EXP NO: 10	WEB APPLICATIONS USING JSP
24/10/2024	

1) AIM

To develop a simple Shopping Cart system using JSP. Create a

1) catalogue page containing product details like name, price, description, and an add-to-cart button.
2) cart page that shows details like name, price, quantity, amount, and total amount to be paid.

Using JSP, display the content in the cart page dynamically by retrieving the data from the catalogue page with sessions.

catalogue.jsp

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
   pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
   <title>Catalogue<title>
</head>
<body>
   <h1>Product Catalogue</h1>
   <form action="cart.jsp" method="post">
      <table border="1", style="border-collapse: collapse">
         <tr>
            <th>Name</th>
            <th>Description</th>
            <th>Price</th>
            <th>Add to Cart</th>
         </tr>
         <tr>
            <td>iPhone 16 Pro Max</td>
            <td>The latest iPhone, so obviously it has to be the 'best iPhone ever'.</td>
            <td>100000</td>
            <td><input type="checkbox" name="product" value="iPhone 16 Pro Max, 100000"></td>
         </tr>
         <tr>
            <td>CMF Buds</td>
            <td>TWS by CMF</td>
            <td>2000</td>
            <td><input type="checkbox" name="product" value="CMF Buds, 2000"></td>
         </tr>
         <tr>
            <td>Dell XPS 13</td>
```

```
            <td>The laptop of the future!</td>
            <td>300000</td>
            <td><input type="checkbox" name="product" value="Dell XPS 13, 300000"></td>
          </tr>
        </table>
        <br>
        <input type="submit" value="Add to Cart">
    </form>
</body>
</html>
```

cart.jsp

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%@ page import="java.util.Iterator, java.util.List, java.util.ArrayList, java.util.Map, java.util.HashMap,
jakarta.servlet.http.HttpSession" %>
<!DOCTYPE html>
<html>
<head>
    <title>Cart</title>
</head>
<body>
    <h1>Shopping Cart</h1>
    <%
                                session.setMaxInactiveInterval(60);
        session = request.getSession();
        List<String> cart = (List<String>) session.getAttribute("cart");
        if (cart == null) cart = new ArrayList<>();

        String[] products = request.getParameterValues("product");
        if (products != null)
            for (String product : products)
                cart.add(product);

        session.setAttribute("cart", cart);

        Map<String, Integer> quantities = new HashMap<>();
        Map<String, Double> prices = new HashMap<>();
        for (String item : cart) {
            String[] details = item.split(",");
            String name = details[0];
            double price = Double.parseDouble(details[1]);

                                    if (quantities.containsKey(name)) quantities.put(name, quantities.get(name) + 1);
                                    else quantities.put(name, 1);

            prices.put(name, price);
        }
        double total = 0;    %>
```

```
  <table border="1" style="border-collapse: collapse">
    <tr>
      <th>Name</th>
      <th>Price</th>
      <th>Quantity</th>
      <th>Amount</th>
    </tr>
    <%
                        Iterator <String> iterator = quantities.keySet().iterator();
                        while (iterator.hasNext()) {
                    String name = iterator.next();
        int quantity = quantities.get(name);
        double price = prices.get(name);
        double amount = price * quantity;
        total += amount;
    %>
    <tr>
      <td><%= name %></td>
      <td><%= price %></td>
      <td><%= quantity %></td>
      <td><%= amount %></td>
    </tr>
    <% } %>
    <tr>
      <td colspan="3"><strong>Total Amount</strong></td>
      <td><%= total %></td>
    </tr>
  </table>
  <br>
  <a href="catalogue.jsp">Continue Shopping</a>
</body>
</html>
```

OUTPUT

Product Catalogue

Name	Description	Price	Add to Cart
iPhone 16 Pro Max	The latest iPhone, so obviously it has to be the 'best iPhone ever'.	100000	☑
CMF Buds	TWS by CMF	2000	☑
Dell XPS 13	The laptop of the future!	300000	☑

Add to Cart

Product Catalogue

Name	Description	Price	Add to Cart
iPhone 16 Pro Max	The latest iPhone, so obviously it has to be the 'best iPhone ever'.	100000	☐
CMF Buds	TWS by CMF	2000	☑
Dell XPS 13	The laptop of the future!	300000	☐

Add to Cart

Shopping Cart

Name	Price	Quantity	Amount
Dell XPS 13	300000.0	1	300000.0
CMF Buds	2000.0	1	2000.0
iPhone 16 Pro Max	100000.0	1	100000.0
Total Amount			402000.0

Continue Shopping

Shopping Cart

Name	Price	Quantity	Amount
Dell XPS 13	300000.0	1	300000.0
CMF Buds	2000.0	2	4000.0
iPhone 16 Pro Max	100000.0	1	100000.0
Total Amount			404000.0

Continue Shopping

2) AIM

To write a client-server JSP program to find the simple interest and display the result to the client.

1) Create an HTML form for inputting the P, N, and R values, which acts as the client.
2) These values will be sent to the server JSP for calculating the simple interest. The computed interest value is displayed by the JSP page.

index.html

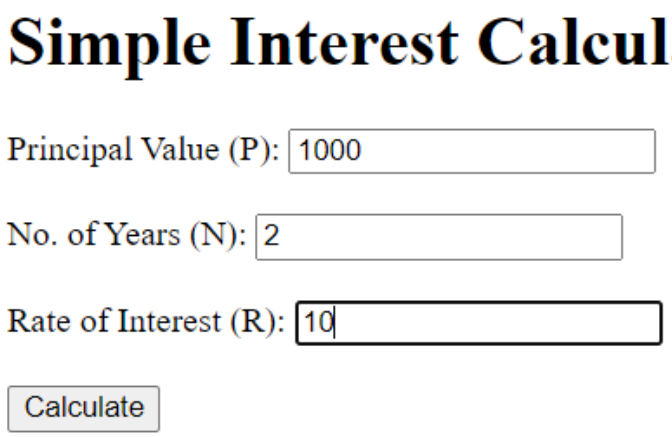
```
<!DOCTYPE html>
<html>
<head>
  <title>Simple Interest Calculator</title>
</head>
<body>
  <h1>Simple Interest Calculator</h1>
  <form action="calculate.jsp" method="get">
    <label for="principal">Principal Value (P): </label>
    <input type="number" id="principal" name="principal" required><br><br>

    <label for="years">No. of Years (N): </label>
    <input type="number" id="years" name="years" required><br><br>

    <label for="rate">Rate of Interest (R): </label>
    <input type="text" id="rate" name="rate" required><br><br>

    <input type="submit" value="Calculate">
  </form>
</body>
</html>
```

OUPUT:



Calculation Result

Principal: 1000.0

Years: 2.0

Rate of Interest: 10.0

Simple Interest: 200.0

Total Amount: 1200.0

Go Back to Calculator

Evaluation Criteria	**Observation**	**Record**
Ability for problem definition and realisation	**/10**	**/10**
Ability to design and analyse	**/10**	**/10**
Ability to implement and validate	**/10**	**/10**

RESULT

Simple web applications were successfully developed using Java Server Pages.