Practical 1   Aim: To Perform Arithmetic Operation Using Servlet.

Index.html

```
<html><head><title>Calculator App</title></head><body>
<form action="CalculatorServlet">
        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="+">ADDITION
<input type="radio" name="opr" value="-">SUBTRACTION
<input type="radio" name="opr" value="*">MULTIPLICATION
<input type="radio" name="opr" value="/">DIVIDE<br>
<input type="reset">
<input type="submit" value="Calculate">
</form></body></html>
```
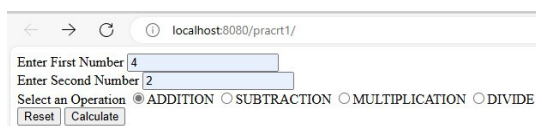
CalculatorServlet.java

```
package mypack;
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest; import
javax.servlet.http.HttpServletResponse; public class
CalculatorServlet extends HttpServlet {
public void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException
{ response.setContentType("text/html;charset=UTF-8");
PrintWriter out = response.getWriter();
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;
out.println("Result = "+result);
out.println("</body></html>");}}
```

Output:

_____

Practical 2   Aim : To validate a user by Name and

PasswordIndex.html

```
<html><head><title>Login Form</title></head>
<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></html>
```
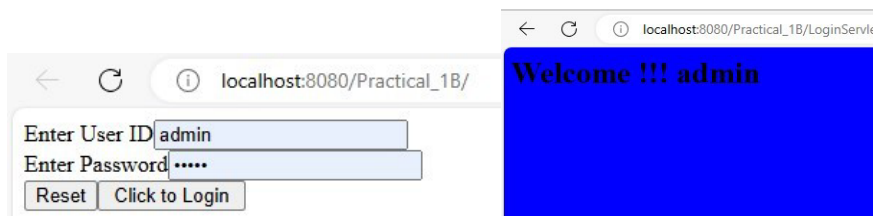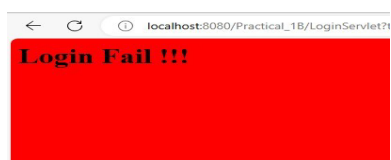
LoginServlet.java

```
package mypack;
import java.io.*;
import javax.servlet.ServletException;import
javax.servlet.http.*;
public class LoginServlet extends HttpServlet {
public void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException
{ response.setContentType("text/html;charset=UTF-8");
PrintWriter out = response.getWriter(); out.println("<html><head><title>Servlet
LoginServlet</title></head>"); String uname = request.getParameter("txtId");
String upass = request.getParameter("txtPass");
if(uname.equals("admin")
&&upass.equals("12345")){ out.println("<body bgcolor=blue
 >"); out.println("<h1> Welcome !!! "+uname+"</h1>");
}
else{ out.println("<body bgcolor=red >");out.println("<h1> Login Fail !!! </h1>"); }out.println("</body></html>");}}
```

Output:

If password incorrect then output is:

Practical 3   Aim: Display implicit object

by JSPNewjsp.jsp

```
<%@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>
```
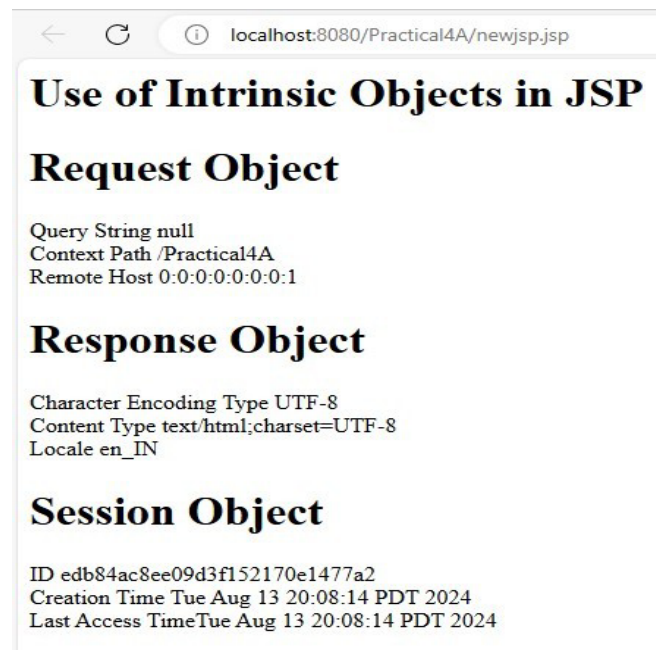
Output:

Practical 4 Aim: To find number times user visited the page

Index.html

```
<html>
<head><title>Cookie Demo</title></head>
<body>
<form action="Page1" >
Enter Your Name <input type="text" name="txtName"><br>
<input type="submit" value="~~~ Click to Enter ~~~">
</form>
</body>
</html>
```
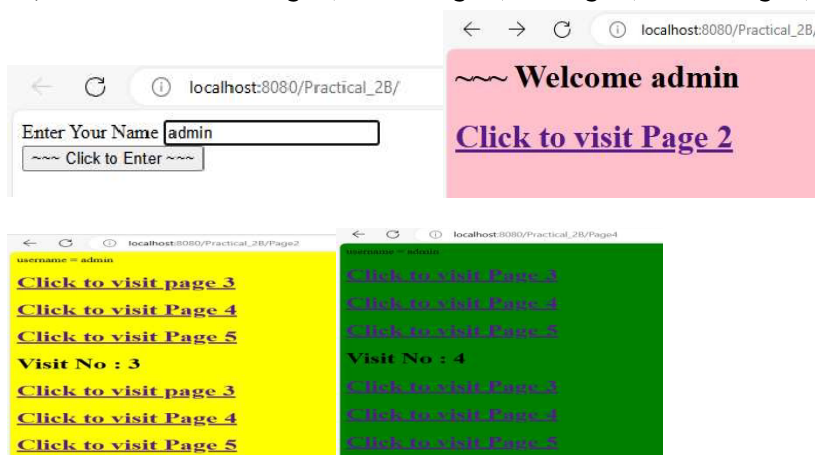
Page 1.java

```
package mypack;
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest; import
javax.servlet.http.HttpServletResponse;import
javax.servlet.http.Cookie;
public class Page1 extends HttpServlet {
public void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException
{ response.setContentType("text/html;charset=UTF-8");
PrintWriter out = response.getWriter();
out.println("<html><head><title>Page1</title></head>");
out.println("<body bgcolor=pink >");
String uname = request.getParameter("txtName");
out.println("<h1>~~~ Welcome "+uname+"</h1>");Cookie
ck1 = new Cookie("username", uname);
Cookie ck2 = new Cookie("visit","1");
response.addCookie(ck1); response.addCookie(ck2);
out.println("<h1><a href=Page2 >Click to visit Page 2 </a></h1>");
out.println("</body>");
out.println("</html>");
}
}
```

Page 2.java

```java
package mypack;
import java.io.*;
import javax.servlet.ServletException;import
javax.servlet.http.*;
public class Page2 extends HttpServlet {
    public void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException
{ response.setContentType("text/html;charset=UTF-8");
PrintWriter out = response.getWriter();
out.println("<html><head><title>Page2</title></head>");
out.println("<body bgcolor=yellow >");
Cookie [] ck = request.getCookies();
for(int
i=0;i<ck.length;i++){ if(ck[i].getName().e
quals("visit")){
int count = Integer.parseInt(ck[i].getValue())+1;
out.println("<h1>Visit No : "+count+"</h1>"); ck[i] =
new Cookie("visit",count+"");
response.addCookie(ck[i]); }
else {
out.println(ck[i].getName()+ " = "+ck[i].getValue());               }
out.println("<h1><a href=page3 >Click to visit page 3 </a></h1>");
out.println("<h1><a href=Page4 >Click to visit Page 4 </a></h1>");
out.println("<h1><a href=Page5 >Click to visit Page 5 </a></h1>");
out.println("</body>");
out.println("</html>");
} }}
```

Repeat the code from Page2.java for Page3.java, Page4.java and Page5.java with relevant changesOUTPUT:

Practical 5   Aim: To update SQL table by JSP page

Index.html

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

UpdateEmp.java

```
<%@page contentType="text/html" import="java.sql.*" %>
<html><body>
<h1>Employee Record Update</h1>
<%
 String eno=request.getParameter("txtEno"); String
 name=request.getParameter("txtName");String age
 = request.getParameter("txtAge"); String sal =
 request.getParameter("txtSal");
 try{ Class.forName("com.mysql.jdbc.Driver");
 Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/emp?useSSL=false","root","Swapnil"); PreparedStatement
 stmt = con.prepareStatement("select * from emp where empid=?"); stmt.setString(1, eno);
 ResultSet rs = stmt.executeQuery();
 if(rs.next()){
 out.println("<h1>~ ~ ~ Employee "+name+" Exist ~ ~ ~ </h1>");
 PreparedStatement pst1= con.prepareStatement("update emp set salary=? where empid=?");
 PreparedStatement pst2= con.prepareStatement("update emp set age=? where empid=?");
 pst1.setString(1, sal); pst1.setString(2, eno);
 pst2.setString(1, age); pst2.setString(2, eno);
 pst1.executeUpdate(); pst2.executeUpdate();
 }
 else{
 out.println("<h1>Employee Record not exist !!!!!</h1>");}
 }catch(Exception e){out.println(e);}
%></body></html>
```

Output:

SELECT * FROM emp.emp LIM... ×				
Max. rows: 100	Fetched Rows: 4			Matching Rows:
#	empid	ename	salary	age
1	1	aaa	221234	11
2	2	bbb	334567	22
3	3	ccc	55555	57
4	4	ddd	55123	44

SELECT * FROM emp.emp LIM... ×				
Max. rows: 100	Fetched Rows: 4			
#	empid	ename	salary	age
1	1	aaa	360000	26
2	2	bbb	334567	22
3	3	ccc	120000	57
4	4	ddd	55123	44

Practical 6   Aim : Currency Converter Program

Index.html:

```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" >Dollor to Rupees<br>
<input type="reset" ><input type="submit" value="CONVERT" >
</form>
</body>
</html>
```

CCServlet.java:

```java
package mypack;
import java.io.*; import
javax.servlet.*;
import javax.servlet.http.*;
import javax.ejb.EJB; import
mybeans.CCBean;
public class CCServlet extends HttpServlet
{@EJB CCBean 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.r2Dollor(amt)+" Dollors</h1>");}
if(request.getParameter("type").equals("d2r")){
out.println("<h1>"+amt+ " Dollors = "+obj.d2Rupees(amt)+" Rupees</h1>");}}}
```

CCBean.java:

```java
package mybeans;
import javax.ejb.Stateless;
@Stateless
public class CCBean
{public CCBean(){}
public double r2Dollor(double r){ return r/65.65; } public
double d2Rupees(double d){ return d*65.65; }}
```

OUTPUT:

← → C ⓘ localhost:8080/Practical_6A/

Enter Amount [100]
Select Conversion Type ◉ Rupees to Dollar ○ Dollor to Rupees
[Reset] [CONVERT]

← C ⓘ localhost:8080/Practical_6A/CCServlet?amt=100&type=r2d

100.0 Rupees = 1.523229246001523 Dollors

Practical 7   Aim: Use of Request dispatcher to welcome user

Index.html:

```html
<html><head><title>Login Form</title></head>
<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>
</html>
```

LoginServlet.java

```java
package mypack;
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;import
javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.RequestDispatcher;
public class LoginServlet extends HttpServlet {
public void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException
{ response.setContentType("text/html;charset=UTF-8");
PrintWriter out = response.getWriter();
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")){
RequestDispatcherrd = request.getRequestDispatcher("WelcomeServlet");
rd.forward(request, response);
 }
else{
out.println("<body bgcolor=red >");
out.println("<h1> Login Fail !!! </h1>");
RequestDispatcherrd = request.getRequestDispatcher("index.html");
rd.include(request, response); }
out.println("</body>");
out.println("</html>");}}
```
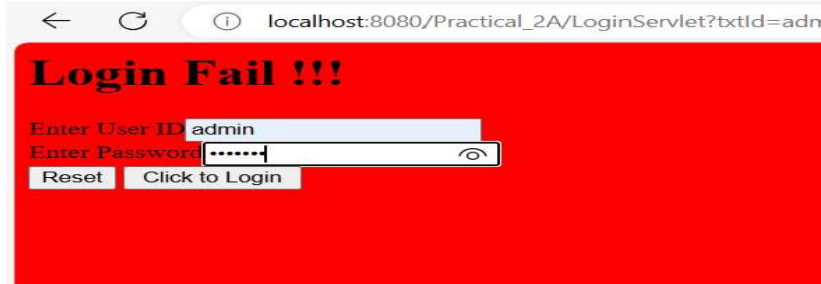

WelcomeServlet.java

```
package mypack;
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;import
javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.RequestDispatcher;
public class WelcomeServlet extends HttpServlet {
public void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException
{ response.setContentType("text/html;charset=UTF-8");
PrintWriter out = response.getWriter();
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"))
 {
RequestDispatcherrd = request.getRequestDispatcher("LoginServlet");
rd.forward(request, response); }
else{
out.println("<body bgcolor=blue >");
out.println("<h1> Welcome To The World Of Servlet </h1>");}} }
```
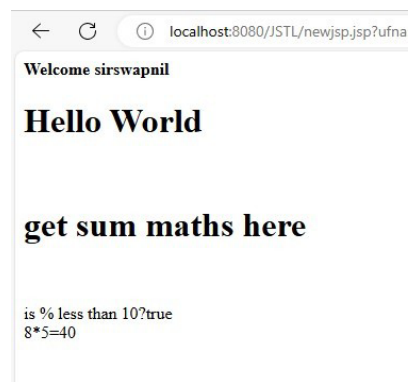
OUTPUT:

Practical 8 Aim: Working with

JSTLIndex.html

```
<html><head>
    <title>JSP PAGE</title>
  </head>
  <body>
    <h1>hello world></h1>
    <form action="newjsp.jsp">
       fname:  <input type="text" name="ufname"/><br>lname:
       <input type="text" name="ulname"/><br>
       <input type="submit" value="click"/>
    </form>
</html>
```

Newjsp.jsp

```
<html>
  <head>
    <title>JSP PAGE</title>
  </head>
  <body>
    <h1>hello world></h1>
    <form action="newjsp.jsp">
       fname:  <input type="text" name="ufname"/><br>lname:
       <input type="text" name="ulname"/><br>
       <input type="submit" value="click"/>
    </form>
</html>
```

OUTPUT:

Practical 9   Aim: To view data from database after

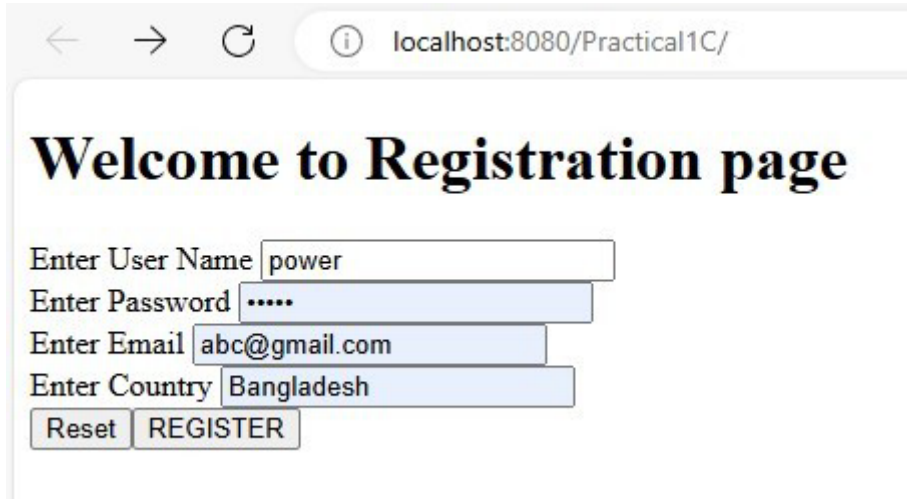## submittingIndex.html:

```
<html><head><title>Registration Page</title></head>
<body>
<form action="RegisterServlet" >
<HI>Welcome to Registration page</HI>Enter
User Name
   <input type="text" name="txtUid"><br>Enter
Password
  <input type="password" name="txtPass"><br>
Enter Email      <input type="text" name="txtEmail" ><br>Enter
Country
<input type="text" name="txtCon" ><br>
<input type="reset" ><input type="submit" value="REGISTER" >
</form>
</body>
</html>
```

RegisterServlet.java:

```
package mypack; import
java.io.*; import java.sql.*;
import javax.servlet.*;
import javax.servlet.http.*;
public class RegisterServlet extends HttpServlet {
public void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException
{ response.setContentType("text/html;charset=UTF-8");
PrintWriter out = response.getWriter(); String
id = request.getParameter("txtUid"); String ps =
request.getParameter("txtPass");
String em = request.getParameter("txtEmail");
String co = request.getParameter("txtCon"); try{
Class.forName("com.mysql.jdbc.Driver");
Connection con =DriverManager.getConnection("jdbc:mysql://localhost:3306/logindb?useSSL=false","root","root");
PreparedStatement pst = con.prepareStatement("insert into user values(?,?,?,?)");
pst.setString(1,id);
pst.setString(2,ps);
pst.setString(3,em);
pst.setString(4,co);
int row = pst.executeUpdate(); out.println("<hl>"+row+ "
Inserted Succesfullyyyyy");
}catch(Exception e){out.println(e);} } }
```

OutPut:

← → C   ⓘ localhost:8080/Practical1C/

Welcome to Registration page

Enter User Name `power`

Enter Password `•••••`

Enter Email `abc@gmail.com`

Enter Country `Bangladesh`

`Reset` `REGISTER`

← C   ⓘ localhost:8080/Practical1C/RegisterServlet?

1 Inserted Succesfullyyyyy

username	password	email	country
admin	admin	admin@admin.com	India
aswhiosh	asljkd	fjtuffs@gmail.com	India
power	12345	abc@gmail.com	Bangladesh
swapnil	12345	abc@gmail.com	NULL

Practical 10   Aim: Register user in database (Room Booking)

Create table rookbook(RoomId varchar(4) PRIMARY KEY, RoomType varchar(20), charges number(5,2), custvarchar(20), mob varchar(20) , status varchar(10));
insert into roombookvalues('1001','Delux',5000.00,'','','Not Booked');
insert into roombookvalues('1002','Super Delux',7000.00,'','','Not Booked');insert
into roombookvalues('1003','Suit',9500.00,'','','Not Booked') ;
insert into roombookvalues('2001','Delux',5000.00,'','','Not Booked');
insert into roombookvalues('2002','Super Delux',7000.00,'','','Not Booked');insert
into roombookvalues('2003','Suit',9500.00,'','','Not Booked');

Index.html

```
<form action="RBServlet" >
 Select a room Type
<input type="radio" name="txtType" value="Delux">Delux
<input type="radio" name="txtType" value="Super Delux">Super Delux
<input type="radio" name="txtType" value="Suit">Suit<br> Enter
 Your Name<input type="text" name="txtCust" ><br>Enter Mobile
 No.<input type="text" name="txtMob" ><br>
<input type="reset" ><input type="submit" value="Book Room">
</form>
```

RBServlet.java:

```java
package mypack;
import java.io.*; import
javax.servlet.*;
import javax.servlet.http.*;
import javax.ejb.EJB; import
mybeans.RRBean;
public class RBServlet extends HttpServlet
{@EJB RRBean obj;
public void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException{
PrintWriter  out=response.getWriter(); String
rt=request.getParameter("txtType"); String
cn=request.getParameter("txtCust"); String
cm=request.getParameter("txtMob");String msg
= obj.roomBookl(rt, cn, cm); out.println(msg);}}
```

RRBean.java:

```
package mybeans;
import javax.ejb.Stateless;
import java.sql.*;
@Stateless
public class RRBean
{public RRBean(){}
public String roomBookI(String rt, String cn, String
cm){String msg="";
try{ Class.forName("com.mysql.jdbc.Driver");
Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/rrdb?useSSL=false","root","Swapnil"); String
query="select * from roombookl where RoomType=? and status='Not Booked'"; PreparedStatementpst =
con.prepareStatement(query);
pst.setString(I,rt);
ResultSetrs= pst.executeQuery();
if(rs.next()){
 String rno=rs.getString(I);
PreparedStatement stml = con.prepareStatement("update roombookl set cust=? where RoomId=? "); PreparedStatement
stm2 = con.prepareStatement("update roombookl set mob=? where RoomId=? "); PreparedStatement stm3 =
con.prepareStatement("update roombookl set status=? where RoomId=? ");stml.setString(I,cn); stml.setString(2,rno);
stm2.setString(I,cm); stm2.setString(2,rno);
stm3.setString(I, "Booked"); stm3.setString(2,rno);
stml.executeUpdate();
stm2.executeUpdate();
stm3.executeUpdate();
msg = "Room "+rno+ " Booked <br> Charges = "+rs.getString(3);}else{
msg = "Room "+rt+ " currently Not available";}
}catch(Exception e){msg=""+e;}
return msg;}}
```

OUTPUT:

Practical 11   **Aim:**Create a JSP page to demonstrate the use of Expression language.

Index.html:

```
<html>
<head>
<title>User Information Page</title>
</head>
<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>
```

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="successfull.jsp"/>
<% }
else {%>
<jsp:include page="index.html"/>
<%}%>
<%=obj.getError() %>
</body></html>
```
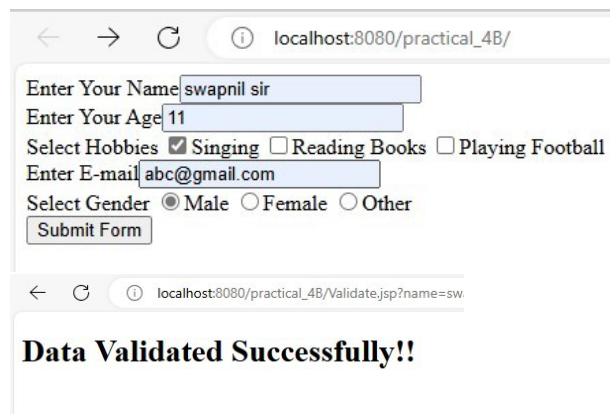
CheckerBean.java:

```
package mypack;
public class CheckerBean {
private String name, age, hob, email, gender, error;
public CheckerBean(){error="";}
public void setName(String n){name=n;}
public void setAge(String a){age=a;} public
void setHob(String h){hob=h;} public void
setEmail(String e){email=e;}
public void setGender(String g){gender=g;}
public void setError(String e){error=e;} public
String getName(){return name;} public String
getAge(){return age;}
public String getHob(){return hob;} public
String getEmail(){return email;} public String
getGender(){return gender;}public String
getError(){return error;} public boolean
validate(){
boolean res=true;
if(name.trim().equals("")) {error+="<br>Enter First Name";res=false;}
if(age.length() > 2 )
{error+="<br>Age Invalid";res=false;}
return res; } }
```

successful.java:
```
<%@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>Data Validated Successfully!!</h1>
</body>
</html>
```

OUTPUT:

Practical 12   Aim: Create a registration and login JSP application to register and authenticate the user.

Register.html:

```
<html><head><title>New User Registration Page</title></head>
<body>
<form action="Register.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 <input type="text" name="txtCon" ><br>
<input type="reset" ><input type="submit" value="REGISTER" >
</form></body></html>
```

Register.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?useSSL=false","root","Swapnil");
 PreparedStatementstmt = con.prepareStatement("insert into user 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 FFFFFAAAIIILLLL !!!!");
 %><jsp:include page="Register.html" ></jsp:include>
<%
 }
 }catch(Exception e){out.println(e);}
 }
 else
 {
 out.println("<h1>Password Mismatch</h1>");
 %><jsp:include page="Register.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="reset" ><input type="submit" value="~~~LOGIN~~" >
</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"); try{
 Class.forName("com.mysql.jdbc.Driver");
 Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/logindb?useSSL=false","root","Swapnil");
 PreparedStatementstmt = con.prepareStatement("select password from user where username=?");
 stmt.setString(1, uname); ResultSetrs
 = stmt.executeQuery();
 if(rs.next()){ if(pass.equals(rs.getStrin
 g(1)))
 {out.println("<h1>~~~ LOGIN SUCCESSFULLL ~~~ </h1>");}}else{
 out.println("<h1>User Name not exist !!!!!</h1>"); %>
<jsp:include page="Register.html" ></jsp:include><% }
 }catch(Exception e){out.println(e);} %>
</body></html>
```
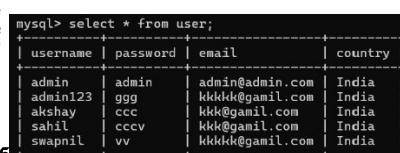
OUTPUT: 1.   2.   3.

Practical 13   Aim: Create a Servlet application to upload file.Index.html

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

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(HttpServletRequestreq,HttpServletResponse res) throws ServletException, IOException{res.setContentType("text/html");
PrintWriter out = res.getWriter();
String path=req.getParameter("destination");
Part filePart=req.getPart("file");
String filename=filePart.getSubmittedFileName().toString();
out.print("<br><br><hr> file name: "+filename);
OutputStreamos=null;
InputStream is=null;
try {os=new FileOutputStream(new File(path+File.separator+filename));
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);}} }
```

OUTPUT:

file name: allotment.pdf
file uploaded sucessfully...!!!

Practical 14   Aim: Create a Servlet application to upload download file.Code: newhtml.html

```html
<html>
<head>
<title>File Download Page</title>
</head>
<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>
</html>
```

DownloadServlet.java

```java
package filedownloadapp;
import java.io.IOException;
import java.io.InputStream;
import java.io.PrintWriter;
import javax.servlet.ServletContext; import
javax.servlet.ServletException; import
javax.servlet.ServletOutputStream;import
javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest; import
javax.servlet.http.HttpServletResponse; 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 out = response.getOutputStream(); // any of the two works
        PrintWriter out=response.getWriter();
        response.setHeader("Content-Disposition","attachment; filename=\"" + filename + "\""); // if comment this statementthen 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();
}
```
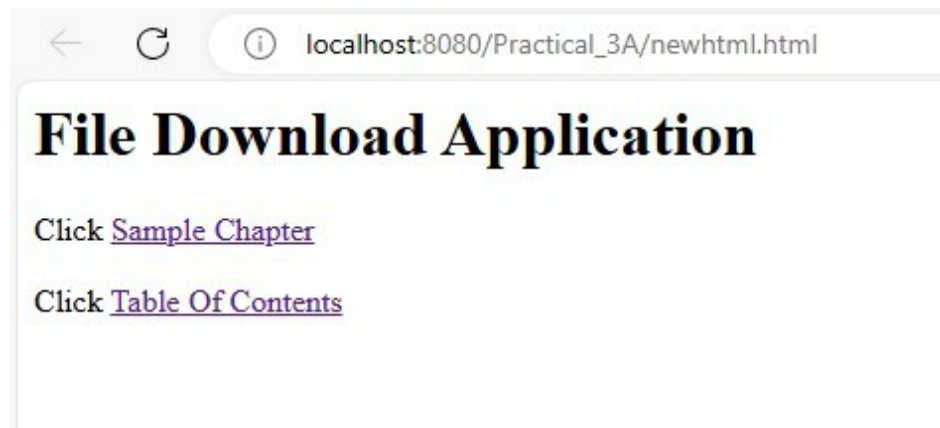
OUTPUT:

Practical 15 **Aim:** To create Quiz Using servlet

create database qadb;

use qadb;

create table quiz (qno varchar(5) PRIMARY KEY,question varchar(100), op1 varchar(50), op2 varchar(50), op3varchar(50), op4 varchar(50), ans varchar(50));

 insert into quiz values('001','What is the capital of India??','NewDelhi','Kolkata','Chennai','Mumbai','New Delhi');

 insert into quiz values('002','Who was the First President of India??','Dr. Rajendra Prasad','Dr. S.Radhakrishnan','Ram Nath Kovind','V. V. Giri','Dr. Rajendra Prasad');

insert into quiz values('003','What is ORM','Object Ratio Mean','Object Rotation Measure','Object RelationMapping','Oracle Request Management','Object Relation Mapping');

 insert into quiz values('004','Unit of Energy is ___','Dozon','Kilo Meter ','Joul','Hertz','Joul');

 insert into quiz values('005',' --- is the smallest memory unit.','bit','byte','Kilo Byte','Giga Byte','bit');

Index.html

```
<html><head><title>Quiz Application</title></head>
<body>
<h1>Welcome to Quiz Servlet </h1>
<h1><a href="QuizServlet" >CLICK TO START QUIZ</a></h1>
</body>
</html>
```

QuizServlet.java

```
package mypack; import
java.io.*; import java.sql.*;
import javax.servlet.*;
import javax.servlet.http.*;
public class QuizServlet extends HttpServlet {

    public void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
      response.setContentType("text/html;charset=UTF-8");
      PrintWriter out = response.getWriter(); out.println("<form
      action=ShowResult >");
      try {
        Class.forName("com.mysql.jdbc.Driver");
        Connection con
            = DriverManager.getConnection("jdbc:mysql://localhost:3306/qadb?useSSL=false", "root", "root");
        Statement stmt = con.createStatement();
        ResultSet res = stmt.executeQuery("select * from quiz");
        out.println("<table border=1 >");
        int qno = 0;
        while (res.next())
          {qno++;
out.println("<tr><td>"+res.getString(1)+"</td>"); out.println("<td>"+res.getString(2)+"</td></tr>")
```

```
out.println("<tr><td><input    type=radio    name="+qno+"    value="+res.getString(3)+"></td><td>"+res.getString(3)+"</td></tr>");
out.println("<tr><td><input    type=radio    name="+qno+"    value="+res.getString(4)+"></td><td>"+res.getString(4)+"</td></tr>");
out.println("<tr><td><input    type=radio    name="+qno+"    value="+res.getString(5)+"></td><td>"+res.getString(5)+"</td></tr>");
out.println("<tr><td><input type=radio name="+qno+" value="+res.getString(6)+"></td><td>"+res.getString(6)+"</td></tr>");
}
}catch(Exception e){out.println(e);}
out.println("</table>");
out.println("<input type=reset >");
out.println("<input type=submit value=SUBMIT >");
out.println("</form>");
    }
}
```
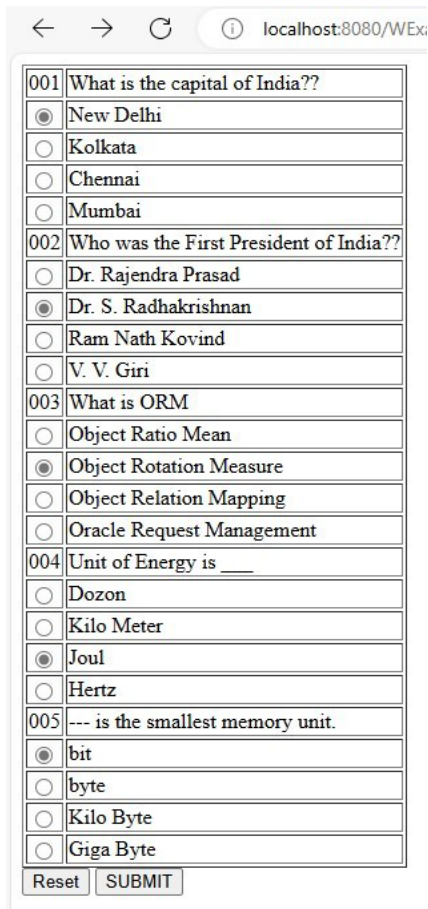
ShowResult.java

```
package mypack; import
java.io.*; import java.sql.*;
import javax.servlet.*;
import javax.servlet.http.*;
public class ShowResult extends HttpServlet {
public void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException
{ response.setContentType("text/html;charset=UTF-8");
PrintWriter out = response.getWriter(); try
{ Class.forName("com.mysql.jdbc.Driver");
Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/qadb?useSSL=false","root","root");Statement
stmt = con.createStatement();
ResultSet res = stmt.executeQuery("select ans from quiz");int
count =0, qno=0;
while(res.next()){ if(res.getString(1).equals(request.getParameter(""+(+
+qno))))
{ count++; out.println("<h1>Correct
</h1>");
}
else {
out.println("<h1>Incorrect </h1>");
}
}
out.println("<h1>Your Score is "+count+" </h1>");
}catch(Exception e){out.println(e);}}}
```
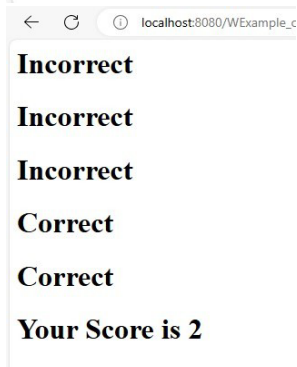

OUTPUT:

localhost:8080/WExample_of_Quiz/

Welcome to Quiz Servlet

CLICK TO START QUIZ

localhost:8080/WEx:

001	What is the capital of India??
●	New Delhi
○	Kolkata
○	Chennai
○	Mumbai
002	Who was the First President of India??
○	Dr. Rajendra Prasad
●	Dr. S. Radhakrishnan
○	Ram Nath Kovind
○	V. V. Giri
003	What is ORM
○	Object Ratio Mean
●	Object Rotation Measure
○	Object Relation Mapping
○	Oracle Request Management
004	Unit of Energy is ___
○	Dozon
○	Kilo Meter
●	Joul
○	Hertz
005	--- is the smallest memory unit.
●	bit
○	byte
○	Kilo Byte
○	Giga Byte

Reset   SUBMIT

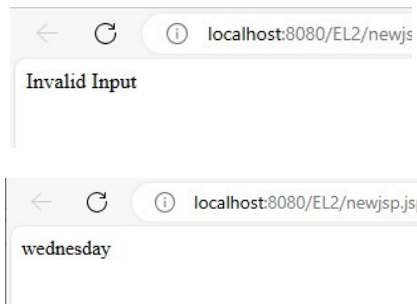localhost:8080/WExample_c

Incorrect

Incorrect

Incorrect

Correct

Correct

Your Score is 2

Practical 16   Aim : Create a JSP page to demonstrate the use of Expression language.

Newjsp.jsp:

```
<%@ page language="java" contentType="text/html;
charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01
Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html;
charset=ISO-8859-1">
<title>Guru JSP3</title>
</head>
<body>
<%! int week=8; %>
<% switch(week){ case 1:
out.println("Sunday");
break;
case 2:
out.println("Monday");break;
case 3: out.println("Tuesday");
break;
case 4:
out.println("wednesday");
break;
case 5: out.println("Thursday");
break;
case 6:
out.println("Friday");
break;
case 7: out.println("Saturday");
break;
default: out.println("Invalid
Input");break;}
%>
</body>
</html>
```

OUTPUT:

Practical 17   **Aim:** Update mobile number in database

Database:

```
create database updatemob;
use updatemob;
create table mp(emp varchar(10) PRIMARY KEY, ename varchar(50), mobile varchar(50));insert
into emp values('1','aaa','221234');
insert into mp values('2','bbb','221234');
insert into mp values('3','c','221234'); insert
into mp values('4','d','221234');
```

Index.html :

```
<html>
 <body>
 <form action="UpdateMob.jsp">
  Enter Employee Number<input type="text" name="txtEno"><br>Enter
  Name<Input type="text" name="txtName"><br>
  Enter Mobile<Input type="text" name="txtMob"><br>
  <input type="reset"><input type="submit">
   </form>
  </body>
</html>
```

Updatemob.jsp:

```
<%@page contentType="text/html" import="java.sql.*" %>
<html><body>
<h1>Employee Record Update</h1>
<%
String emp=request.getParameter("txtEno"); String
ename=request.getParameter("txtName");String
mobile =request.getParameter("txtMob"); try{
Class.forName("com.mysql.cj.jdbc.Driver");
Connection con= DriverManager.getConnection("jdbc:mysql://localhost:3306/updatemob?useSSL=false","root","root");
PreparedStatement stmt = con.prepareStatement("select * from mp where emp=?");

stmt.setString(1, emp);
ResultSet rs = stmt.executeQuery();
if(rs.next()){
   out.println("<h1> ~~~Employee "+ename+" Exist~~~ </h1>");
   PreparedStatement pst1=con.prepareStatement("update mp set mobile=? where emp=?");
   pst1.setString (1, mobile);
   pst1.setString(2, emp);
    pst1.executeUpdate();
}
else{
   out.println("<h1>Employee Record not exist!!!!!</h1>");}}
catch(Exception e){out.print(e);}
%></body></html>
```

OUTPUT:

Enter Employee Number 2
Enter Name bbb
Enter Mobile 85741266559
Reset Submit

localhost:8080/MobUpdate/UpdateMob.jsp?txtEr

Employee Record Update

~~~Employee bbb Exist~~~

Before update

```
mysql> select * from mp;
+-----+-------+------------+
| emp | ename | mobile     |
+-----+-------+------------+
| 1   | aaa   | 9967365898 |
| 2   | bbb   | 221234     |
| 3   | c     | 221234     |
| 4   | d     | 221234     |
+-----+-------+------------+
4 rows in set (0.00 sec)
```

After Update:

```
mysql> select * from mp;
+-----+-------+-------------+
| emp | ename | mobile      |
+-----+-------+-------------+
| 1   | aaa   | 0000000000  |
| 2   | bbb   | 85741266559 |
| 3   | c     | 221234      |
| 4   | d     | 221234      |
+-----+-------+-------------+
4 rows in set (0.00 sec)
```

Practical 18   Aim: Insert marks of user in database

```html
<html><head><title>Registration Page</title></head>
<body>
<form action="MarksServlet" >
<H1>Welcome to Registration page</H1>Enter
User Name
    <input type="text" name="txtUid"><br>
Enter marks       <input type="number" name="txtMarks" ><br>
<input type="reset" ><input type="submit" value="REGISTER" >
</form>
</body>
</html>
```

MarksServlet.java:

```java
package mypack; import
java.io.*; import java.sql.*;
import javax.servlet.*;
import javax.servlet.http.*;
public class MarksServlet extends HttpServlet {
public void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException
{ response.setContentType("text/html;charset=UTF-8");
PrintWriter out = response.getWriter(); String
id = request.getParameter("txtUid");
String mk = request.getParameter("txtMarks");try{
Class.forName("com.mysql.jdbc.Driver");
Connection con =DriverManager.getConnection("jdbc:mysql://localhost:3306/StudentDB?useSSL=false","root","root");
PreparedStatement pst = con.prepareStatement("insert into StudentInfo values(?,?)");
pst.setString(1,id);
pst.setString(2,mk);
int row = pst.executeUpdate(); out.println("<h1>"+row+ "
Inserted Succesfullyyyyy");
}catch(Exception e){out.println(e);} } }
```

OUTPUT: