

**f. Develop simple shopping cart application using EJB [Stateful Session Bean].**

**Index.jsp**

```
<%@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/ShoppingCart/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;">Mobiles For Sale</h1><br>
<form name="frmBooks" method="post">
<table style="background-color: pink; width: 100%; padding: 1px; border-
spacing: 1px;">
```

```

<tr style="background-color: pink;">
<td style="width: 70%">
<table style="padding: 1px 1px 1px 1px; border-spacing: 1px; border: 2px
solid maroon; width: 400px;">
<tr>
<td style="border: 2px solid maroon;">Customer</td>
<td style="border: 2px solid maroon;">
<input type="text" name="txtCustomerName" value=<%=
request.getParameter("txtCustomerName")%> />
</td>
</tr>
<tr style="background-color: maroon;">
<th style="text-align: left; width: 340px; color: white; border: 2px solid
maroon;" colspan="2">
<b>Mobile Varieties</b>
</th>
</tr>
<tr>
<td style="border: 2px solid maroon;">
<input type="checkbox" name="chkBook" value="Realme">
</td>
<td style="width: 340px; border: 2px solid maroon;">Realme</td>
</tr>
<tr>
<td style="border: 2px solid maroon;">
<input type="checkbox" name="chkBook" value="IPhone">
</td>
<td style="width: 340px; border: 2px solid maroon;">IPhone</td>
</tr>
<tr>
<td style="border: 2px solid maroon;">
<input type="checkbox" name="chkBook" value="One Plus">
</td>
<td style="width: 340px; border: 2px solid maroon;">One Plus</td>
</tr>
<tr>
<td style="border: 2px solid maroon;">
<input type="checkbox" name="chkBook" value="Samsung">
</td>
<td style="width: 340px; height: 24px; border: 2px solid
maroon;">Samsung</td>
</tr>
<tr>
<td colspan="2" style="border: 2px solid maroon;">
<table style="background-color: pink; text-align: center;">
<tr>
<td style="text-align: center;">
<input type='submit' value='Add To My Basket' name='btnAddBook'>
</td>
<td style="text-align: center;">
<input type='submit' value='Remove From My Basket' name='btnRmvBook'>
</td>

```

```

</tr>
</table>
</td>
</tr>
</table>
</td>
<td>
<table style="border: 1px solid blue; width: 300px; height: 180px; text-align: right;">
<tr>
<td style="text-align: center; background-color: lightblue; border: 1px solid blue; height: 20px;">Basket</td>
</tr>
<%
if(cart!=null){
List<String> bookList = cart.getContents();
Iterator iterator = bookList.iterator();
while (iterator.hasNext()) {
String title = (String) iterator.next();
%>
<tr>
<td style="text-align: left; background-color: lightblue; border: 1px solid blue;"><%= title %></td>
</tr>
<%
}
}
%>
</table>
</td>
</tr>
</table>
</form>
</body>
</html>

```

```

Java/ejb→ShoppingCart.java
package ejb;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
import java.util.ArrayList;
import java.util.List;
import javax.ejb.Remove;
import javax.ejb.Stateful;
@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/test", "root",
"root");
        } 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;
}
}

```

**Output :**

**Mobiles For Sale**

Customer	Kanak
Mobile Varieties	
<input type="checkbox"/>	Realme
<input type="checkbox"/>	iPhone
<input type="checkbox"/>	One Plus
<input type="checkbox"/>	Samsung
<input type="button" value="Add To My Basket"/> <input type="button" value="Remove From My Basket"/>	

Basket
Realme
iPhone
One Plus

**Mobiles For Sale**

Customer	Kanak
Mobile Varieties	
<input type="checkbox"/>	Realme
<input type="checkbox"/>	iPhone
<input checked="" type="checkbox"/>	One Plus
<input type="checkbox"/>	Samsung
<input type="button" value="Add To My Basket"/> <input type="button" value="Remove From My Basket"/>	

Basket
Realme
iPhone

**g. Develop simple EJB application to demonstrate Servlet Hit count using Singleton Session Beans.**

**index.html**

```

<head>
    <meta http-equiv ="Refresh" content ="0,URL=ServletClient">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
</head>

```

**Ejb->C0untServlethitsbean.java**

```

package ejb;
import javax.ejb.Singleton;
@Singleton
public class C0untServlethitsbean {
    private int hitCount;
    public synchronized int incrementAndGetHitCount(){

```

```

        return hitCount++;
    }

```

#### Servlet->ServletClient.java

```

package servlet;

import ejb.C0untServlethitsbean;
import java.io.IOException;
import java.io.PrintWriter;
import javax.ejb.EJB;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

@WebServlet(name = "ServletClient", urlPatterns = {"/ServletClient"})
public class ServletClient extends HttpServlet {

    @EJB
    C0untServlethitsbean counterBean;

    protected void processRequest(HttpServletRequest request,
        HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()) {
            out.println("<body>");
            out.println("Kanak Patel 53003220111");
            out.println("<h1>Number of times this servlet is accesses
: "+counterBean.incrementAndGetHitCount()+"</h1>");
            out.println("</body>");
        }
    }
}

```

#### Output:

```
Kanak Patel 53003220111
```

**Number of times this servlet is accesses :6**

