name='btnAddBook'>
          <input type='submit' value='Remove From My Basket'
name='btnRmvBook'><br><br><br>
        <%
if(cart!=null)
        {
          out.print("<b>Basket</b><br>");
          List<String> bookList = cart.getContents();
Iterator iterator = bookList.iterator();          while
(iterator.hasNext())
          {
```

```
                String title = (String) iterator.next();

            %>

            <%= title %><br>

            <%

                }

            }

            %>

        </form>

    </body>

</html>
```

Step 4:

Create database and database table

Services -> create database -> cartdb ->select cartdb - > right click -> create table -> cart -> UserName varchar 35

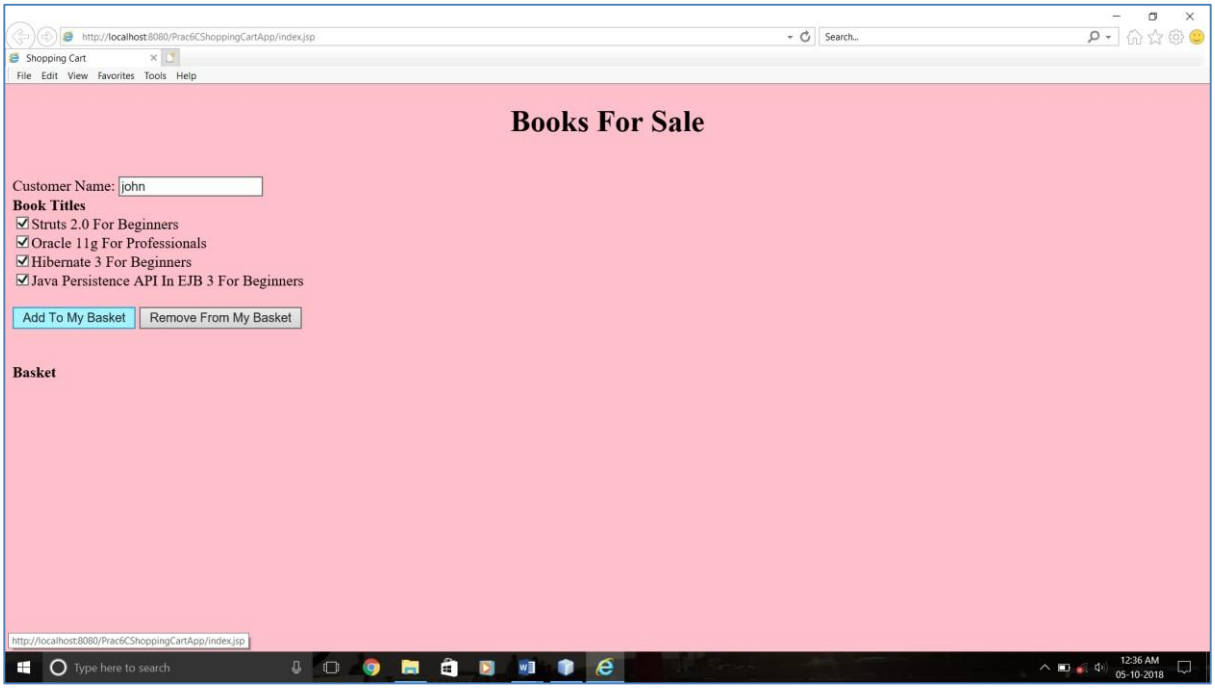
ItemName varchar 50 Finish.

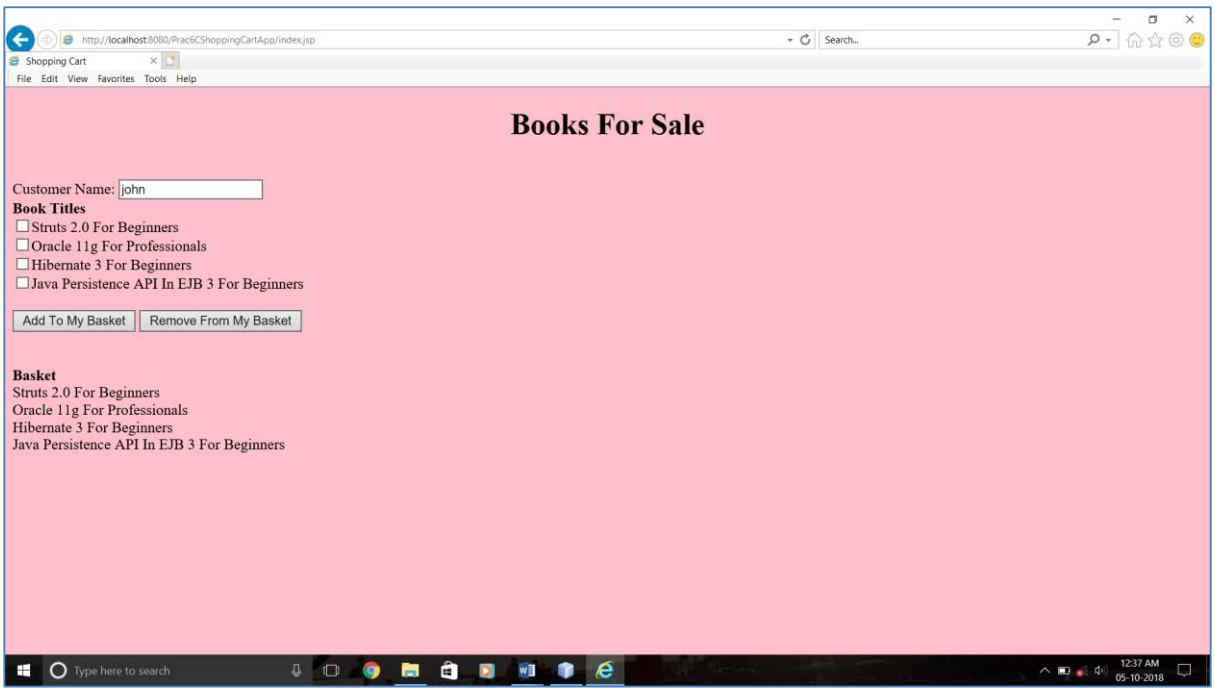
Step 5.

Add mysql connector to the library under project tab.

Step 6: build and run the application.

OUTPUT:


http://localhost:8080/Prac6CShoppingCartApp/index.jsp
Search...
Shopping Cart
File Edit View Favorites Tools Help
Books For Sale
Customer Name: john
Book Titles
Struts 2.0 For Beginners
Oracle 11g For Professionals
Hibernate 3 For Beginners
Java Persistence API In EJB 3 For Beginners
Add To My Basket
Remove From My Basket
Basket
Type here to search
12:36 AM
05-10-2018


http://localhost:8080/Prac6CShoppingCartApp/index.jsp
Search...
Shopping Cart
File Edit View Favorites Tools Help
Books For Sale
Customer Name: john
Book Titles
Struts 2.0 For Beginners
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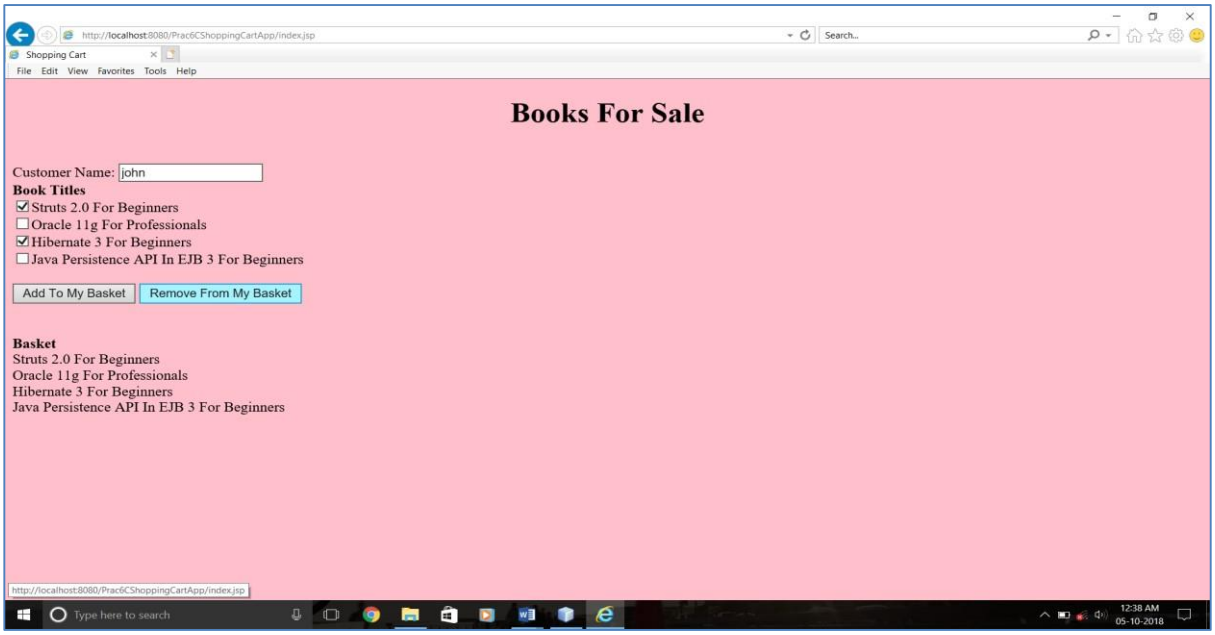
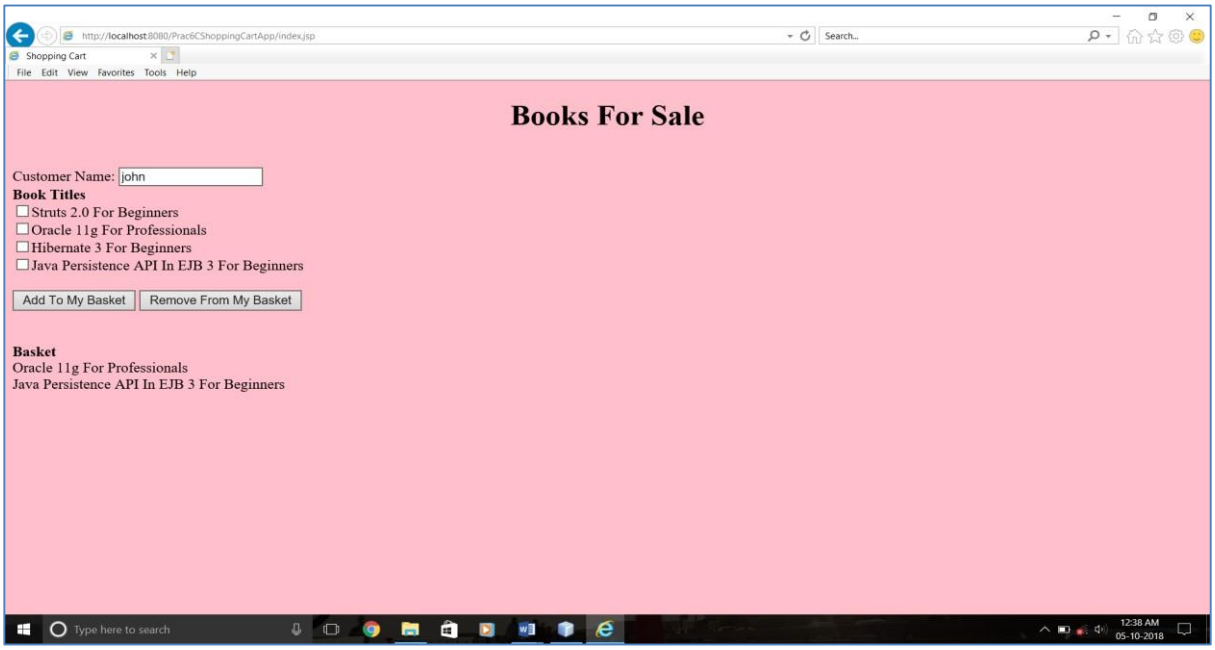




PRACTICAL 7

Q.7 a) Develop simple EJB application to demonstrate Servlet Hit count using Singleton Session Beans.

CODE:

Java Web-> web application -> Pract7AServletHitsSingltonApp -> finish.

Step 1: 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">
      <meta http-equiv="Refresh" content="0; URL=ServletClient">
   </head>
   <body>
      <div>TODO write content</div>
   </body>
</html>
```

Step2: Create a Session Bean named as CountServletHitsBean→ Select Singleton → package name as ejb (do not select Local or Remote)

```
package ejb; import
javax.ejb.Singleton;
@Singleton
public class CountServletHitsBean {
private int hitCount;
   public synchronized int getCount()
   {
   return hitCount++;
   }
}
```

Step 3: Create a Servlet File name ServletClient in the package name as servlet. Do not select the Deployment Discriptor file.

```
package servlet;
```

```
import ejb.CountServletHitsBean;
import java.io.*; import
javax.ejb.EJB;
import javax.servlet.ServletException; import
javax.servlet.annotation.WebServlet; import
javax.servlet.http.*;
@WebServlet(name = "ServletClient", urlPatterns = {"/ServletClient"}) public
class ServletClient extends HttpServlet {
@EJB CountServletHitsBean obj;
@Override
protected void service (HttpServletRequest req, HttpServletResponse res) throws ServletException,
IOException
{
   res.setContentType("text/html");                PrintWriter    out=res.getWriter();
out.print("<b>Number of times this Servlet is accessed </b>: "+obj.getCount());
}
}
```

OUTPUT:

Q.7 b) Develop simple visitor Statistics application using Message Driven Bean [Stateless Session Bean].

CODE:

Web-> web application -> Pract7BVisitorStatisticsMDBApp -> select dedicated folders for storing libraries -> finish.

Step 1: index.jsp

```
<%@page import="javax.jms.JMSException"%>
<%@page import="javax.naming.InitialContext"%>
<%@page import="javax.jms.Connection"%>
<%@page import="javax.jms.TextMessage"%>
<%@page import="javax.jms.MessageProducer"%>
<%@page import="javax.jms.Session"%>
<%@page import="javax.jms.Queue"%>
<%@page import="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>JSP Page</title>
   </head>
   <body>
      Welcome to My Home Page
      <%
try{
         InitialContext ic= new InitialContext();          queue=
(Queue)ic.lookup("jms/Queue");
connectionFactory=(ConnectionFactory)ic.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 Occoured "+e.toString());
    }
    %>
  </body>
</html>
```

Step2: Create a Database name visitorstat → Create table name → userstat → column names
Firstvisitdt – timestamp
Hostname – varchar 30 Primary Key
Visits – int

Step3: Create a Session Bean named as VisitorStatBean → Select Stateless → package name as ejb, do not select Local / Remote

```
package ejb; import java.sql.*; 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 st=null; private
String query =null;
@PostConstruct public void
connect()
{   try
{
    Class.forName("com.mysql.jdbc.Driver").newInstance();
    conn=DriverManager.getConnection("jdbc:mysql://localhost/visitorstat", "root", "tiger");
  }
  catch (Exception e) {
    System.err.println(e.getMessage());
  }
}

@PreDestroy public
void disconnect()
{   try
{
```

```
        conn.close();
    } catch (Exception e) {
         System.err.println(e.getMessage());
    }
} public void addVisitor(String
host)
{    try {       st= conn.createStatement();  query="insert into userstat
(hostname,visits) values ('"+host+"','1')";  st.executeUpdate(query);
    }
    catch (SQLException e)
    {       try {           st=conn.createStatement(); query="update userstat
set       visits=visits+1       where       hostname='"+host+"'       ";
st.executeUpdate(query);

        }
        catch (SQLException ex) {
                System.err.println("Cannot Update"+e.getMessage());
        }

    }
}

}
```

Step 4: Right click on Source Packages → Select New→ Other→ Enterprise Java Bean → MessageDrivenBean → EJB Name: BasicMessageBean →Package: ejb→ Select Project Destination → Click on Add Button → Destination Name: jms/Queue → Destination Type select the option Queue→ click on OK→ Click on Next → Activation Configuration Properties should be as it is. → Click on Finish

```
package ejb;
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
```

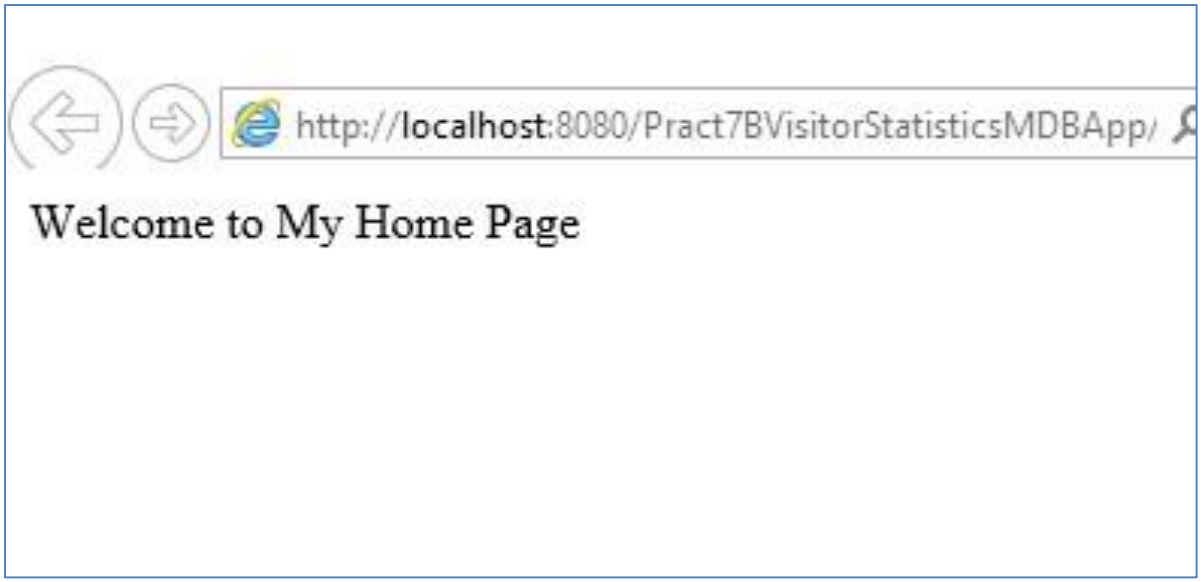
```
javax.jms.MessageListener; import
javax.jms.TextMessage;

@MessageDriven(activationConfig = {
   @ActivationConfigProperty(propertyName = "destinationLookup", propertyValue = "jms/Queue"),
   @ActivationConfigProperty(propertyName = "destinationType", propertyValue =
"javax.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();
      }
   }

}
```

Step 5:
Before deploying and running the application, Glassfish Server setting is required.
Browse the path:
Localhost:4848 on any browser.
Find Resources -> connectors -> Connector Resources double click on Connector Resources -> click on 'New' Button -> write JNDI name as -> jms/QueryFactory.

Find Admin Object Resources and double click on that -> click on 'New' Button -> write JNDI name as -> jms/Queue.

Now run index.jsp file.

OUTPUT:



Q.7 c) Develop simple Marks Entry Application to demonstrate accessing Database using EJB.

CODE:

Step 1:

Create web application as pract7CMarksApp.

Step 2:

Create database marksdb Step

3:

Create tables marks in marksdb database as:

create table marks (id int primary key auto_increment, sname varchar(35), marks1 int, marks2 int, marks3 int); step 4: **index.jsp**

```
<%@page import="ejb.MarksEntryBean"%>

<%@page import="javax.naming.InitialContext"%>

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

<!DOCTYPE html>

<%!

private static MarksEntryBean  obj; public

void jspInit()

{

   try

     {

      InitialContext ic=new InitialContext();

obj=(MarksEntryBean)ic.lookup("java:global/Pract7CMarksApp/MarksEntryBean");

   }

   catch(Exception e)

   {

       System.out.println(e);

   }

}

%>

<%

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

     {

         String sname;          int marks1, marks2, marks3;

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

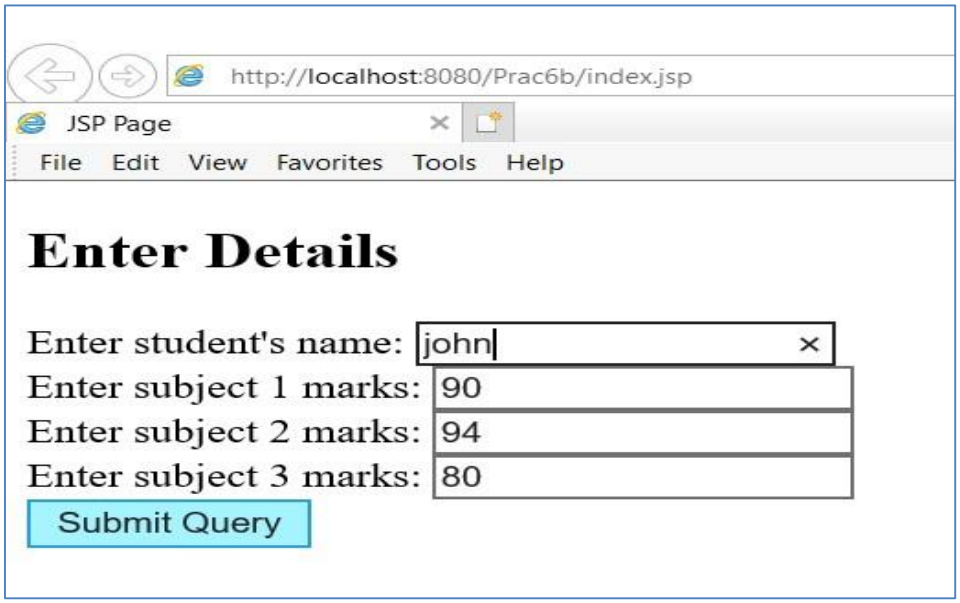
```
marks1=Integer.parseInt(request.getParameter("m1"));

marks2=Integer.parseInt(request.getParameter("m2"));

marks3=Integer.parseInt(request.getParameter("m3"));

obj.addMarks(sname,marks1,marks2,marks3);

out.print("Marks entered successfully..!!!!");

    }

%>

<html>

  <head>

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

    <title>JSP Page</title>

  </head>

  <body>

    <h2>Enter Details</h2>

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

      Enter student's name: <input type='text' name="sname" /><br>

      Enter subject 1 marks: <input type='text' name="m1" /><br>

      Enter subject 2 marks: <input type='text' name="m2" /><br>

      Enter subject 3 marks: <input type='text' name="m3" /><br>

      <input type='submit' name="InsertMarks" /><br>

    </form>

  </body>

</html>
```

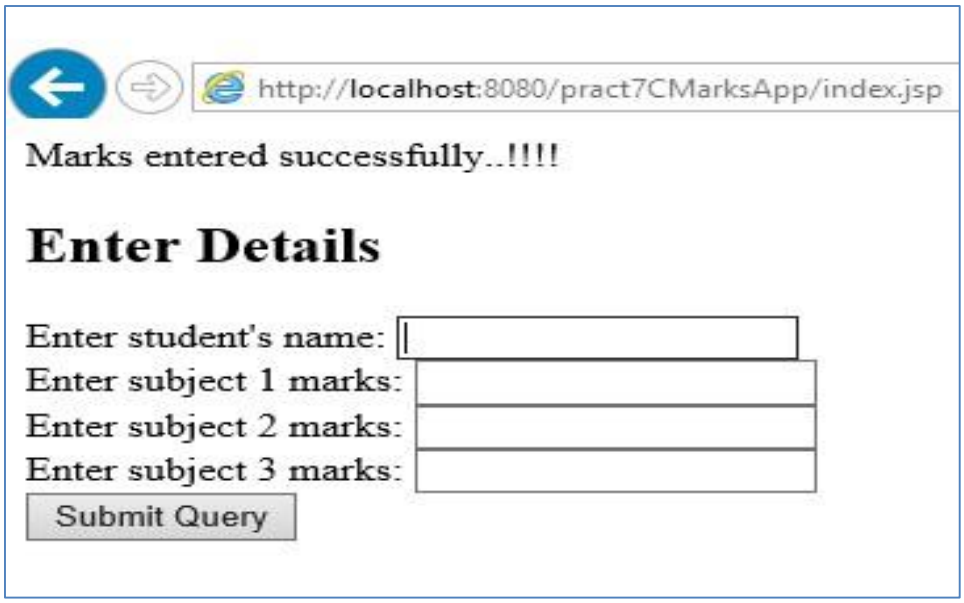
Step 4:

create stateful java bean as select source package -> session bean -> class name -> MarksEntryBean -> package -> ejb -> bean type-> stateful -> don't select Local / Remote -> finish. package ejb; import java.sql.*; import javax.ejb.Stateful;

```
@Stateful public class
MarksEntryBean { String
sname; int m1,m2,m3;
Connection con=null;
Statement st=null; String query=""; public void
addMarks(String sname,int m1,int m2,int m3)
{
   try
   {
       Class.forName("com.mysql.jdbc.Driver");
con=DriverManager.getConnection("jdbc:mysql://localhost:3306/marksdb", "root","tiger");
st=con.createStatement();

       query="insert into marks (sname,marks1,marks2,marks3) values
("'+sname+"','"+m1+"','"+m2+"','"+m3+"')";
st.executeUpdate(query);
       System.out.print("Marks entered sucessfully!!");
   }
   catch(Exception e){System.out.println(e);}
}
}
```

OUTPUT:





PRACTICAL 9

Q.9 a) Develop a JPA Application to demonstrate use of ORM associations.

CODE:

index.html

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

```
 User Details <hr><br><br>
<form action="userview.jsp" >
        Name <input type="text" name="uname" maxlength="20"><br>
        User Type <input type="text" name="utype" maxlength="20">
<br><input type="submit" value="submit">
</form>

   </body>
</html>
```

userview.jsp

```
<%@page import="java.util.List"%>
<%@page import="java.util.Iterator"%>
<%@page import="hibernate.User"%> <%!
 SessionFactory              sf;
org.hibernate.Session       ss;
List<hibernate.User> User;
%>
<%
 sf = new Configuration().configure().buildSessionFactory();
ss= sf.openSession();     Transaction tx=null;   User ur=new
User();   try
 {
 tx=ss.beginTransaction();
 String uname=request.getParameter("uname");
String utype=request.getParameter("utype");
ur.setUname(uname);

ur.setUtype(utype);
ss.save(ur);       tx.commit();

 }

catch(Exception e){ out.println("Error"+e.getMessage());
}
    try

{
ss.beginTransaction();
```

```
 User=ss.createQuery("from User").list();
 }

 catch(Exception e){ }

%>
<html> <head>
<title>Guest View</title>
</head>
<body>
 Guest View
 Click here to go <a href="index.html"> BACK </a>
<br><br>

<%
 Iterator it=User.iterator();

 while(it.hasNext())

 {

 User                eachrecord=(User)it.next();
out.print(eachrecord.getUid()+"                ");
out.print(eachrecord.getUname()+"<br>");
out.print(eachrecord.getUtype()+"<br><hr>");
  }
  %>
</body>
</html>
```

hibernate.revenge.xml

```
<hibernate-reverse-engineering>
<schema-selection match-catalog="userdb"/>
<table-filter match-name="user"/>
</hibernate-reverse-engineering>
```

hibernate.cfg.xml

```
<hibernate-configuration>
<session-factory>
```

```
<property name="hibernate.dialect">org.hibernate.dialect.MySQLDialect</property> <property
name="hibernate.dialect">org.hibernate.dialect.MySQLDialect</property>
<property
name="hibernate.connection.url">jdbc:mysql://localhost:3306/userdb?zeroDateTimeBehavior=conve
rtToNull</property>
<property name="hibernate.connection.username">root</property>
<property name="hibernate.connection.password">tiger</property>
</session-factory>
</hibernate-configuration>
```

User.hbm.xml

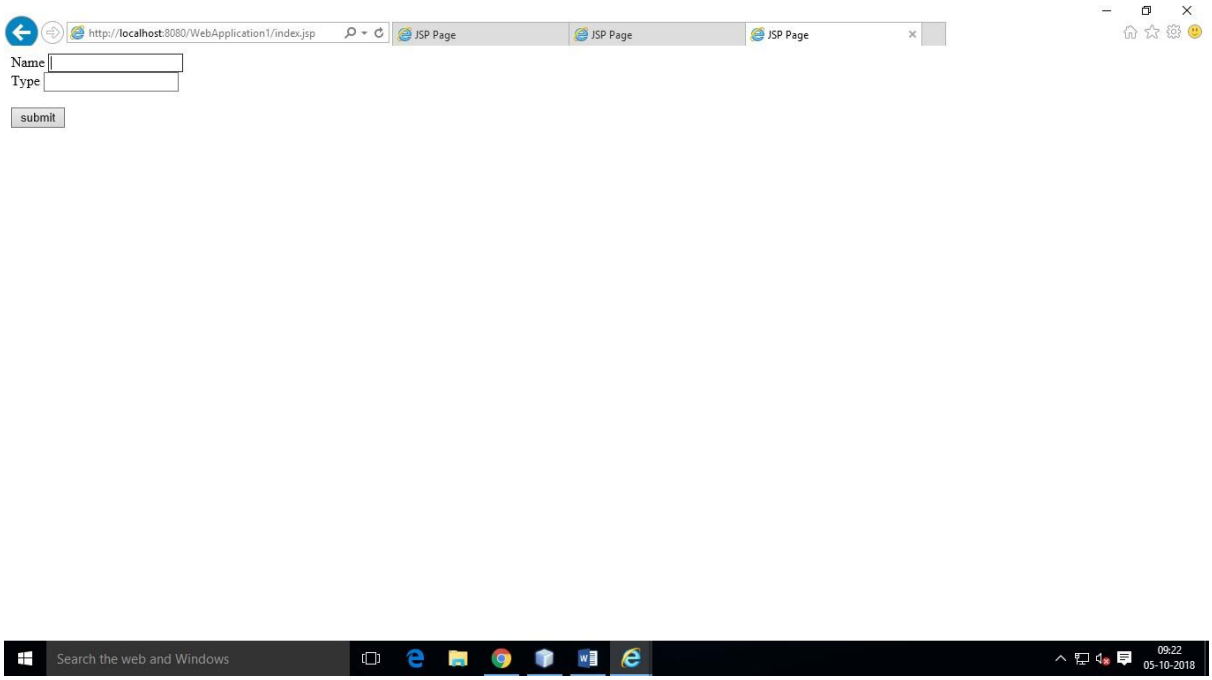
```
<hibernate-mapping>
<class optimistic-lock="version" catalog="userdb" table="user" name="hibernate.User">
<id name="uid" type="java.lang.Integer">
<column name="uid"/>
<generator class="identity"/>
</id>
<property name="uname" type="string">
<column name="uname" length="20"/>
</property>
<property name="utype" type="string">
<column name="utype" length="100"/>
</property>
</class>
</hibernate-mapping>
```

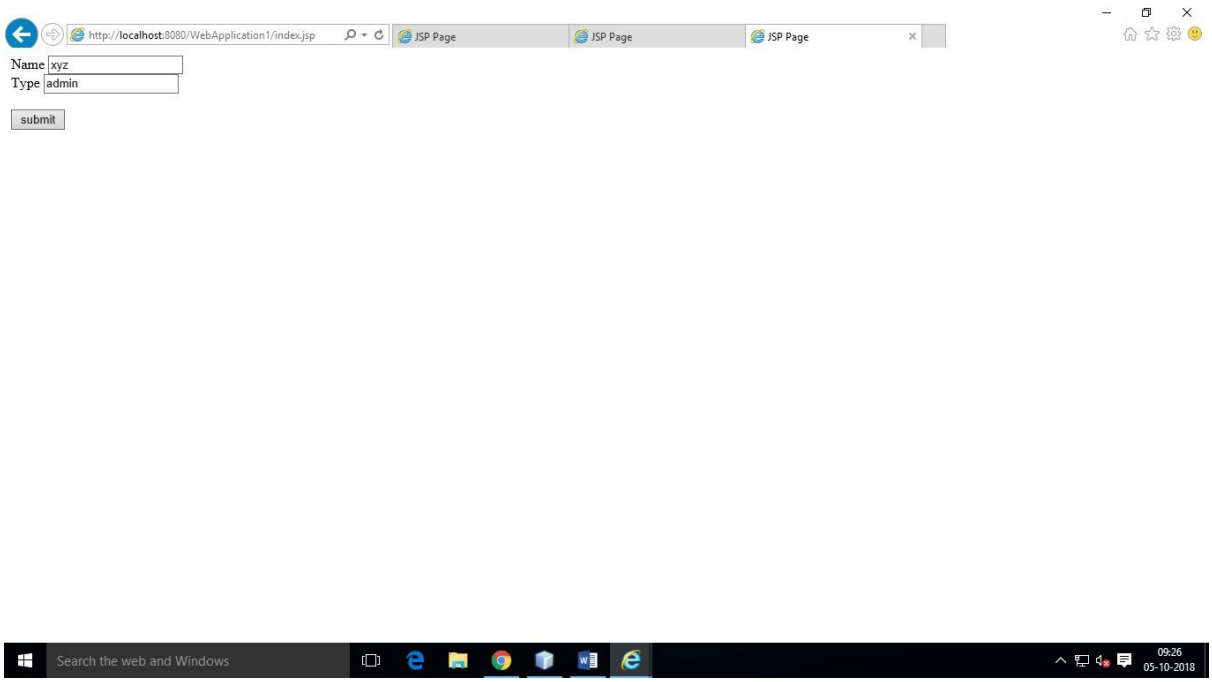
User.java package

```
hibernate;
public class User  implements java.io.Serializable {
private Integer uid;   private String uname;   private
String utype;  public User() {    }     public
User(String uname, String utype) {      this.uname
= uname;      this.utype = utype;
}
public Integer getUid() {

  return this.uid;
```

```
} public void setUid(Integer uid)
{

this.uid = uid;

}   public String
getUname()
{ return
this.uname;
 }
public void setUname(String uname)
{
 this.uname = uname;
 } public String
getUtype()
 {
   return this.utype;
  }

public void setUtype(String utype)
{
this.utype = utype;
}
}
```

OUTPUT:


http://localhost:8080/WebApplication1/index.jsp
JSP Page
JSP Page
JSP Page
Name
Type
submit
Search the web and Windows
09:22
05-10-2018


http://localhost:8080/WebApplication1/index.jsp
JSP Page
JSP Page
JSP Page
Name xyz
Type admin
submit
Search the web and Windows
09:26
05-10-2018

Q.9 b) Develop a Hibernate application to store Feedback of Website Visitor in MySQL Database.

Hibernate – Feedback of Website Visitor (on index paper)

Step 1: MySql Command:-

Select Services -> right click on database -> connect -> password -> ok ->again right click on database -> create database -> db -> ok.
Expand db -> Select and right click table -> click on Execute command -> Create table guestbook (no int primary key auto_increment, name varchar(20), msg varchar(100), dt varchar(40));

Step 2: Create a Hibernate Project :-

File -> New Project -> Java Web -> Web application - > Next -> give the project name -> browse the location as required -> select the checkbox – "dedicated folder for storing libraries" -> Next

Select glassfish server -> next

Select frame work - hibernate -> select the respective database connection -> finish.

Step 3: Adding Reverse Engineering File :-

Right click on Project -> new -> other -> select Hibernate -> Hibernate Reverse Engineering wizard file type -> next -> file name (hibernate.reveng) , folder -> click on browse and select src->java -> next -> select guestbook table name from the available tables option -> click add (select the checkbox – include related files) -> finish.

Step 4: Adding Hibernate mapping files and POJOs from Database file type:-

Right click on Project -> new -> other -> select Hibernate -> Hibernate mapping files and POJOs from Database file type) -> next -> keep the default configuration file name file name (hibernate.cfg) and Hibernate Reverse Engineering File (hibernate.reveng) -> type the package name (hibernate) -> finish.

Step 5: Creating JSP File :-

Right click on project -> new -> JSP -> filename -> guestbookview -> select radiobutton -> JSP file (Standard syntax) -> Finish.

CODE:

File name - Guestbook.java

```
package hibernate; public
class Guestbook implements java.io.Serializable {
private Integer no; private String name; private String
msg; private String dt; public Guestbook() {
}
public Guestbook(String name, String msg, String dt) {
this.name = name; this.msg = msg; this.dt = dt;
}
public Integer getNo() {
return this.no;
}

public void setNo(Integer no) {
this.no = no;
}
public String getName() {
return this.name;
```

```
    }
    public void setName(String name) {
        this.name = name;
    }
    public String getMsg() {
return this.msg;
    }
    public void setMsg(String msg) {
this.msg = msg;
    }
    public String getDt() {
return this.dt;
    }
   public void setDt(String dt) {
this.dt = dt;
    }
}
```

File name - <u>hibernate.cfg.xml</u>

```
<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/db</property>
<property name="hibernate.connection.username">root</property>
<property name="hibernate.connection.password">tiger</property>
```

```
<mapping resource="hibernate/Guestbook.hbm.xml"/>
</session-factory>
</hibernate-configuration>
```

File name - Guestbook.hbm.xml

```
<hibernate-mapping>
<class name="hibernate.Guestbook" table="guestbook" catalog="db">
<id name="no" type="java.lang.Integer">
<column name="no" />
<generator class="identity" />
</id>
<property name="name" type="string">
<column name="name" length="20" />
</property>
<property name="msg" type="string">
<column name="msg" length="100" />
</property>
<property name="dt" type="string">
<column name="dt" length="40" />
</property>
</class>
</hibernate-mapping>
```

File name - index.jsp

```
<html>
<head>
<title>Guest Book</title>
```

```
</head>
<body>
Guest Book <hr><br><br>
<form action="guestbookview.jsp" >
        Name <input type="text" name="name" maxlength="20"><br>
        Message <textarea rows="5" cols="40" maxlength="100" name="msg"></textarea>
<br><input type="submit" value="submit">
</form>
</body>
</html>
```

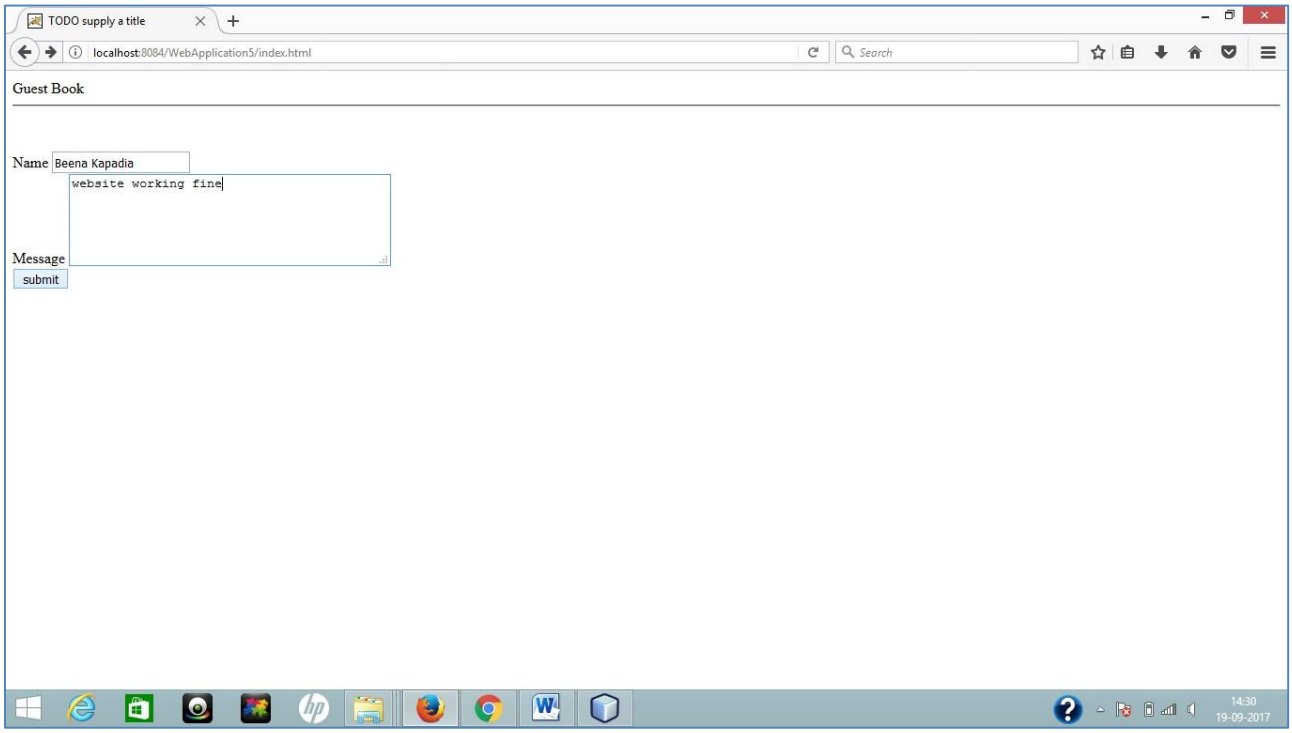
File name - guestbookview.jsp

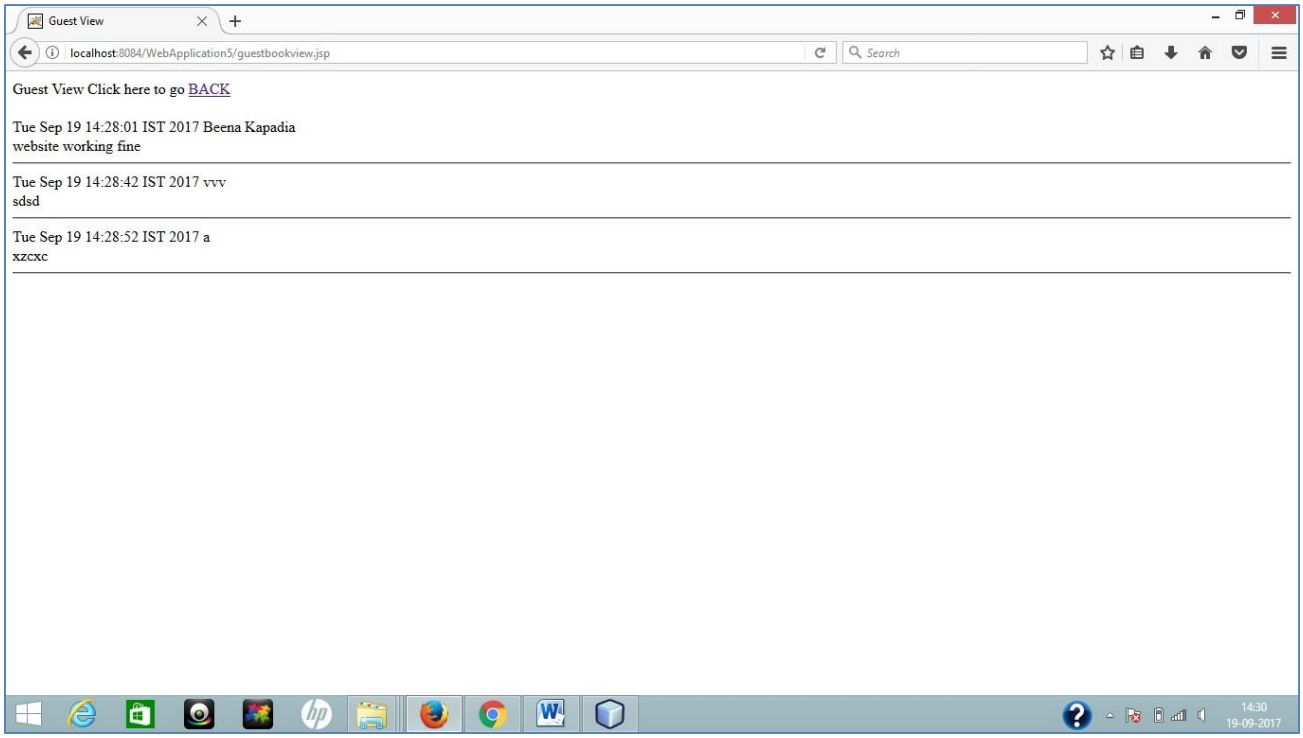
```
<%@page import="org.hibernate.SessionFactory"%>
<%@page import="org.hibernate.Session"%>
<%@page import="org.hibernate.cfg.Configuration"%>
<%@page import="org.hibernate.Transaction"%>
<%@page import="java.util.List"%>
<%@page import="java.util.Iterator"%> <%@page
import="hibernate.Guestbook"%>
<%!
  SessionFactory sf;
org.hibernate.Session ss;
  List<hibernate.Guestbook> gbook;
%>
<%
```

```
    sf = new Configuration().configure().buildSessionFactory();
ss= sf.openSession();     Transaction tx=null;
    Guestbook gb=new Guestbook();
    try
    {
        tx=ss.beginTransaction();
        String name=request.getParameter("name");
        String
msg=request.getParameter("msg");
String dt=new java.util.Date().toString();
gb.setName(name);         gb.setMsg(msg);
gb.setDt(dt);         ss.save(gb);
tx.commit();
    }
    catch(Exception e){ out.println("Error"+e.getMessage()); }
    try
    {   ss.beginTransaction();
gbook=ss.createQuery("from Guestbook").list();
    }
    catch(Exception e){ }
%>
<html>
<head>
<title>Guest View</title>
</head>
<body>
```

```
        Guest View

        Click here to go <a href="index.jsp"> BACK </a>

    <br><br>

    <%     Iterator it=gbook.iterator();

    while(it.hasNext())

            {

              Guestbook eachrecord=(Guestbook)it.next();

    out.print(eachrecord.getDt()+"                              ");

    out.print(eachrecord.getName()+"<br>");

    out.print(eachrecord.getMsg()+"<br><hr>");

            }

        %>

    </body>

    </html>
```

OUTPUT:




Guest View
localhost:8084/WebApplication5/guestbookview.jsp
Search
Guest View Click here to go BACK
Tue Sep 19 14:28:01 IST 2017 Beena Kapadia
website working fine
Tue Sep 19 14:28:42 IST 2017 vvv
sdsd
Tue Sep 19 14:28:52 IST 2017 a
xzcxc
14:30
19-09-2017

Q.9 c) Develop a Hibernate application to store and retrieve employee details in MySQL Database.

CODE:

index.html

```
<html>
<head>
<title>Employee Details</title>
</head>
<body>
Employee Details <hr><br><br>
<form action="empview.jsp" >
        Name <input type="text" name="name" maxlength="20"><br>
        Salary <input type="text" name="salary" maxlength="20"><br>
        Designation <input type="text" name="designation" maxlength="20">
<br><input type="submit" value="submit">
</form>
</body>
</html>
```

empview.jsp

```
<%@page import="org.hibernate.SessionFactory"%>
<%@page import="org.hibernate.Session"%>
<%@page import="org.hibernate.cfg.Configuration"%>
<%@page import="org.hibernate.Transaction"%>
<%@page import="java.util.List"%>
<%@page import="java.util.Iterator"%>
<%@page import="hibernate.Emp"%>

<%!
 SessionFactory                sf;
org.hibernate.Session         ss;
List<hibernate.Emp> Emplist;
%>

<%    sf = new
Configuration().configure().buildSessionFactory();
```

```
ss= sf.openSession();
Transaction   tx=null;
Emp em=new Emp();
try
{
tx=ss.beginTransaction();
String Name=request.getParameter("name");
String Salary=request.getParameter("salary");
String Designation=request.getParameter("designation");
System.out.print("Name....."+Name+" "+Salary+" "+Designation);
em.setName(Name);

em.setSalary(Salary);
em.setDesignation(Designation);
System.out.print("set done.....");
ss.save(em);
System.out.print("save done.....");
tx.commit();
System.out.print("commit done.....");
}

catch(Exception e){ out.println("Error"+e.getMessage()); }

try
{
ss.beginTransaction();
Emplist=ss.createQuery("from Emp").list();
}

catch(Exception e){ }

%>

<html>
<head>
<title>Employee View</title>
</head>
<body>
```

Employee View

```
Click here to go <a href="index.html"> BACK </a>
<br><br>

<%
Iterator it=Emplist.iterator();          while(it.hasNext())
{
Emp eachrecord=(Emp)it.next(); out.print(eachrecord.getName()+"<br>");
out.print(eachrecord.getSalary()+"<br><hr>");
out.print(eachrecord.getDesignation()+"<br><hr>");
}
%>
```

hibernate.revenge.xml

```
<hibernate-reverse-engineering>
<schema-selection match-catalog="employeedb"/>
<table-filter match-name="emp"/>
</hibernate-reverse-engineering>
```

hibernate1.cfg.xml

```
<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/employeedb?zeroDateTimeBehavior=
c onvertToNull</property>
<property name="hibernate.connection.username">root</property>
<property name="hibernate.connection.password">tiger</property>
</session-factory>
</hibernate-configuration>
```

Emp.hbm.xml

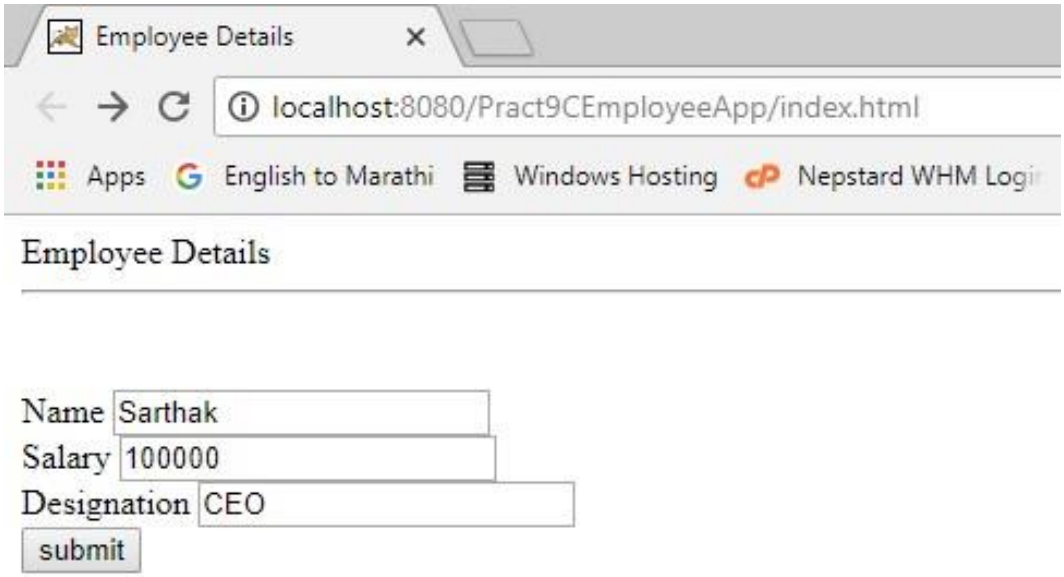
```
<hibernate-mapping>
<class optimistic-lock="version" catalog="employeedb" table="emp" ame="hibernate.Emp">
<id name="id" type="java.lang.Integer">
<column name="id"/>
<generator class="identity"/>
</id>
<property name="name" type="string">
<column name="name" length="20"/>
</property>
<property name="salary" type="string">
<column name="salary" length="20"/>
</property>
<property name="designation" type="string">
<column name="designation" length="20"/>
</property>
</class>
</hibernate-mapping>
```

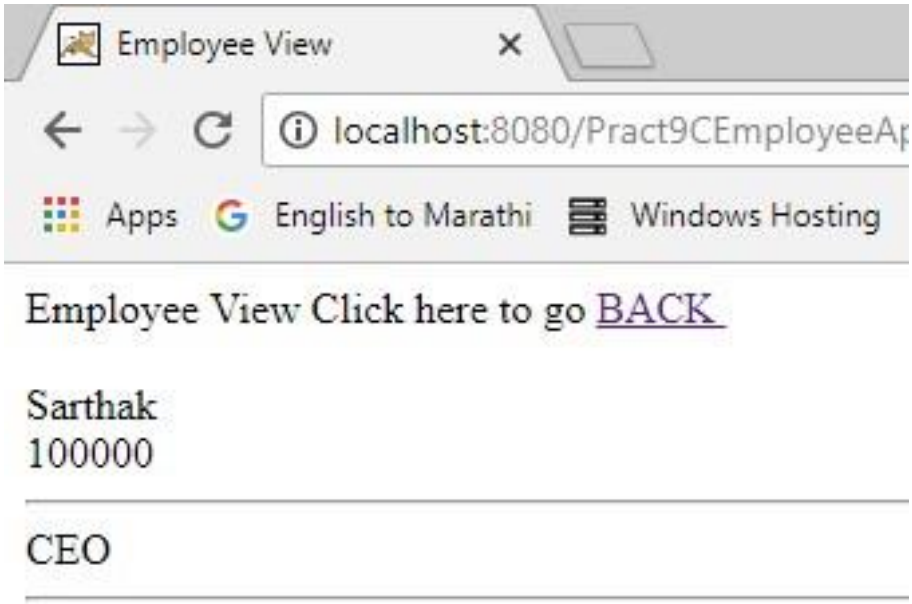
Emp.java

```
package hibernate; public class Emp  implements
java.io.Serializable { private Integer id;   private
String name;  private String salary; private String
designation;  public Emp() { }
public Emp(String name, String salary, String designation)
{       this.name = name;   this.salary = salary;
this.designation = designation;
}
public Integer getId() { return
this.id;
} public void setId(Integer id)
{ this.id = id;
}
public String getName() {  return
this.name;
} public void setName(String name)
{ this.name = name;
```

```
} public String getSalary()
{ return this.salary;
}
public void setSalary(String salary) { this.salary
= salary;
} public String getDesignation()
{ return this.designation;
} public void setDesignation(String designation)
{ this.designation = designation;
}
}
```

OUTPUT:




Employee View
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Sarthak
100000
CEO