



UNIVERSITI MALAYSIA TERENGGANU

CSM3023 – WEB BASED APPLICATION

BACHELOR OF COMPUTER SCIENCE (MOBILE COMPUTING) WITH HONORS

LAB 3 - JSP

SEMESTER II 2023/2024

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(S67614)

Task 1

MemberRegister.jsp

```
1  <!--
2      Document    : memberRegister
3      Created on  : 17 Apr 2024, 4:20:56pm
4      Author     : Iqbal Rauf
5  -->
6
7  <%@page contentType="text/html" pageEncoding="UTF-8"%>
8  <!DOCTYPE html>
9  <html>
10     <head>
11         <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
12         <title>Registration</title>
13     </head>
14     <body>
15         <h1>Passing data from main JSP page to other JSP page</h1>
16         <form id="memberFrm" action="memberProcessing.jsp" method="post" onsubmit="return checkICNo()">
17             <fieldset>
18                 <legend>Member Registration</legend>
19                 <label for="invoiceno">IC No *</label>
20                 <input type="text" id="icno" name="my_icno" size="15" placeholder="E.g 921012101245"<br/>
21
22                 <label for="name">Name</label>
23                 <input type="text" id="name" name="my_name" size="45" placeholder="Key-in your Name"<br/>
24
25                 <p>
26                     <input type="submit" id="btnSubmit" value="Submit"/>
27                     <input type="reset" id="btnCancel" value="Cancel"/>
28                 </p>
29             </fieldset>
30         </form>
31     </body>
32 </html>
```

MemberProcessing.jsp

```

1 <!--
2   Document   : memberProcessing
3   Created on : 17 Apr 2024, 5:23:34 pm
4   Author    : Fiza
5   -->
6
7 <%@page contentType="text/html" pageEncoding="UTF-8"%>
8 <!DOCTYPE html>
9 <html>
10 <head>
11 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
12 <title>Lab 3 - Task 1</title>
13 </head>
14 <body>
15 <h1>Passing data from main JSP's page to other JSP's page</h1>
16 <fieldset>
17 <%
18     //Define variables...
19     String myIC = null;
20     String myName = null;
21
22     //Use request.getParameter() method to retrieve data from main's form...
23     myIC = request.getParameter("my_icno");
24     myName = request.getParameter("my_name");
25 >%
26
27 <!-- Display the output... -->
28 <p>Thank you for registering in this event..!</p>
29 <p>This is your details;</p>
30 <p>IC No : <%=myIC%></p>
31 <p>Name : <%=myName%></p>
32 </fieldset>
33 </body>
34 </html>
35

```

Result

Passing data from main JSP page to other JSP page

Member Registration

IC No * Name

Passing data from main JSP's page to other JSP's page

Thank you for registering in this event..!

This is your details;

IC No : 030405140341

Name : Iqbal Rauf

Reflection

1. How do you want to submit specific information from one form to next form?

By using post method and assigning field name.

2. What happened if the field name you specify in

`request.getParameter("field_name")` in second page is different from the field name you defined in first page?

The information we intended to refer cannot be referred.

TASK 2

Calculator.jsp

```

1 <%--
2     Document    : Calculator
3     Created on  : 20 Apr 2024, 11:41:00 pm
4     Author     : Iqbal Rauf
5 --%>
6
7 <%@page contentType="text/html" pageEncoding="UTF-8"%>
8 <!DOCTYPE html>
9 <html>
10 <head>
11     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
12     <title>JSP Page</title>
13 </head>
14 <body bgcolor="#a00fff" text="gold">
15
16     <%
17         String num1 = "0", num2 = "0";
18         int result = 0;
19         String op = "+";
20
21         char opchar = op.charAt(0);
22         if (request.getParameter("op") != null){
23             op = request.getParameter("op");
24             opchar = op.charAt(0);
25
26             num1 = request.getParameter("operand1");
27             num2 = request.getParameter("operand2");
28
29             switch(opchar){
30                 case '0': result = Integer.parseInt(num1) + Integer.parseInt(num2);
31                 break;
32                 case '1': result = Integer.parseInt(num1) - Integer.parseInt(num2);
33                 break;
34                 case '2': result = Integer.parseInt(num1) * Integer.parseInt(num2);
35                 break;
36                 case '3': result = Integer.parseInt(num1) / Integer.parseInt(num2);
37                 break;

```

```

38         case '4': result = Integer.parseInt(num1) % Integer.parseInt(num2);
39         break;
40     }
41 }
42 %>
43
44 <center>
45
46 <h2>Basic calculator program in jsp</h2>
47 <form method="get" name="f1">
48     <input type="text" size="20" name="operand1" value= <%= num1 %> />
49
50     <select name = op size = 1>
51         <option value ="0" >+</option>
52         <option value ="1" >-</option>
53         <option value ="2" >*</option>
54         <option value ="3" >/</option>
55         <option value ="4" >%</option>
56     </select>
57
58     <input type="text" size="20" name="operand2" value= <%= num2 %> />
59     <p>
60         <input type = submit value = Calculate />
61
62     Result = <%= result + " " %>
63 </form>
64 </body>
65 </html>

```

Result

Basic calculator program in jsp

Result = 15

Reflection

1. How do you want to submit specific information from one form to next form?

By using post method and assigning field name.

2. What happened if the field name you specify in

request.getParameter("field_name") in second page is different from the field name you defined in first page?

The information we intended to refer cannot be referred.

TASK 4

CalculateCarLoan.jsp

```
1 <%--
2     Document    : processCalculateCarLoan
3     Created on  : 17 Apr 2024, 3:46:58 pm
4     Author     : Iqbal Rauf
5 --%>
6
7 <%@page contentType="text/html" pageEncoding="UTF-8"%>
8 <!DOCTYPE html>
9 <html lang="en">
10 <head>
11     <meta charset="UTF-8">
12     <meta name="viewport" content="width=device-width, initial-scale=1.0">
13     <title>Car Loan Result</title>
14 </head>
15 <body>
16     <h1>Car Loan Result</h1>
17     <%
18         // Retrieve parameters from the request
19         String loanAmountStr = request.getParameter("loanAmount");
20         String loanPeriodStr = request.getParameter("loanPeriod");
21
22         // Parse parameters to integers
23         int loanAmount = Integer.parseInt(loanAmountStr);
24         int loanPeriod = Integer.parseInt(loanPeriodStr);
25
26         // Calculate annual interest rate based on loan period
27         double annualInterestRate;
28         if (loanPeriod < 5) {
29             annualInterestRate = 0.028; // 2.8% annual interest rate for loan period less than 5 years
30         } else {
31             annualInterestRate = 0.045; // 4.5% annual interest rate for loan period 5 years or more
32         }
33
34         double monthlyInterestRate = annualInterestRate / 12;
35         int totalMonths = loanPeriod * 12;
36
37         // Calculate monthly payment
38         double monthlyPayment = (loanAmount * monthlyInterestRate) / (1 - Math.pow(1 + monthlyInterestRate, -totalMonths));
39
40         // Calculate total loan with interest
41         double totalLoan = monthlyPayment * totalMonths;
42
43         // Display result
44     %>
45     <p>Loan Amount: RM <%= loanAmount %></p>
46     <p>Loan Period: <%= loanPeriod %> years</p>
47     <p>Annual Interest Rate: <%= annualInterestRate * 100 %></p>
48     <p>Monthly Payment: RM <%= String.format("%.2f", monthlyPayment) %></p>
49     <p>Total Loan (+interest): RM <%= String.format("%.2f", totalLoan) %></p>
50 </body>
51 </html>
```

CalculateCarLoan.html

```

1 <!DOCTYPE html>
2 <!--
3 Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
4 Click nbfs://nbhost/SystemFileSystem/Templates/JSP\_Servlet/Html.html to edit this template
5 -->
6 <!DOCTYPE html>
7 <html lang="en">
8 <head>
9   <meta charset="UTF-8">
10  <meta name="viewport" content="width=device-width, initial-scale=1.0">
11  <title>Car Loan Calculator</title>
12 </head>
13 <body>
14   <h1>Car Loan Calculator</h1>
15   <form action="processCalculateCarLoan.jsp" method="post">
16     <label for="loanAmount">Loan Amount:</label>
17     <input type="number" id="loanAmount" name="loanAmount" placeholder="Enter loan amount" required><br><br>
18
19     <label for="loanPeriod">Loan Period:</label>
20     <select id="loanPeriod" name="loanPeriod" required>
21       <option value="3">3 year</option>
22       <option value="4">4 years</option>
23       <option value="5">5 years</option>
24       <option value="6">6 years</option>
25       <option value="7">7 years</option>
26       <option value="8">8 years</option>
27       <option value="9">9 years</option>
28     </select><br><br>
29
30     <button type="submit">Calculate</button>
31   </form>
32 </body>
33 </html>

```

Result

Car Loan Calculator

Loan Amount:

Loan Period:

Car Loan Result

Loan Amount: RM 100000

Loan Period: 5 years

Annual Interest Rate: 4.5%

Monthly Payment: RM 1864.30

Total Loan (+interest): RM 111858.12

Reflection

1. How you want to retrieve data from previous page?

By using request.getParameter method.

2. Where the construction of logic occur for calculating Total Loan (+ interest) ?

After we received all the required datas from previous page.

TASK 5

ArrayList.jsp

```
1  <!--
2      Document    : ArrayList
3      Created on  : 20 Apr 2024, 11:49:24 pm
4      Author     : Iqbal Rauf
5  -->
6
7  <%@page contentType="text/html" pageEncoding="UTF-8"%>
8  <%@page import="java.util.ArrayList" %>
9  <!DOCTYPE html>
10 <html>
11 <head>
12     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
13     <title>Use Java ArrayList</title>
14 </head>
15 <body>
16     <h1>Use JSP Page Directive</h1>
17     <%
18         ArrayList<String> studentList = new ArrayList<String>();
19
20         studentList.add(0, "Mohamad Azam");
21         studentList.add(1, "Peter Chong");
22         studentList.add(2, "Rahimah Mansor");
23         studentList.add(3, "Sri Devi");
24         studentList.add(4, "Ng Hue Wen");
25         studentList.add(5, "S. Nagarajan");
26
27         out.println("<p>The number of records in ArrayList are " + studentList.size() + "</p>");
28
29         for (int i=0; i< studentList.size(); i++) {
30             out.println("<p>Record " + (i+1) + " is " + studentList.get(i) + "</p>");
31         }
32     %>
33 </body>
34 <br/>
35 <footer>&copy; 2024-Iqbal Rauf</footer>
36 </html>
```

Result



Reflection:

1. What you have learnt from this exercise?

I learned how to utilize Java ArrayList in JSP to store and manipulate data dynamically.

2. Write a sample syntax how you want to use java Math object in JSP?

`<%@page import="java.lang.Math"%>`

3. List and write a sample syntax for THREE (3) of JSP page directive.

`<%@page import="java.util.ArrayList"%>`

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

`<%@page language="java" %>`

TASK 6

HeaderPage.jsp

```
1 <!--
2     Document    : HeaderPage
3     Created on  : 21 Apr 2024, 12:05:47 am
4     Author     : Iqbal Rauf
5 -->
6
7 <%@page contentType="text/html" pageEncoding="UTF-8"%>
8 <!DOCTYPE html>
9 <html>
10 <head>
11     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
12     <title>Header Page</title>
13     <style>
14         header {
15             background-color: yellow;
16             text-align: right;
17         }
18     </style>
19 </head>
20 <body>
21     <header>
22         <h1>ABC Sdn Bhd</h1>
23     </header>
24 </body>
25 </html>
```

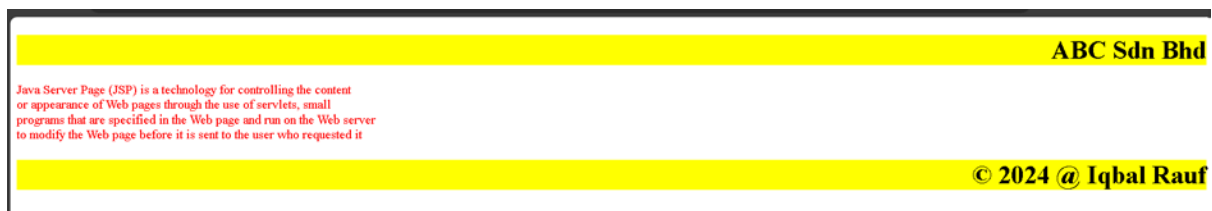
MainPage.jsp

```
1 <!--
2     Document    : MainPage
3     Created on  : 21 Apr 2024, 12:06:31 am
4     Author     : Iqbal Rauf
5 -->
6
7 <%@page contentType="text/html" pageEncoding="UTF-8"%>
8 <%@ include file="headerPage.jsp" %>
9 <!DOCTYPE html>
10 <html>
11 <head>
12     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
13     <title>Main Page</title>
14     <style>
15         p {
16             color: red;
17         }
18     </style>
19 </head>
20 <body>
21     <p>Java Server Page (JSP) is a technology for controlling the content<br/>
22     or appearance of Web pages through the use of servlets, small<br/>
23     programs that are specified in the Web page and run on the Web server<br/>
24     to modify the Web page before it is sent to the user who requested it</p>
25 </body>
26 <%@ include file="FooterPage.jsp" %>
27 </html>
```

FooterPage.jsp

```
1 <%--
2     Document    : FooterPage
3     Created on  : 21 Apr 2024, 12:07:16 am
4     Author     : Iqbal Rauf
5 --%>
6
7 <%@page contentType="text/html" pageEncoding="UTF-8"%>
8 <!DOCTYPE html>
9 <html>
10 <head>
11     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
12     <title>Footer Page</title>
13     <style>
14         footer {
15             background-color: yellow;
16             text-align: right;
17         }
18     </style>
19 </head>
20 <body>
21     <footer>
22         <h1>&copy; 2024 @ Iqbal Rauf</h1>
23     </footer>
24 </body>
</html>
```

Result



Reflection:

1. What you have learnt from this exercise?

This exercise demonstrates the usage of JSP include directive to modularize web pages by separating common elements such as header and footer into separate files.

2. Write a syntax how you want to include common.html file that located at a directory known as master.

```
<%@ include file="master/common.html" %>
```

Exercise

Temperature.jsp

```
1 <%--
2     Document    : temperature
3     Created on  : 22 Apr 2024, 10:01:34 pm
4     Author     : Iqbal Rauf
5 --%>
6
7 <%@ page language="java" contentType="text/html; charset=UTF-8"
8     pageEncoding="UTF-8"%>
9 <!DOCTYPE html>
10 <html>
11 <head>
12 <meta charset="UTF-8">
13 <title>Temperature Conversion</title>
14 </head>
15 <body>
16 <h2>Temperature Conversion</h2>
17 <form action="<%= request.getContextPath() %>/temperature.jsp" method="post">
18     Enter temperature in Celsius: <input type="number" step="any" name="celsius" required><br>
19     <input type="submit" value="Convert to Fahrenheit">
20 </form>
21 <%
22     if (request.getMethod().equals("POST")) {
23         double celsius = Double.parseDouble(request.getParameter("celsius"));
24         double fahrenheit = (9.0/5.0) * celsius + 32;
25     }
26 <p><%= String.format("Temperature in Fahrenheit: %.2f", fahrenheit) %></p>
27 <%
28 }
29 %>
30 </body>
</html>
```

Result

Temperature Conversion

Enter temperature in Celsius:

Temperature Conversion

Enter temperature in Celsius:

Temperature in Fahrenheit: 98.60

Rectangle.jsp

```

1  <!--
2      Document    : rectangle
3      Created on  : 22 Apr 2024, 10:00:07 pm
4      Author     : Iqbal Rauf
5  -->
6
7  <%@ page language="java" contentType="text/html; charset=UTF-8"
8      pageEncoding="UTF-8"%>
9  <!DOCTYPE html>
10 <html>
11 <head>
12 <meta charset="UTF-8">
13 <title>Rectangle Area Comparison</title>
14 </head>
15 <body>
16     <h2>Rectangle Area Comparison</h2>
17     <form action="<%= request.getContextPath() %>/rectangle.jsp" method="post">
18         Rectangle 1:<br>
19         Length: <input type="number" step="any" name="length1" required><br>
20         Width: <input type="number" step="any" name="width1" required><br>
21         <br>
22         Rectangle 2:<br>
23         Length: <input type="number" step="any" name="length2" required><br>
24         Width: <input type="number" step="any" name="width2" required><br>
25         <br>
26         <input type="submit" value="Compare Areas">
27     </form>
28
29     <!-- Processing form submission and displaying result -->
30     <% if (request.getMethod().equals("POST")) {
31         double length1 = Double.parseDouble(request.getParameter("length1"));
32         double width1 = Double.parseDouble(request.getParameter("width1"));
33         double length2 = Double.parseDouble(request.getParameter("length2"));
34         double width2 = Double.parseDouble(request.getParameter("width2"));
35
36         double area1 = length1 * width1;
37         double area2 = length2 * width2;
38
39         String result;
40         if (area1 > area2) {
41             result = "Rectangle 1 has a greater area.";
42         } else if (area1 < area2) {
43             result = "Rectangle 2 has a greater area.";
44         } else {
45             result = "Both rectangles have the same area.";
46         }
47     %>
48     <p><%= result %></p>
49     <% } %>
50 </body>
51 </html>

```

Result

Rectangle Area Comparison

Rectangle 1:

Length:

Width:

Rectangle 2:

Length:

Width:

Rectangle Area Comparison

Rectangle 1:

Length:

Width:

Rectangle 2:

Length:

Width:

Rectangle 2 has a greater area.