



**UNIVERSITI MALAYSIA TERENGGANU**

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**CSM3023 – WEB BASED APPLICATION DEVELOPMENT**

**BACHELOR OF COMPUTER SCIENCE (MOBILE COMPUTING) WITH HONORS**

**LAB 3**

**SEMESTER II 2023/2024**

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## TASK 1

### memberRegister.jsp

```
<%@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>Passing data from JSP's page to other JSP's page</h1>
    <form id="memberFrm" action="memberProcessing.jsp" method="post" onsubmit="return CheckICNo()">
      <fieldset>
        <legend>Member Registration</legend>
        <label for="invoiceno">IC No *</label>
        <input type="text" id="icno" name="my_icno" size="15" placeholder="E.g 901012101245"><br>

        <label for="name">Name</label>
        <input type="text" id="name" name="my_name" size="45" placeholder="Key-in your name"><br>

        <p><input type="submit" id="btnSubmit" value="Submit"/>
          <input type="reset" id="btnCancel" value="Cancel"/>
        </p>
      </fieldset>
    </body>
  </html>
```

### memberProcessing.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
  </head>
  <body>
    <h1>Passing data from main JSP's page to other JSP's page</h1>
    <fieldset>
      <%
        String myIC =null;
        String myName = null;

        myIC = request.getParameter("my_icno");
        myName = request.getParameter("my_name");
      %>

      <p>Thank you fr registering in this event...!</p>
      <p>This is your details;</p>
      <p>IC No: <%=myIC%></p>
      <p>Name: <%=myName%></p>
    </fieldset>
  </body>
</html>
```

## Output

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

Member Registration

Ic No \*

Name

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

Thank you fr registering in this event..!

This is your details;

IC No: 01101011110

Name: Alia

## Reflection

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

I used method post to submit to information to another page

### 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?

It will return error as it will return null because it wont find parameter with the specific name

## TASK 2

```

<%@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 bgcolor="#a00fff" text="gold">
    <center>
      <h2>Basic calculator program in jsp</h2>
      <% String num1 = "0"; %>
      <% String num2 = "0"; %>
      <form method="get" name="f1">
        <input type="text" size="20" name="operand1" value="<%= num1 %>"/>

        <select name = op size = "1">
          <option value = "0" >+</option>
          <option value = "1" >-</option>
          <option value = "2" >*</option>
          <option value = "3" >/</option>
          <option value = "5" >%</option>
        </select>

        <input type="text" size="20" name="operand2" value = "<%= num2 %>"/> <p><br><br><br><br>
        <input type = submit value = Calculate />
      </form>
    </center>
  </body>
</html>

```

```

<%
  int result = 0;
  String op = "+";

  char opchar = op.charAt(0);
  if (request.getParameter("op") != null) {
    op = request.getParameter("op");
    opchar = op.charAt(0);

    num1 = request.getParameter("operand1");
    num2 = request.getParameter("operand2");

    switch(opchar) {
      case '0': result = Integer.parseInt(num1) + Integer.parseInt(num2); break;
      case '1': result = Integer.parseInt(num1) - Integer.parseInt(num2); break;
      case '2': result = Integer.parseInt(num1) * Integer.parseInt(num2); break;
      case '3': result = Integer.parseInt(num1) / Integer.parseInt(num2); break;
      case '4': result = Integer.parseInt(num1) % Integer.parseInt(num2); break;
    }
  }
%>

Result = <%= result + " " %>
</html>

```

## Basic calculator program in jsp

0 + ▾ 0

Calculate

Result = 25

### Reflection

1. **How do you want to submit specific information from one form to next form?**  
I used method get
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?**  
It will return error as it will return null because it wont find parameter with the specific name

### TASK 3

```
<%
    String[][] salesData = {
        {"Salesman 1", "2500", "2100", "2200"},
        {"Salesman 2", "2000", "1900", "2400"},
        {"Salesman 3", "1800", "2200", "2450"}
    };
%>

<table border="1">
    <thead>
        <tr>
            <th>Salesman</th>
            <th>Jan</th>
            <th>Feb</th>
            <th>Mac</th>
        </tr>
    </thead>
    <tbody>
        <%
            for(int i=0; i<salesData.length; i++){
                <%>
                <tr>
                    <td><%= salesData[i][0] %></td>
                    <td><%= salesData[i][1] %></td>
                    <td><%= salesData[i][2] %></td>
                    <td><%= salesData[i][3] %></td>
                </tr>
            <%>
        }
    <%>
        </tbody>
    </table>
</body>
```

### Output

## Read Java array and populate it into HTML's table

Salesman	Jan	Feb	Mac
Salesman 1	2500	2100	2200
Salesman 2	2000	1900	2400
Salesman 3	1800	2200	2450

### Reflection

#### 1. Write a sample syntax to declare 2D Java array.

```
String[][] salesData = {
    {"Salesman 1", "2500", "2100", "2200"},
    {"Salesman 2", "2000", "1900", "2400"},
    {"Salesman 3", "1800", "2200", "2450"}
}
```

#### 2. Define a sequence of steps on how you accomplish Task 7.

- Define 2d array which is salesData
- Design table in html code within jsp page
- Use scriptlet tag which is `<% %>` to embed java code within html
- Display result of the table

### 3. What is the difference between HTML's page and JSP's page

Html is a static and it doesn't allow integration Java code while jsp is a dynamic and it allow integration of java code into html.

#### TASK 4

##### calculateCarLoan.jsp

```
<html>
<head>
  <title>TODO supply a title</title>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
  <h1>Perform Car Loan Calculation</h1>
  <form action="processCalculateCarLoan.jsp" method="post">
    <fieldset>
      <legend>Loan Calculation</legend>
      <label>Loan Amount* </label>
      <input type="text" name="amount" placeholder="Amount"><br><br>

      <label>Period: </label>
      <select name="p">
        <option value="3">3 years</option>
        <option value="4">4 years</option>
        <option value="5">5 years</option>
        <option value="7">7 years</option>
      </select><br><br>
      <input type="submit" id="btnsubmit" value="Submit">
      <input type="reset" value="Cancel">
    </fieldset>
  </form>
</body>
</html>
```

##### ProcessCalculateCarLoan.jsp

```
<html>
<head>
  <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
  <title>JSP Page</title>
</head>
<body>
  <h1>Perform Car Loan</h1>
  <fieldset>
    <h1>Details of car Loan</h1>

    <%
      double loanAmount = 0;
      int period = 0;

      loanAmount = Double.parseDouble(request.getParameter("amount"));
      period = Integer.parseInt(request.getParameter("p"));

      double interestRate = 0;
      double total = 0;

      if(period < 5){
        interestRate = 0.28;
      }
      else{
        interestRate = 0.45;
      }

      total = (interestRate * loanAmount) + loanAmount;

      out.print("<p>Loan Request : "+loanAmount+"</p>");
      out.print("<p>Period of payment : "+period+"</p>");
      out.print("<p>Total Loan (+ interest) : "+total+"</p>");
    %>

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

Output

## Perform Car Loan Calculation

Loan Calculation

Loan Amount\*

5000

Period:

3 years ▼

Submit

Cancel

## Perform Car Loan

Details of car Loan

Loan Request : 5000.0

Period of payment : 3

Total Loan (+ interest) : 6400.0

### Reflection

1. **How you want to retrieve data from previous page?**  
I use post method
2. **Where the construction of logic occur for calculating Total Loan ( + interest) ?**  
in processCarLoan.jsp in the scriptlet tag.



## TASK 5

```
<html>
<head>
  <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
  <title>Use Java ArrayList</title>
</head>
<body>
  <h1>Use JSP Page Directive</h1>
  <%
    ArrayList<String> studentList = new ArrayList<String>();

    studentList.add(0, "Mohamad Azam");
    studentList.add(1, "Peter Chong");
    studentList.add(2, "Rahimah Mansor");
    studentList.add(3, "Sri Devi");
    studentList.add(4, "Ng Hue Ween");
    studentList.add(5, "S. Nagarajan");

    out.println("<p>The number of record in ArrayList are "+studentList.size() + "</p>");

    for (int i=0; i < studentList.size(); i++){
      out.println("<p>Record " + (i+1) + " is " + studentList.get(i) + "</p>" );
    }

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

### Output

## Use JSP Page Directive

The number of record in ArrayList are 6

Record 1 is Mohamad Azam

Record 2 is Peter Chong

Record 3 is Rahimah Mansor

Record 4 is Sri Devi

Record 5 is Ng Hue Ween

Record 6 is S. Nagarajan

### Reflection

1. What you have learnt from this exercise?
2. Write a sample syntax how you want to use java Math object in JSP?
3. List and write a sample syntax for THREE (3) of JSP page directive.

## TASK 6

### mainPage.jsp

```
<%@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>
    <style>
      p{
        color: red;
      }
    </style>
  </head>
  <body>
    <jsp:include page="headerPage.jsp"/>
    <h1>Using JSP Include directive</h1>
    <br><br><br>
    <p>Java Server Page (JSP) is a technology for controlling the content or appearance of
      Web pages through the use of servlets, small programs that are specified in the Web page and
      on the Web server to modify the Web page before it is sent to the user who request it.</p>
    <jsp:include page="footerPage.jsp"/>
  </body>
</html>
```

### headerPage.jsp

```
<%@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>
    <style>
      .bg{
        background-color: #ffc30f;
        text-align: right;
      }
    </style>
  </head>
  <body>
    <div class="bg">
      <h1>ABC sdn Bhd</h1>
    </div>
  </body>
</html>
```

## Footer.jsp

```
<%@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>
    <style>
      footer{
        background-color: #ffc30f;
        text-align: center;
      }
    </style>
  </body>
  <footer>
    &copy;2016-Mphamad Nor
  </footer>
</html>
```

## Output

**ABC sdn Bhd**

## Using JSP Include directive

Java Server Page (JSP) is a technology for controlling the content or appearance of Web pages through the use of servlets, small programs that are specified in the Web page and run on the Web server to modify the Web page before it is sent to the user who request it.

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## Reflection

### 1. What you have learnt from this exercise?

I learnt that I can actually combine different jsp page in one page.

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

```
<jsp:include page="headerPage.jsp"/>
```

## EXERCISE 1

### fahrTemp.jsp

```
<%@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>
    <form action="convertTemp.jsp" method="post">
      <label>Enter temperature</label>
      <input type="text" name="temp" placeholder="Fahrenheit">

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

### convertTemp.jsp

```
<%@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>Convert Temperature</h1>
    <%
      double tempC = Double.parseDouble(request.getParameter("temp"));

      double fahr = (9/5)*tempC+32;

      out.print("Temperature in Fahrenheit: "+fahr);

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

Output

Enter temperature

# Convert Temperature

Temperature in Fahrenheit: 64.0

## EXERCISE 2

Rectangle.jsp

```
<%@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>
    <form action="CalcRec.jsp" method="post">
      <fieldset>
        <legend> Rectangle</legend>

        <label>Enter length for rectangle 1: </label>
        <input type="text" name="lr1">

        <label>Enter width for rectangle 1: </label>
        <input type="text" name="lw1"><br><br>

        <label>Enter length for rectangle 2: </label>
        <input type="text" name="lr2">

        <label>Enter width for rectangle 2: </label>
        <input type="text" name="lw2"><br>

        <input type="submit" value="Submit">

      </fieldset>
    </form>
  </body>
</html>
```

## CalcRec.jsp

```
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>JSP Page</title>
  </head>
  <body>
    <h1>RESULT ..</h1>

    <%
      double l1 = Double.parseDouble(request.getParameter("lr1"));
      double w1 = Double.parseDouble(request.getParameter("lw1"));

      double l2 = Double.parseDouble(request.getParameter("lr2"));
      double w2 = Double.parseDouble(request.getParameter("lw2"));

      double area1 = 0, area2 =0;

      area1 = l1 * w1;
      area2 = l2 * w2;

      out.println("Area 1: "+area1+"<br>");
      out.println("Area 2: "+area2+"<br>");

      if(area1>area2){
        out.println("Area 1 is greater than area 2"+"<br>");
      }
      else if(area1==area2){
        out.println("Area 1 is same as area 2"+"<br>");
      }
      else{
        out.println("Area 1 is less than area 2"+"<br>");
      }
    %>
  </body>
</html>
```

## Output

---

Rectangle			
Enter length for rectangle 1:	<input type="text" value="5"/>	Enter width for rectangle 1:	<input type="text" value="5"/>
Enter length for rectangle 2:	<input type="text" value="4"/>	Enter width for rectangle 2:	<input type="text" value="2"/>
<input type="button" value="Submit"/>			

---

# RESULT ..

Area 1: 25.0

Area 2: 8.0

Area 1 is greater than area 2