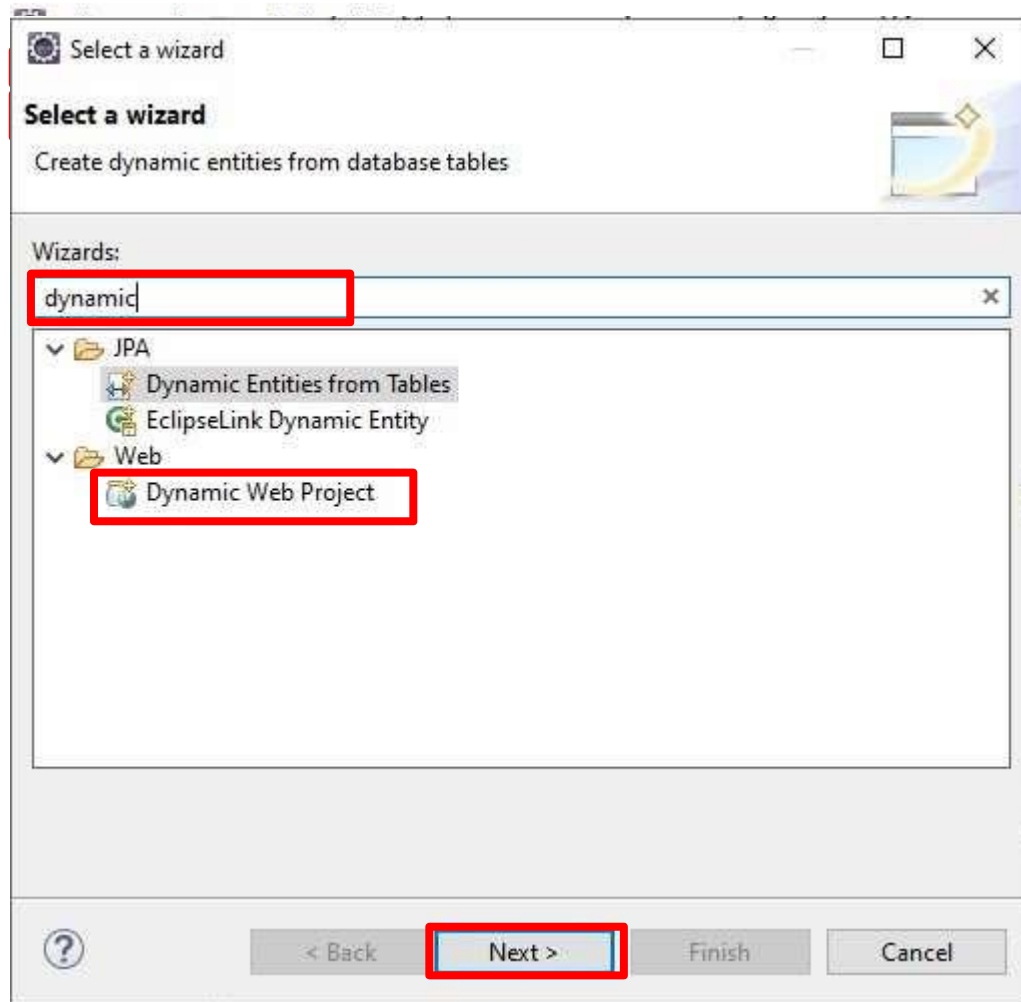


## **Assignments 2**

### **Web Application Development using JSP**

1. Create a Telephone directory using JSP and store all the information within a database, so that later could be retrieved as per the requirement. Make your own assumptions.
2. Write a JSP page to display the Registration form (Make your own assumptions)
3. Write a JSP program to add, delete and display the records from StudentMaster (RollNo, Name, Semester, Course) table.
4. Design loan calculator using JSP which accepts Period of Time (in years) and Principal Loan Amount.  
Display the payment amount for each loan and then list the loan balance and interest paid for each payment over the term of the loan for the following time period and interest rate:  
a. 1 to 7 year at 5.35%  
b. 8 to 15 year at 5.5%  
c. 16 to 30 year at 5.75%
5. Write a program using JSP that displays a webpage consisting Application form for change of Study Center which can be filled by any student who wants to change his/ her study center. Make necessary assumptions
6. Write a JSP program that demonstrates the use of JSP declaration, scriptlet, directives, expression, header and footer.
7. Write a JSP program that demonstrates the use of session or cookies.



### Steps to create Dynamic Web Project

**Step 1:** Create a new Dynamic Web Project

1. Click on File – New - Other
2. Search for 'Dyanmic' and Select 'Dynamic Web Project'. Then Click on Next

**New Dynamic Web Project**

**Dynamic Web Project**  
Create a standalone Dynamic Web project or add it to a new or existing Enterprise Application.

Project name:

Project location  
☒ Use default location  
Location:

Target runtime

Dynamic web module version

Configuration  
   
A good starting point for working with Apache Tomcat v10.0 runtime. Additional facets can later be installed to add new functionality to the project.

EAR membership  
☐ Add project to an EAR  
EAR project name:

Working sets  
☐ Add project to working sets   
Working sets:

3. Enter Project Name of your wish, and click on Finish.

**This creates your Dynamic Web project.**

**Problem Statement 1. Create a Telephone directory using JSP and store all the information within a database, so that later could be retrieved as per the requirement. Make your own assumptions.**

**Database table (phone1) :**

```
CREATE TABLE phone1 (
  id SERIAL PRIMARY
  KEY,
  name varchar(50), no
  varchar(50)
);
```

**Index.jsp :**

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

```

String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres";
String password ="password";

Connection con =null;
Class.forName(driver).newInstance();
con = DriverManager.getConnection(url,username,password); System.out.println("Opened
database successfully");

if(request.getParameter("delete")!=null)
{ int

id=Integer.parseInt(request.getParameter("delete"));

PreparedStatement pstmt=null; //create statement

pstmt=con.prepareStatement("delete from phone1 where id=? "); // delete query
pstmt.setInt(1,id); pstmt.executeUpdate(); //execute query

con.close(); //close connection
} }
catch(Exception e)
{
out.println(e);
}
%>
<html>
<head>

<title>JSP:Insert, Update, Delete </title>

</head>

<body>

<br>
<br>
<center>
<h1><a href="add.jsp">CLICK HERE TO ADD A NEW MOBILE NUMBER</a></h1>
</center>
<br>
<center>
<table border='1' cellpadding='23'>
</center>
<tr>
<th>ID</th>
<th>NAME</th>
<th>MOBILE NUMBER</th>
<th>UPDATE</th>
<th>DELETE</th>
</tr>

```

```

<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres";
String password ="password";

Connection con =null;
Class.forName(driver).newInstance(); con =

DriverManager.getConnection(url,username,password);

PreparedStatement pstmt=null; //create statement

pstmt=con.prepareStatement("select * from phone1"); //select
query

ResultSet rs=pstmt.executeQuery(); //execute query and set in resultset object rs.
while(rs.next())
{
%>
<tr>
<td><%=rs.getInt(1)%></td>
<td><%=rs.getString(2)%></td>
<td><%=rs.getString(3)%></td>
<td><a href="update.jsp?edit=<%=rs.getInt(1)%> ">Edit</a></td>
<td><a href="?delete=<%=rs.getInt(1)%> ">Delete</a></td>

</tr>
<%
}

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

%>

</table>

</body>

</html>

```

### **Add.jsp :**

```

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

```

```

<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres";
String password ="password";
Connection con =null;
Class.forName(driver).newInstance(); con =
DriverManager.getConnection(url,username,password);
System.out.println("Opened database successfully");

if(request.getParameter("btn_add")!=null) //check button click event not null {
String name,no; name=request.getParameter("txt_name");
//txt_name no=request.getParameter("txt_no");
//txt_owner

PreparedStatement pstmt=null; //create statement
pstmt=con.prepareStatement("insert into phone1(name,no)values(?,?)"); // insert query
pstmt.setString(1,name); pstmt.setString(2,no); pstmt.executeUpdate(); //execute query
con.close(); //close connection out.println("Insert Successfully...! Click Home page.");// after
insert record successfully message

}

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

%>

<html>

<head>

<title>JSP:Insert, Update, Delete using MySQL</title>

<!-- javascript for form validation-->
<script>

function validate()
{
var name = document.myform.txt_name;
var no = document.myform.txt_no; if
(name.value == "")
{
window.alert("please enter a name ?");
name.focus(); return false; }
if (no.value == "")
{

```

```

window.alert("please enter a mobile number ?");
name.focus(); return false;
}

}
</script>
</head>
<body>
<form method="post" name="myform" onsubmit="return validate();">
<center>
<h1>Insert Record</h1>
</center>
<table>
<tr>
<td><b>Name: </b></td>
<td><input type="text" name="txt_name"></td>
</tr>
<tr>
<td><b>Phone number:</b></td><b>
<td><input type="text" name="txt_no"></td>
</tr>
<tr>
<td><input type="submit" name="btn_add" value="Insert"></td>
</tr>
</table>
<center>
<h1><a href="index.jsp">Home page</a></h1> </center>

</form>

</body> </html>

```

### **Update.jsp :**

```

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

<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres";
String password ="password";

Connection con =null;
Class.forName(driver).newInstance();
con = DriverManager.getConnection(url,username,password); System.out.println("Opened
database successfully");

if(request.getParameter("btn_update")!=null) //check button click event not null

```

```

{ int hide,name,no;;
String
name_up,no_up;

hide=Integer.parseInt(request.getParameter("txt_hide")); //it is hidden id get for update record
name_up=request.getParameter("txt_name"); no_up=request.getParameter("txt_no");
//txt_name PreparedStatement pstmt=null; //create statement

pstmt=con.prepareStatement("update phone1 set name=?,no=? where id=?"); // update query
pstmt.setString(1,name_up);          pstmt.setString(2,no_up);          pstmt.setInt(3,hide);
pstmt.executeUpdate(); //execute query con.close(); //connection close

out.println("Update Successfully...! Click Back link."); //after update record successfully message
}

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

%>

<html>

<head>

<title>JSP:Insert, Update, Delete using MySQL</title>

<!-- javascript for form validation-->
<script>

function validate()
{
var name = document.myform.txt_name; var
no = document.myform.txt_no;

if (rno.value == "")
{
window.alert("please enter name ?");
name.focus(); return false; }
if (name.value == "")
{
window.alert("please enter number ?");
name.focus(); return false;
}
}
}

```



```

</script>

</head>

<body>

<form method="post" name="myform" onsubmit="return validate();">

<center>
<h1>Update Record</h1>
</center>

<table>
<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres"; String
password ="admin";

Connection con =null;
Class.forName(driver).newInstance(); con =
DriverManager.getConnection(url,username,password);
System.out.println("Opened database successfully");

if(request.getParameter("edit")!=null)
{ int
id=Integer.parseInt(request.getParameter("edit"));

String name,no;

PreparedStatement pstmt=null; // create statement

pstmt=con.prepareStatement("select * from phone1 where id=?"); // sql select query
pstmt.setInt(1,id);
ResultSet rs=pstmt.executeQuery(); // execute query store in resultset object rs.

while(rs.next())
{ id=rs.getInt(1);
name=rs.getString(2);
no=rs.getString(3);

%>
<tr>
<td>Name</td>
<td><input type="text" name="txt_name" value="<%=name%>"></td>
</tr>
<tr>
<td>Mobile Number</td>
<td><input type="text" name="txt_no" value="<%=no%>"></td>

```

```
</tr>
<tr>
<td><input type="submit" name="btn_update" value="Update"></td> </tr>
```

```
<input type="hidden" name="txt_hide" value="<%=id%>">
<%
}
} }
catch(Exception e)
{
out.println(e);
}
%>
</table>
```

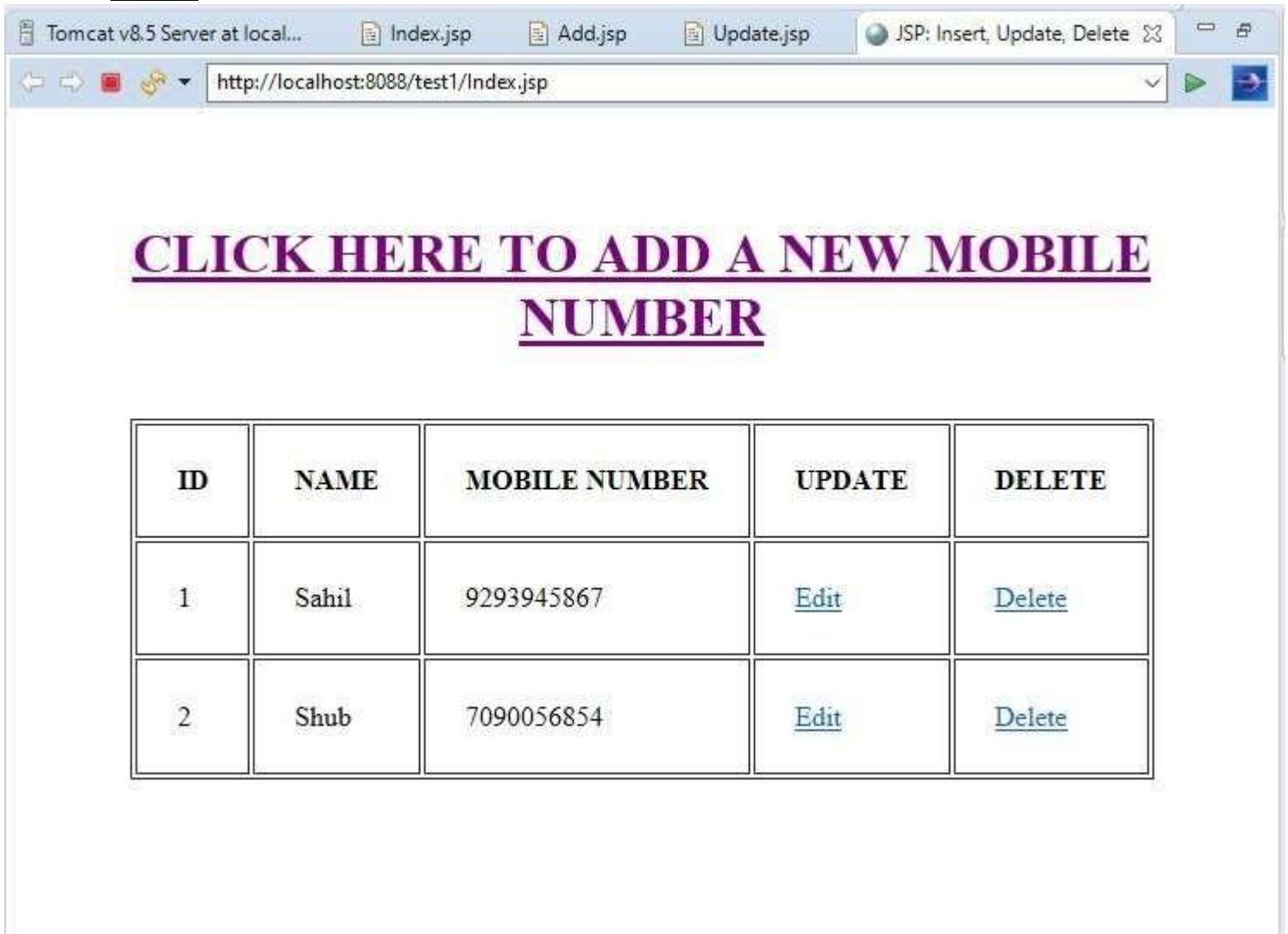
```
<center>
<h1><a href="index.jsp">Back</a></h1>
</center>
```

```
</form>
```

```
</body>
```

```
</html>
```

### Output:



The screenshot shows a web browser window with the address bar displaying `http://localhost:8088/test1/Index.jsp`. The page content features a large, bold, purple text link: **CLICK HERE TO ADD A NEW MOBILE NUMBER**. Below this link is a table with five columns: ID, NAME, MOBILE NUMBER, UPDATE, and DELETE. The table contains two data rows. The first row has ID 1, NAME Sahil, MOBILE NUMBER 9293945867, and links for Edit and Delete. The second row has ID 2, NAME Shub, MOBILE NUMBER 7090056854, and links for Edit and Delete.

ID	NAME	MOBILE NUMBER	UPDATE	DELETE
1	Sahil	9293945867	<a href="#">Edit</a>	<a href="#">Delete</a>
2	Shub	7090056854	<a href="#">Edit</a>	<a href="#">Delete</a>

- Adding new record to database

## Insert Record

Name:

Phone Number:

- New record successfully added to the database

SQL

Showing rows: 1 to 3
 
 Page No: 1 of 1

	id [PK] integer	name character varying (50)	no character varying (50)
1	1	Sahil	9293945867
2	2	Shub	7090056854
3	53	Sahil Shende	5300053000

1	Sahil	9293945867	<a href="#">Edit</a>	<a href="#">Delete</a>
2	Shub	7090056854	<a href="#">Edit</a>	<a href="#">Delete</a>
53	Sahil Shende	5300053000	<a href="#">Edit</a>	<a href="#">Delete</a>

**Problem Statement 2. Write a JSP page to display the Registration form (Make your own assumptions)**

**Database table (studentreg1) :**

```
CREATE TABLE studentreg1 (  
id SERIAL PRIMARY KEY,  
first_name varchar(50),  
last_name varchar(50),  
phn_number varchar(20), address  
varchar(20), course varchar(20),  
college_name varchar(20)  
);
```

**Add.jsp :**

```
<%@ page import="java.sql.*" %>  
  
<%  
try  
{  
String driver ="org.postgresql.Driver";  
String url ="jdbc:postgresql://localhost:5432/postgres";  
String username ="postgres";  
String password ="password";  
  
Connection con =null;  
Class.forName(driver).newInstance();  
con = DriverManager.getConnection(url,username,password); System.out.println("Opened  
database successfully");  
  
if(request.getParameter("btn_add")!=null) //check button click event not null {  
String first_name,last_name,phn_number,address,course,college_name;  
first_name=request.getParameter("txt_first_name"); //txt_name  
last_name=request.getParameter("txt_last_name"); //txt_owner  
phn_number=request.getParameter("txt_phn_number");  
address=request.getParameter("txt_address");  
course=request.getParameter("txt_course");  
college_name=request.getParameter("txt_college_name"); PreparedStatement  
pstmt=null; //create statement  
  
pstmt=con.prepareStatement("insert into  
studentreg1(first_name,last_name,phn_number,address,course,college_name)values(?,?,?,?,?,?)"); // insert  
query pstmt.setString(1,first_name); pstmt.setString(2,last_name);  
pstmt.setString(3,phn_number); pstmt.setString(4,address);  
pstmt.setString(5,course); pstmt.setString(6,college_name);  
pstmt.executeUpdate(); //execute query con.close(); //close connection  
out.println("Insert Successfully...!"); // after insert record successfully  
message  
  
}
```

```

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

%>

<html>

<head>

<!-- javascript for form validation-->
<script> function
validate()
{
var first_name = document.myform.txt_first_name; var
last_name = document.myform.txt_last_name; var
phn_number = document.myform.txt_phn_number; var
address = document.myform.txt_address; var course =
document.myform.txt_course;
var college_name = document.myform.txt_college_name; if
(first_name.value == "")
{
window.alert("please enter a first name ?");
name.focus(); return false; }
if (last_name.value == "")
{
window.alert("please enter a last name ?");
name.focus(); return false; }
if (phn_number.value == "")
{
window.alert("please enter a mobile number ?");
name.focus(); return false; }
if (address.value == "")
{
window.alert("please enter address ?");
name.focus(); return
false;
}
if (course.value == "")
{
window.alert("please enter course ?");
name.focus(); return false; }
if (college_name.value == "")
{
window.alert("please enter college name ?");
name.focus(); return false;
}

}

```

```

</script>

</head>

<body bgcolor="deea94">

<div align="center">
<form method="post" name="myform" onsubmit="return validate();">

<center>
<h1><u>STUDENT REGISTRATION FORM</u></h1>
</center>

<br>
<table>
<tr>
<td><b>First Name: </b></td>
<td><input type="text" name="txt_first_name"></td> </tr>

<tr>
<td><b>Last Name:</b></td></b>
<td><input type="text" name="txt_last_name"></td>
</tr>

<tr>
<td><b>Phone number:</b></td></b>
<td><input type="text" name="txt_phn_number"></td>
</tr>

<tr>
<td><b>Address:</b></td></b>
<td><input type="text" name="txt_address"></td>
</tr>

<tr>
<td><b>Course:</b></td></b>
<td><input type="text" name="txt_course"></td>
</tr>

<tr>
<td><b>College Name:</b></td></b>
<td><input type="text" name="txt_college_name"></td> </tr>

<tr>
<td><br><input type="submit" name="btn_add" value="Submit"></br></td>
</tr>

</table>

<center>

<p><a><span>&#8595;</span> <u>Click Below to list all the</u> <span>&#8595;</span></a></p>
<p><a href="index.jsp">Registered Students Details</a></p>

```

```
</center>
</form>
</div>
</body> </html>
```

### **Index.jsp :**

```
<% @page import="java.sql.*" %>
<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres";
String password ="password";

Connection con =null;
Class.forName(driver).newInstance();
con = DriverManager.getConnection(url,username,password); System.out.println("Opened
database successfully");

if(request.getParameter("delete")!=null)
{ int
id=Integer.parseInt(request.getParameter("delete"));

PreparedStatement pstmt=null; //create statement

pstmt=con.prepareStatement("delete from studentreg1 where id=? "); // delete query
pstmt.setInt(1,id);
pstmt.executeUpdate(); //execute query con.close();
//close connection
} }
catch(Exception e)
{
out.println(e);
}
}%>
<html>

<head>
<title>JSP:Insert, Update, Delete </title>
</head>

<body bgcolor="F9CDAD">
<br>
<br>
<br>
<center>
<h1><u>DETAILS OF REGISTERED STUDENTS</u></h1>
</center>
<br><br>
```



```

<center>
<table border='1' cellpadding='23'>
</center>
<tr>
<th>ID</th>
<th>First Name</th>
<th>Last Name</th>
<th>Mobile Number</th>
<th>Address</th>
<th>Course</th>
<th>College Name</th>
</tr>
<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres";
String password ="admin";
Connection con =null;
Class.forName(driver).newInstance(); con =

DriverManager.getConnection(url,username,password); PreparedStatement

pstmt=null; //create statement pstmt=con.prepareStatement("select * from

studentreg1"); //select query ResultSet rs=pstmt.executeQuery(); //execute query

and set in resultset object rs.

while(rs.next())
{
%>
<tr>
<td><%=rs.getInt(1)%></td>
<td><%=rs.getString(2)%></td>
<td><%=rs.getString(3)%></td>
<td><%=rs.getString(4)%></td>
<td><%=rs.getString(5)%></td>
<td><%=rs.getString(6)%></td>
<td><%=rs.getString(7)%></td>
</tr>
<%
}

} catch(Exception
e) { out.println(e);
}
%>
</table>
</body> </html>

```

## OUTPUT :

Tomcat v8.5 Server at localhost Add.jsp Index.jsp http://localhost:8088/test1/Add.jsp

http://localhost:8088/test1/Add.jsp

### STUDENT REGISTRATION FORM

First Name:

Last Name:

Phone Number:

Address:

Course:

College Name:

↓ [Click Below to list all the](#) ↓

[Registered Students Details](#)







Tomcat v8.5 Server at l... Add.jsp Index.jsp http://localhost:8088/... HTTP Status 500 – Inter... JSP: Insert, Update, D...

http://localhost:8088/test1/Index.jsp

### DETAILS OF REGISTERED STUDENTS

ID	First Name	Last Name	Mobile Number	Address	Course	College Name	Action
1	sahil	shende	9373556985	navi mumbai	mca	bvimit	<a href="#">Delete</a>

Showing rows: 1 to 1  Page No: 1 of 1    

	id [PK] integer 	first_name character varying (50) 	last_name character varying (50) 	phn_number character varying (20) 	address character varying (20) 	course character va 
1	1	sahil	shende	9373556985	navi mumbai	mca

**Problem Statement 3. Write a JSP program to add, delete and display the records from StudentMaster (RollNo, Name, Semester, Course) table.**

**Database table(student1) :**

```
CREATE TABLE student1 (  
id SERIAL PRIMARY  
KEY, rno varchar(50), name  
varchar(50), semester  
varchar(50), course  
varchar(50)  
);
```

**Index.jsp :**

```
<% @page import="java.sql.*" %>  
  
<%  
  
try  
  
{  
  
String driver ="org.postgresql.Driver";  
  
String url ="jdbc:postgresql://localhost:5432/postgres";  
  
String username ="postgres";  
  
String password ="password";  
  
Connection con =null;  
  
Class.forName(driver).newInstance(); con =  
  
DriverManager.getConnection(url,username,password);  
  
System.out.println("Opened database successfully");  
if(request.getParameter("delete")!=null)  
  
{ int  
  
id=Integer.parseInt(request.getParameter("delete"));
```

```
PreparedStatement pstmt=null; //create statement

pstmt=con.prepareStatement("delete from student1 where id=? "); // delete
query pstmt.setInt(1,id); pstmt.executeUpdate(); //execute query con.close();

//close connection

}

} catch(Exception
e)

{ out.println(e);

}

%>

<html>

<head>

<title>JSP:Insert, Update, Delete </title>

</head>

<body>

<center>

<h1><a href="add.jsp">Add Record</a></h1>

</center>

<table>

<tr>

<th>ID</th>

<th>Roll No</th>

<th>Name</th>

<th>Sem</th>

<th>Course</th>

<th>Update</th>

<th>Delete</th>
```

```

</tr>

<%
try
{
String driver ="org.postgresql.Driver";

String url ="jdbc:postgresql://localhost:5432/postgres";

String username ="postgres";

String password ="password";

Connection con =null;

Class.forName(driver).newInstance(); con =

DriverManager.getConnection(url,username,password);

PreparedStatement pstmt=null; //create statement

pstmt=con.prepareStatement("select * from student1"); //select

query

ResultSet rs=pstmt.executeQuery(); //execute query and set in resultset object rs.

while(rs.next())

{

%>

<tr>

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

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

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

<td><%=rs.getString(4)%></td>
<td><%=rs.getString(5)%></td>

<td><a href="update.jsp?edit=<%=rs.getInt(1)%> ">Edit</a></td>

<td><a href="?delete=<%=rs.getInt(1)%> ">Delete</a></td>

</tr>

```

```

<%
} }

catch(Exception

e)

{ out.println(e);

}

%>

</table>

</body>

</html>

```

### **Add.jsp :**

```

<% @ page import="java.sql.*" %>
<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres";
String password ="password";
Connection con =null;
Class.forName(driver).newInstance(); con =
DriverManager.getConnection(url,username,password);
System.out.println("Opened database successfully");
if(request.getParameter("btn_add")!=null) //check button click event not null
{
String                rno,name,semester,course;
rno=request.getParameter("txt_rno");
name=request.getParameter("txt_name");    //txt_name
semester=request.getParameter("txt_sem"); //txt_owner
course=request.getParameter("txt_course"); //txt_owner
PreparedStatement pstmt=null; //create statement
pstmt=con.prepareStatement("insert into student1(rno,name,semester,course)values(?,?,?,?)"); // insert
query pstmt.setString(1,rno); pstmt.setString(2,name); pstmt.setString(3,semester);
pstmt.setString(4,course); pstmt.executeUpdate(); //execute query con.close(); //close connection
out.println("Insert Successfully...! Click Back link."); // after insert record successfully message
}
}
catch(Exception e)

```

```

{
out.println(e);
}
%>
<html>
<head>
<title>JSP:Insert, Update, Delete using MySQL</title>

<!-- javascript for form validation-->
<script>
function validate()
{
var rno = document.myform.txt_rno; var
name = document.myform.txt_name; var
semester = document.myform.txt_sem; var
course = document.myform.txt_course; if
(rno.value == "")
{
window.alert("please enter rno
?"); name.focus(); return false;
}
if (name.value == "")
{
window.alert("please enter name
?"); name.focus(); return false;
}
if (semester.value == "")
{
window.alert("please enter sem
?"); owner.focus(); return false;
}
if (course.value == "")
{
window.alert("please enter course
?"); owner.focus(); return false;
}
}
</script>
</head>
<body>
<form method="post" name="myform" onsubmit="return validate();">
<center>
<h1>Insert Record</h1>
</center>
<table>
<tr>
<td>Roll No</td>
<td><input type="text" name="txt_rno"></td>
</tr>
<tr>
<td>Name</td>

```



```

<td><input type="text" name="txt_name"></td>
</tr>
<tr>
<td>Sem</td>
<td><input type="text" name="txt_sem"></td>
</tr>
<tr>
<td>Course</td>
<td><input type="text" name="txt_course"></td>
</tr>
<tr>
<td><input type="submit" name="btn_add" value="Insert"></td>
</tr>
</table>
<center>
<h1><a href="index.jsp">Back</a></h1>
</center>
</form>
</body> </html>

```

### **Update.jsp :**

```

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

<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres";
String password ="password";
Connection con =null;
Class.forName(driver).newInstance(); con =
DriverManager.getConnection(url,username,password);
System.out.println("Opened database successfully");
if(request.getParameter("btn_update")!=null) //check button click event not null
{
int hide,rno,name,semester,course;; String
rno_up,name_up,semester_up,course_up;
hide=Integer.parseInt(request.getParameter("txt
_hide")); //it is hidden id get for update record
rno_up=request.getParameter("txt_rno");
name_up=request.getParameter("txt_name");
//txt_name
semester_up=request.getParameter("txt_semest
er");
course_up=request.getParameter("txt_course");
PreparedStatement pstmt=null; //create
statement

```

```

pstmt=con.prepareStatement("update student1 set rno=?,name=?, semester=?, course=? where id=?"); // update
query pstmt.setString(1,rno_up); pstmt.setString(2,name_up); pstmt.setString(3,semester_up);
pstmt.setString(4,course_up); pstmt.setInt(5,hide);
pstmt.executeUpdate(); //execute query con.close();
//connection close
out.println("Update Successfully...! Click Back link."); //after update record successfully message
}
}
catch(Exception e)
{
out.println(e);
}
%>
<html>
<head>
<title>JSP:Insert, Update, Delete using MySQL</title>

<!-- javascript for form validation-->
<script> function
validate()
{
var rno = document.myform.txt_rno; var name =
document.myform.txt_name; var semester =
document.myform.txt_semester; var course =
document.myform.txt_course;
if (rno.value == "")
{
window.alert("please enter rno
?"); name.focus(); return false;
}
if (name.value == "")
{
window.alert("please enter name
?"); name.focus(); return false;
}
if (semester.value == "")
{
window.alert("please enter sem
?"); owner.focus(); return false;
}
if (course.value == "")
{
window.alert("please enter course
?"); owner.focus(); return false; } }
</script>
</head>
<body>

<form method="post" name="myform" onsubmit="return validate();">
<center>
<h1>Update Record</h1>

```

```

</center>
<table>
<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres"; String
password ="admin"; Connection con
=null;
Class.forName(driver).newInstance(); con =
DriverManager.getConnection(url,username,password);
System.out.println("Opened database successfully");
if(request.getParameter("edit")!=null)
{
int id=Integer.parseInt(request.getParameter("edit"));
String rno,name,semester,course;
PreparedStatement pstmt=null; // create statement pstmt=con.prepareStatement("select *
from student1 where id=?"); // sql select query pstmt.setInt(1,id);
ResultSet rs=pstmt.executeQuery(); // execute query store in resultset object rs.
while(rs.next())
{ id=rs.getInt(1);
rno=rs.getString(2);
name=rs.getString(3);
semester=rs.getString(4)
; course=rs.getString(5);
}%>
<tr>
<td>Roll NO</td>
<td><input type="text" name="txt_rno" value="<%=rno%>"></td>
</tr>
<tr>
<td>Name</td>
<td><input type="text" name="txt_name" value="<%=name%>"></td>
</tr>
<tr>
<td>Sem</td>
<td><input type="text" name="txt_semester" value="<%=semester%>"></td>
</tr>
<tr>
<td>Course</td>
<td><input type="text" name="txt_course" value="<%=course%>"></td>
</tr>
<tr>
<td><input type="submit" name="btn_update" value="Update"></td>
</tr>
<input type="hidden" name="txt_hide" value="<%=id%>">
<%
}
}
}

```

```

catch(Exception e)
{
out.println(e);
}
%>
</table>
<center>
<h1><a href="index.jsp">Back</a></h1>
</center>
</form>
</body></html>

```

**Output:**

The screenshot shows a web browser window with the title "Tomcat v8.5 Server at local...". The address bar displays "http://localhost:8088/test1/Index.jsp". The page content features a large, bold, purple heading "Add Record" centered at the top. Below the heading is a table with the following data:

ID	Roll No	Name	Sem	Course	Update	Delete
1	53	sahil	1	mca	<a href="#">Edit</a>	<a href="#">Delete</a>
2	50	shub	3	mba	<a href="#">Edit</a>	<a href="#">Delete</a>

# Insert Record

Roll No	<input type="text" value="50"/>
Name	<input type="text" value="shub"/>
Sem	<input type="text" value="3"/>
Course	<input type="text" value="mba"/> x
<input type="button" value="Insert"/>	

[Back](#)

Data Output Messages Notifications					
<div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div>SQL</div></div></div>					
Showing rows: 1 to 2 <div></div> Page No: 1 of 1 <div></div>					
	id [PK] integer <div></div>	mo character varying (50) <div></div>	name character varying (50) <div></div>	semester character varying (50) <div></div>	course character varying (50) <div></div>
1	1	53	sahil	1	mca
2	2	50	shub	3	mba

**Problem Statement 4. Design loan calculator using JSP which accepts Period of Time (in years) and Principal Loan Amount. Display the payment amount for each loan and then list the loan balance and interest paid for each payment over the term of the loan for the following time period and interest rate:**

- a. 1 to 7 year at 5.35%**
- b. 8 to 15 year at 5.5%**
- c. 16 to 30 year at 5.75%**

**Cal.jsp :**

```
<% @page contentType="text/html" pageEncoding="UTF-8"%>
<!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=UTF-8">
    <title>JSP Page</title>
  </head>
  <body><br><br><center>
    <form action="test.jsp "><pre>
<h1>Principle :: <input type="text" name="principle" value="0 " ><br> No.
  of Years :: <input type="text" name="year" value="0 " ><br>
  Rate of Interest :: <input type="text" name="interest" value="0 " > %<br> <br>
  <input type="submit" value="Submit"></h1>

</pre></form></center>
  </body>
</html>
```

**Test.jsp:**

```
<% @page contentType="text/html" pageEncoding="UTF-8"%>
<!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=UTF-8">
<title>JSP Page</title>
</head>
<body><br><br><center><pre><H1>
<%
```

```
String ns= request.getParameter("principle");
String ns1= request.getParameter("year");
String ns2= request.getParameter("interest"); int
n1=Integer.parseInt(ns); int
n2=Integer.parseInt(ns1); float n3 =
Float.valueOf(ns2);

double
si=((n1*n2*n3)/100);
double x; x=n1+si; double r
= (n3)/(12*100); int mon;

mon=((n2)*12);
double emi= (n1*r*Math.pow(1+r,mon))/(Math.pow(1+r,mon)-1);
```

```
%>
<%
out.println("Principle = "+n1); out.println("
Years = "+n2);
out.println(" Rate of Interest = "+n3);
out.println("<br> "); out.println("Loan
Amount = "+n1);
out.println(" Interest Paid = "+si);
out.println(" Total Loan Amount = "+x);
out.println("<br> ");
out.print(" Loan Tenure in months= " +mon);
out.println("<br> "); out.print("
EMI is= "+emi+"\n");
```

```
%>
</H1>
</pre>
</center>
</body> </body>
</html>
```

### **Output:**

**b. 8 to 15 year at 5.5%**

cal.jsp marks.jsp JSP Page

https://localhost:1234/Marks/cal.jsp

Principle ::

No. of Years ::

Rate of Interest ::  %

**a. 1 to 7 year at 5.35%**

cal.jsp marks.jsp JSP Page

http://localhost:1234/Marks/cal/marks.jsp?principle=30000&year=4&interest=5.35

Principle = 30000  
Years = 4  
Rate of Interest = 5.35

Loan Amount = 30000  
Interest Paid = 6420.0  
Total Loan Amount = 36420.0

Loan Tenure in months= 48  
EMI is= 695.6452973299158

cal.jsp marks.jsp JSP Page

http://localhost:1234/Marks/cal/marks.jsp?principle=30000&year=10&interest=5.5

Principle = 30000  
Years = 10  
Rate of Interest = 5.5

Loan Amount = 30000  
Interest Paid = 16500.0  
Total Loan Amount = 46500.0

Loan Tenure in months= 120  
EMI is= 325.5788306695736

**c. 16 to 30 year at 5.75%**



Principle = 30000  
Years = 15  
Rate of Interest = 5.75

Loan Amount = 30000  
Interest Paid = 25875.0  
Total Loan Amount = 55875.0

Loan Tenure in months= 180

EMI is= 249.12302778152468

**Problem Statement 5. Write a program using JSP that displays a webpage consisting Application form for change of Study Center which can be filled by any student who wants to change his/ her study center. Make necessary assumptions**

```
<% @ page language="java" contentType="text/html; charset=ISO-8859-1" pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Study Center</title>
<link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.4.0/font/bootstrap-icons.css">
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta2/dist/css/bootstrap.min.css" rel="stylesheet"
integrity="sha384-BmbxuPwQa2lc/FVzBcNJ7UAyJxM6wquqIj61tLrc4wSX0szH/Ev+nYRRuWlolflfl"
crossorigin="anonymous">

</head>
<body>
<center>

<h1>Change of Study Center</h1>

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

<table>
<tr>
<td>UID No.</td>
<td><input type="text" name="uid" required/></td>
</tr>
<tr>
<td>
Current Center
</td>
<td>
<select name="currentCenter" required>
<option selected disabled hidden></option>
<option value="MUMBAI">MUMBAI</option>
<option value="PUNE">PUNE</option>
<option value="GUJRAT">GUJRAT</option>
</select>
</td>
</tr>
<tr>
<td>
New Center
</td>
<td>
<select name="newCenter" required>
<option selected disabled hidden></option>
<option value="MUMBAI">MUMBAI</option>
```

```

<option value="PUNE">PUNE</option>
<option value="GUJRAT">GUJRAT</option>
</select>
</td>
</tr>

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

</center>

<%

```

```

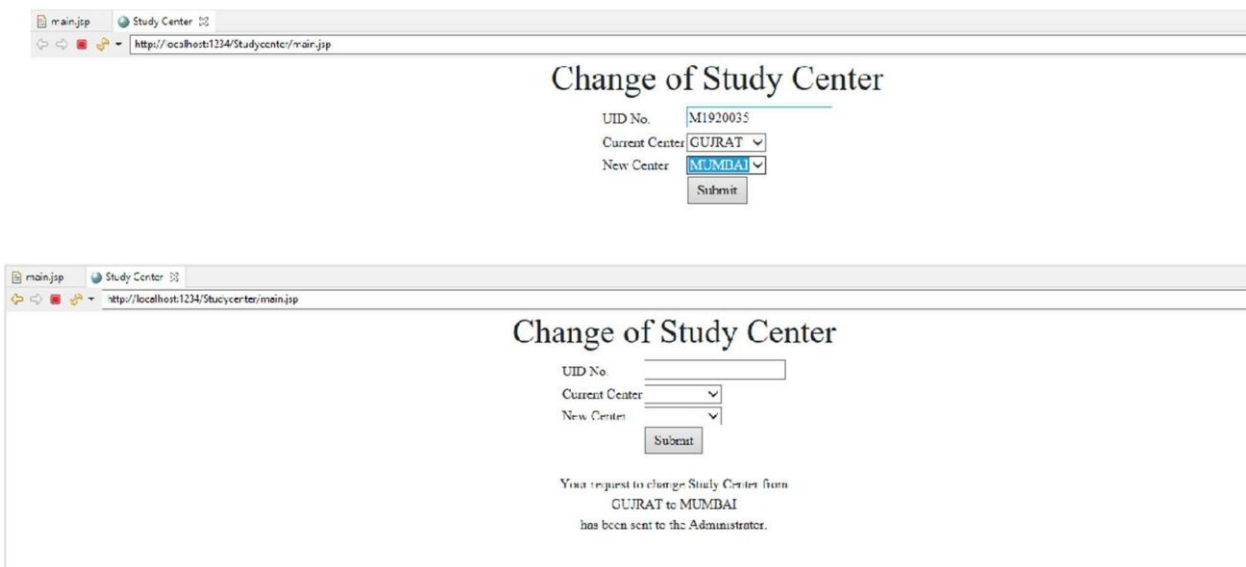
if(request.getParameter("uid") != null&& request.getParameter("currentCenter") != null&&
request.getParameter("newCenter") != null){
out.println("<center><br>Your request to change Study Center from <br>" +
request.getParameter("currentCenter") + " to " + request.getParameter("newCenter") + "<br> has been sent to the
Administrator.</center>"); }

%>

</body> </html>

```

## **Output:**



The first screenshot shows a web browser window with the URL `http://localhost:1234/Studycenter/main.jsp`. The page title is "Change of Study Center". The form contains the following fields:

- UID No. (Text input): M1920035
- Current Center (Dropdown menu): GUJRAT
- New Center (Dropdown menu): MUMBAI
- Submit (Button)

The second screenshot shows the same web browser window after the form has been submitted. The page title is still "Change of Study Center". The form fields are now empty. Below the form, a confirmation message is displayed:

Your request to change Study Center from  
GUJRAT to MUMBAI  
has been sent to the Administrator.

**Problem Statement 6. Write a JSP program that demonstrates the use of JSP declaration, scriptlet, directives, expression, header and footer.**

**Main.jsp :**

```
<% @ page language="java" contentType="text/html; charset=ISO-8859-1" pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>JSP EXAMPLE</title>
</head>
<body>
<% @ include file = "header.jsp" %>
<center>
<% ! int data=50; %>
<%= "Value of the variable is:"+data %>
<% !
double circle(int n){ return 3.14*n*n;}
%></br>
<%= "Area of circle is:"+ circle(3) %></br>
<% !
int rectangle(int l,int b){ return l*b;}
%>
<%= "Area of rectangle
is:"+rectangle(3,4 ) %></br> <% !
int perimeter(int x,int y){ int
peri=2*(x+y);
return peri;}
%>
<%= "Perimeter of rectanlge:"+perimeter(5,6
) %> </br>
<p>Thanks for visiting my page.</p>
</center>
<% @ include file = "footer.jsp" %>
</body>
</html>
```

**Header.jsp :**

```
<% @ page language="java" contentType="text/html; charset=ISO-8859-1" pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
```

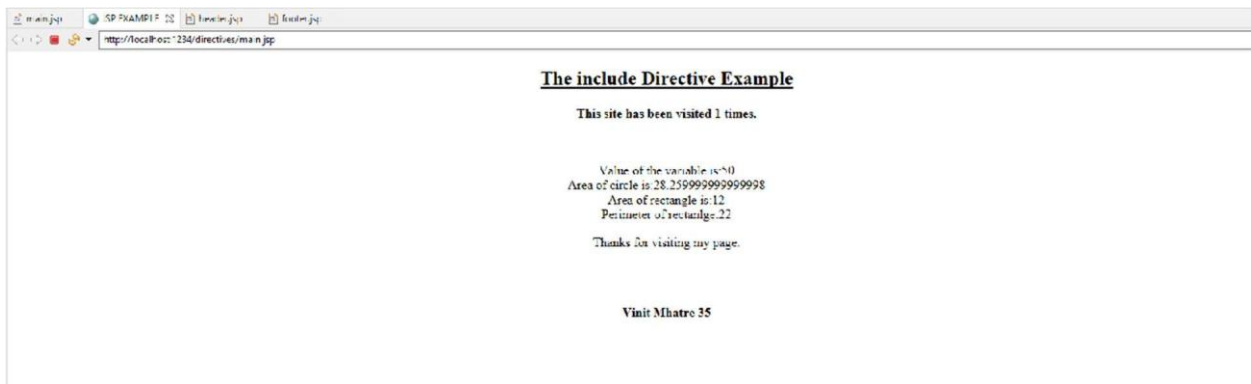
```
<%! int pageCount =
0; void addCount()
{ pageCount++;
}
%>
<% addCount(); %>
<html>
<head>
<title>JSP declaration, scriptlet, directives, expression, header and footer Example</title> </head>
<body>
<center>
<h2><u>The include Directive Example</u></h2>
<p><b>This site has been visited <%= pageCount %> times.</b></p>
</center>
<br/><br/>

</body>
</html>
```

### **Footer.jsp :**

```
<% @ page language="java" contentType="text/html; charset=ISO-8859-1" pageEncoding="ISO-8859-
1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<br/><br/>
<center> <p><b>Sahil Mhatre 35</b></p> </center> </body></html>
```

### **Output:**



## Problem Statement 7. Write a JSP program that demonstrates the use of session or cookies.

### Cookie.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>Cookie</title>
</head>
<body><center>
<br><br><br><br><br>
<form action="action.jsp" method="GET">
<h1>Program that demonstrates the use of session or cookies.</h1>
Username: <input type="text" name="username">
<br><br>
Email: <input type="text" name="email" />
<br><br>
<input type="submit" value="Submit" />
</center>
</form>
</body>
</html>
```

### Action.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">
<%

Cookie username = new
Cookie("username",
request.getParameter("username")); Cookie
email = new Cookie("email",
request.getParameter("email"));
username.setMaxAge(60*60*10);
email.setMaxAge(60*60*10);

// Add both the cookies in the response header.
response.addCookie( username );
response.addCookie( email );
%>

<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1">
<title>Cookie JSP</title>
</head>
```

[illegible]

**Output:**

