



UNIVERSITI MALAYSIA TERENGGANU

Faculty Of Computer Sciences and Mathematics

Web Based Application Development CSM3023

Lab Report 3

Prepared for:

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Bachelor of Computer Science (Mobile Computing) with Honors.

Sem 2 2023/2024

Task 1: Passing Data from Main JSP's Page to Other JSP's Page

Code:

```
<%--
  Document   : memberRegister
  Created on : 17 Apr 2024, 2:41:27 pm
  Author    : MUHAMMAD IMRAN BIN ABD HAMID
--%>

<%@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 main JSP's Page to other JSP'S page</h1>
    <form id = "memberFrm" action="memberProcessing.jsp" method="post" onsubmit="return
chechICNo()">
      <fieldset>
        <legend>Member Registration</legend>
        <label for="icno">Ic No *</label>
        <input type="text" id="icno" name="my_icno" size="15" placeholder="E.g
921012101245"></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>
    </form>
  </body>
</html>
```

Output:



The screenshot shows a web browser window with the address bar displaying 'localhost:8080/Lab3/memberRegister.jsp'. The page content includes a heading 'Passing data from main JSP's Page to other JSP'S page' and a form titled 'Member Registration'. The form contains two text input fields: 'Ic No *' with a placeholder 'E.g 921012101245' and 'Name' with a placeholder 'Key-in your name'. Below the input fields are two buttons: 'Submit' and 'Cancel'.

Code:

```
<%--
  Document   : memberProcessing
  Created on : 17 Apr 2024, 3:01:20 pm
  Author    : MUHAMMAD IMRAN BIN ABD HAMID
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>Lab 3-Task 1</title>
  </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 for registering in this event ...!</p>
      <p>This is your details</p>
      <p>IC No : <%=myIC%></p>
      <p>Name : <%=myName%></p>
    </fieldset>
  </body>
</html>
```

Output:



Reflection:

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

In a JavaServer Pages (JSP) environment, it can pass data from one form to another using a combination of JSP, HTML forms, and JavaScript.

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?

Can't retrieve the data because the parameter names not match between the form submission and the retrieval code.

Task 2: Using Mathematics Operations in JSP

```
<%--
  Document   : Calculator
  Created on : 17 Apr 2024, 3:16:41 pm
  Author    : MUHAMMAD IMRAN BIN ABD HAMID
--%>

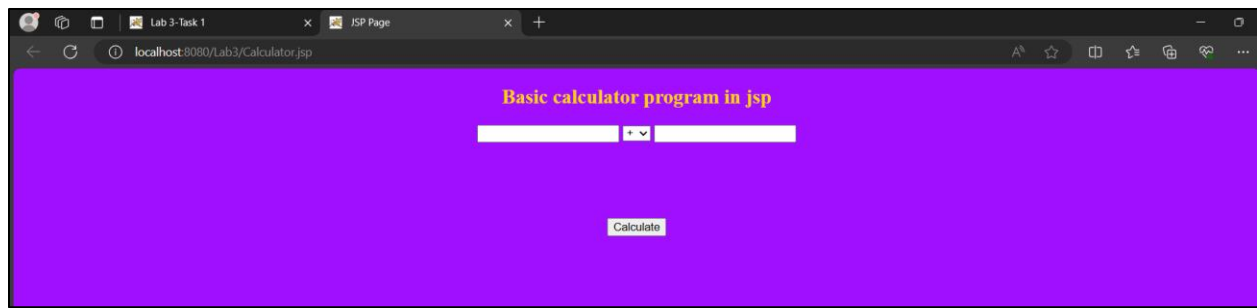
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>JSP Page</title>
  </head>
  <body bgcolor="#a00FFF" text="gold">
    <center>
      <h2>Basic calculator program in jsp</h2>
      <form method="get" name="f1">
        <input method="text" size="20" name="eperand1" value=""/>

        <select name="op" size="1">
          <option value="0" >+</option>
          <option value="1" >-</option>
          <option value="2" >*</option>
          <option value="3" >/</option>
          <option value="4" >%</option>
        </select>

        <input type="text" size="20" name="operand2" value=""/>
        <p><br><br><br><br>
        <input type="submit" value="Calculate"/>

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

Output:



Code:

```
<%--
  Document   : Calculator
  Created on : 17 Apr 2024, 3:16:41 pm
  Author    : MUHAMMAD IMRAN BIN ABD HAMID
--%>

<%@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">

    <%
      String num1 = "0", num2 = "0";
      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;
    }
}
%>

<center>
<h2>Basic calculator program in jsp</h2>
<form method="get" name="f1">
<input method="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= "4" >%</option>
</select>

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

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

```

Output:

Basic calculator program in jsp

40 + ▾ 40

Calculate

Result = 80

Basic calculator program in jsp

40 20

Calculate

Result = 20

Basic calculator program in jsp

40 20

Calculate

Result = 800

Basic calculator program in jsp

40 20

Calculate

Result = 2

Basic calculator program in jsp

40 15

Calculate

Result = 10

Reflection:

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

Passing parameters via URL parameters

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?

Can't retrieve the data because the parameter names not match between the form submission and the retrieval code.

Task 4: Perform Calculation of Car Loan

Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Car Loan Calculator</title>
</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="number" name="amount" placeholder="amount" required>
    <br>
    <label>Period:</label>
    <select name="period">
      <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>
    <button type="submit">Submit</button>
    <button type="reset">Reset</button>
  </fieldset>
</form>
</body>
<br/>
<footer>&copy;2024-Muhd Imran</footer>
</html>
```

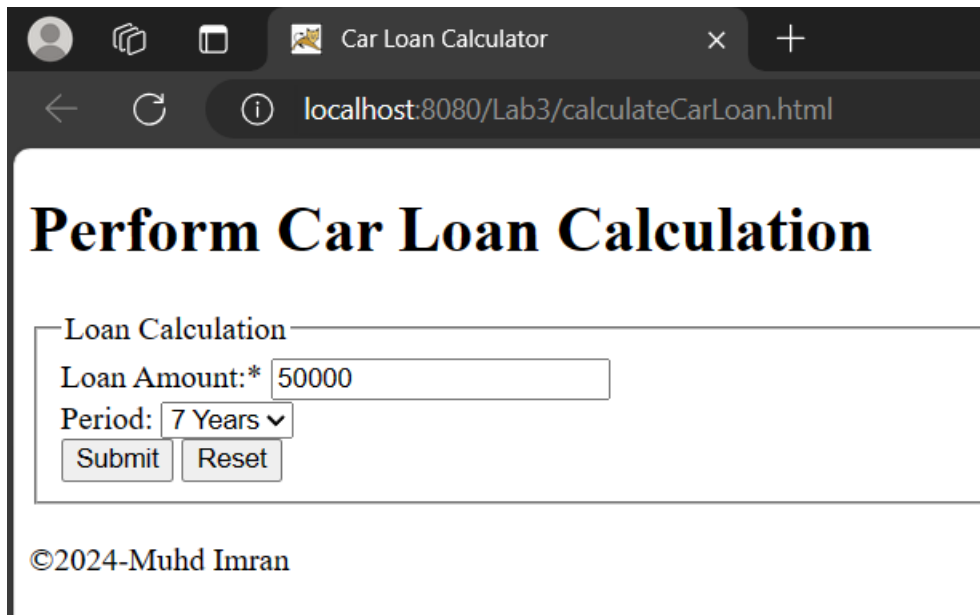


```
<%--
  Document : processCalculateCarLoan
  Created on : 19 Apr 2024, 3:41:57 pm
  Author : MUHAMMAD IMRAN BIN ABD HAMID
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>Process Calculation</title>
  </head>
  <body>
    <%
      String LAmount = request.getParameter("amount");
      String period = request.getParameter("period");
      double interest = 0;

      if(Integer.parseInt(period) > 5) {
        interest = Integer.parseInt(LAmount) * Integer.parseInt(period) * 0.045;
      }
      else {
        interest = Integer.parseInt(LAmount) * Integer.parseInt(period) * 0.028;
      }
      double result = Integer.parseInt(LAmount) + interest;
    %>
    <h1>Perform Car Loan Calculation</h1>
    <div>
      <fieldset>
        <legend>Details of car loan</legend>
        <div>
          <label>Loan Request</label>: <%= LAmount %>
        </div>
        <div>
          <label>Period of payment</label>: <%= period %>
        </div>
        <div>
          Total Loan + (interest) : <%= result %>
        </div>
      </fieldset>
    </div>
  </body>
<br/>
  <footer>&copy;2024-Muhd Imran</footer>
</html>
```

Output:



Car Loan Calculator

localhost:8080/Lab3/calculateCarLoan.html

Perform Car Loan Calculation

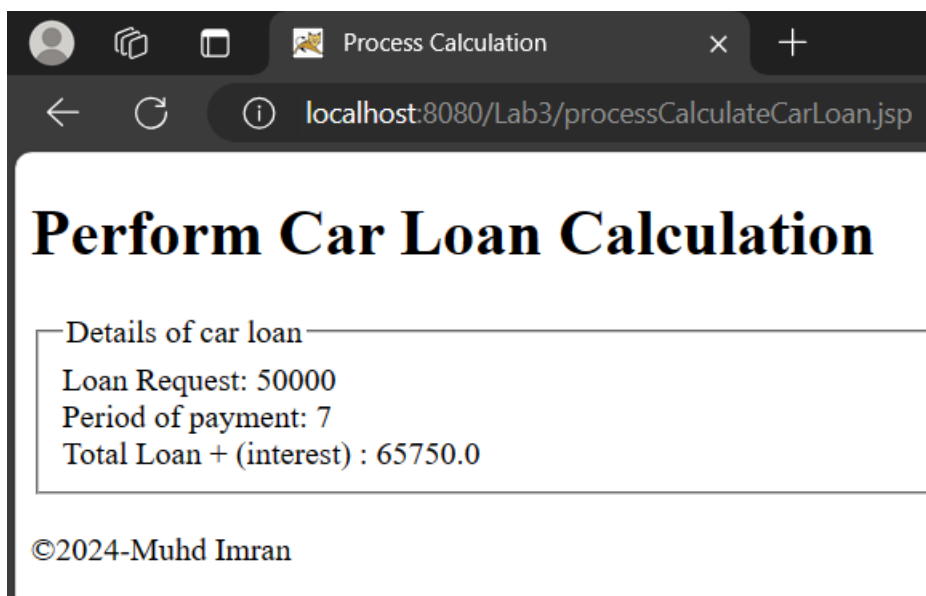
Loan Calculation

Loan Amount:* 50000

Period: 7 Years ▼

Submit Reset

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Process Calculation

localhost:8080/Lab3/processCalculateCarLoan.jsp

Perform Car Loan Calculation

Details of car loan

Loan Request: 50000

Period of payment: 7

Total Loan + (interest) : 65750.0

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Reflection:

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

```
String LAmount = request.getParameter("amount");
```

```
String period = request.getParameter("period");
```

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

```
double interest = 0;
if(Integer.parseInt(period) > 5) {
    interest = Integer.parseInt(LAmount) * Integer.parseInt(period) * 0.045;
}
else {
    interest = Integer.parseInt(LAmount) * Integer.parseInt(period) * 0.028;
}
double result = Integer.parseInt(LAmount) + interest;
```

Task 5: Using JSP Page Directive to Call Java API

Code:

```
<%--
Document : ArrayList
Created on : 19 Apr 2024, 3:55:03 pm
Author : MUHAMMAD IMRAN BIN ABD HAMID
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@page import="java.util.ArrayList"%>
<!DOCTYPE html>
<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>
    <%
        // Create ArrayList object
        ArrayList<String> studentList = new ArrayList<>();

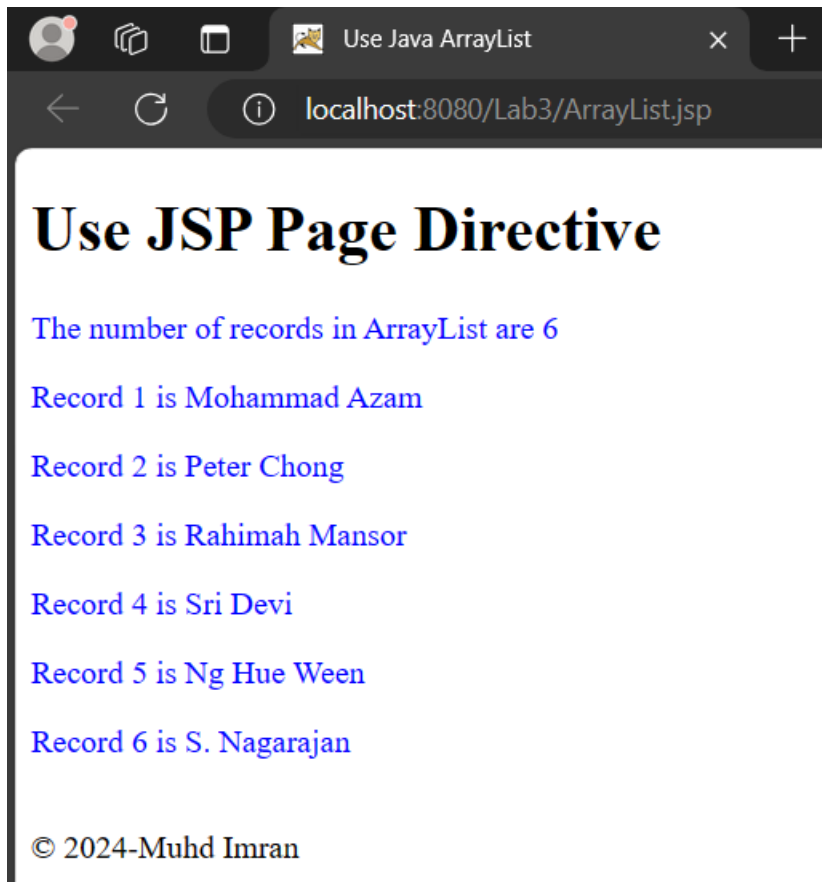
        studentList.add("Mohammad Azam");
        studentList.add("Peter Chong");
        studentList.add("Rahimah Mansor");
        studentList.add("Sri Devi");
        studentList.add("Ng Hue Ween");
        studentList.add("S. Nagarajan");

        out.println("<p><font color=\"blue\">The number of records in ArrayList are " + studentList.size()
+ "</font></p>");

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

```
}  
%>  
<br/>  
<footer>&copy; 2024-Muhd Imran</footer>  
</body>  
</html>
```

Output:



Reflection:

1. What you have learnt from this exercise?

Using JSP Page Directive to Call Java API

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

```
<%-- Calculating square root --%>
```

```
<% double number = 16; %>
```

```
<p>Square root of <%= number %> is <%= Math.sqrt(number) %></p>
```

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

Page import:

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

Page contentType:

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

Page language:

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

Task 6: Use JSP Include directive for JSP Page

Code:

```
<%--
  Document   : mainPage
  Created on : 19 Apr 2024, 4:49:16 pm
  Author    : MUHAMMAD IMRAN BIN ABD HAMID
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
  <title>Use Include Directive - JSP</title>
  <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
</head>
  <body>
    <div>
      <%@ include file="headerPage.jsp" %>
      <h2>Using JSP Include Directive</h2>

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

```
<%--
  Document : headerPage
  Created on : 19 Apr 2024, 4:50:11 pm
  Author : MUHAMMAD IMRAN BIN ABD HAMID
--%>

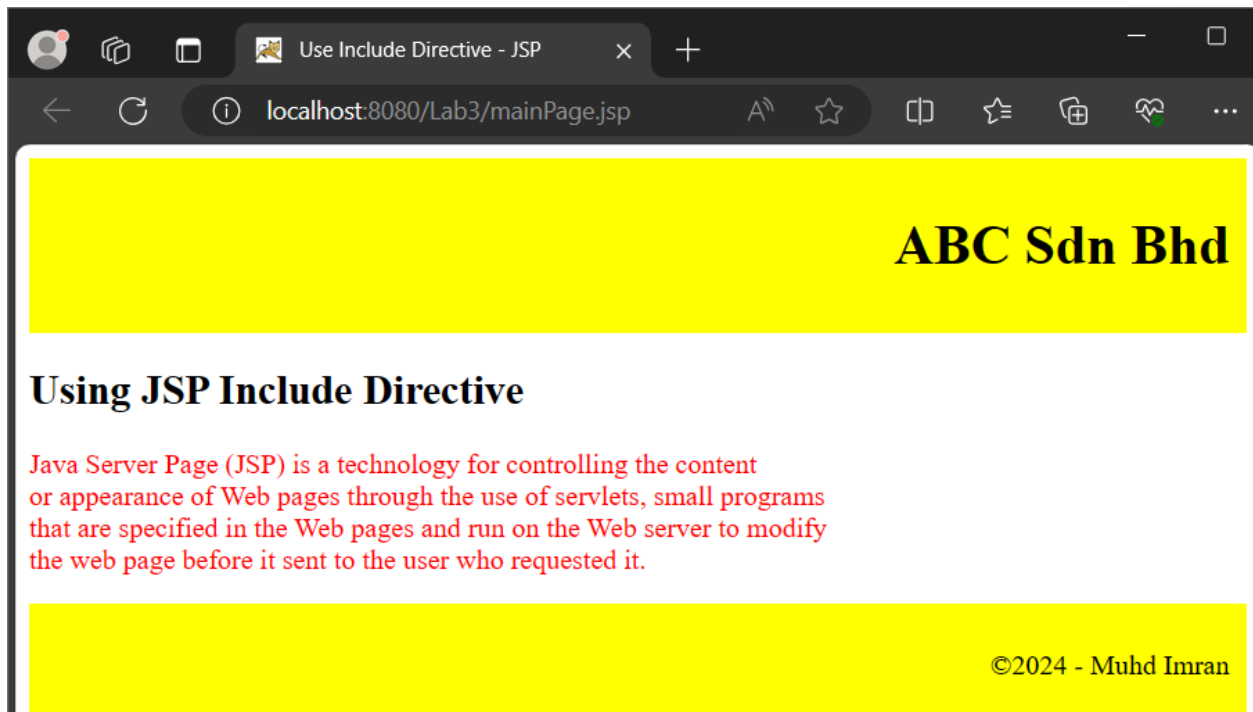
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
    <title>Header Page - JSP</title>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <style>
      .header-container {
        background-color: yellow;
        text-align: right;
        padding: 10px;
      }
    </style>
  </head>
  <body>
    <div class="header-container">
      <h1>ABC Sdn Bhd</h1>
    </div>
  </body>
</html>
```

```
<%--
  Document : footerPage
  Created on : 19 Apr 2024, 4:55:06 pm
  Author : MUHAMMAD IMRAN BIN ABD HAMID
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
    <title>Footer Page - JSP</title>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <style>
      .footer-container {
        background-color: yellow;
        text-align: right;
        padding: 10px;
      }
    </style>
  </head>
```

```
<body>
  <div class="footer-container">
    <p>&copy;2024 - Muhd Imran</p>
  </div>
</body>
</html>
```

Output:



Reflection:

1. What you have learnt from this exercise?

Using JSP include Directive

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

1. Write a JSP's page to convert temperatures to Fahrenheit temperatures and via versa. The formula is given as:

$$F = (9/5)C + 32$$

Your program should ask the user to enter a temperature in Celsius, and then display the temperature converted to Fahrenheit.

Code:

```
<%--
  Document   : Exercise1
  Created on : 19 Apr 2024, 5:28:48 pm
  Author    : MUHAMMAD IMRAN BIN ABD HAMID
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
    <title>Temperature Converter - JSP</title>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
  </head>
  <body>
    <%
      String num1 = "0";
      double result = 0;
      String op = "Celcius";
      String msg = "";

      java.util.Formatter myFormat = new java.util.Formatter();

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

        num1 = request.getParameter("celc");

        switch(opchar) {
          case '0': result = (Double.parseDouble(num1) * 9/5) + 32;
                    msg = num1 + " Celcius = " + result + " Fahrenheit";
                    break;
          case '1': result = (Double.parseDouble(num1) - 32) * 5/9;
                    msg = num1 + " Fahrenheit = "
                      + myFormat.format("%.4f", result) + " Celcius";
                    break;
```



```

    }
  }
%>
<h1>Temperature Converter</h1>
<div class="kotak">
  <form action="Exercise1.jsp" method="POST">
    <div class="form-group">
      <select name="op">
        <option value="0">Celcius to Fahrenheit</option>
        <option value="1">Fahrenheit to Celcius</option>
      </select>
    </div>
    <div class="form-group">
      <input type="text" name="celc" placeholder="Enter temperature" value="0">
    </div>
    <div class="form-group">
      <button type="submit">Convert</button>
    </div>
  </form>
  <p><% out.print(msg); %></p>
</div>
</body>
</html>

```

Output:

Temperature Converter

Celcius to Fahrenheit ▼

10

Convert

10 Celcius = 50.0 Fahrenheit

Temperature Converter

Celcius to Fahrenheit ▼

50

Convert

50 Fahrenheit = 10.0000 Celcius

2. Write a JSP's form that asks for the length and width of two rectangles. The program should tell the user which rectangle has the greater area, or if the areas are the same. [Note: All result must be in 2 decimal places].

```
<%--
    Document : Exercise2
    Created on : 19 Apr 2024, 5:42:55 pm
    Author : MUHAMMAD IMRAN BIN ABD HAMID
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <title>Calculate Area of Rectangle - JSP</title>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    </head>
    <body>
        <h1>Calculate Rectangle Area</h1>
        <div>
            <form action="ex2p2.jsp" method="POST">
                <fieldset>
                    <legend>Rectangle 1</legend>
                    <div class="form-group">
                        <label>Width</label>:
                        <input type="text" name="width_r1" value="0" required>
                    </div>
                    <div class="form-group">
                        <label>Height</label>:
                        <input type="text" name="height_r1" value="0" required>
                    </div>
                </fieldset>
                <fieldset>
                    <legend>Rectangle 2</legend>
                    <div class="form-group">
                        <label>Width</label>:
                        <input type="text" name="width_r2" value="0" required>
                    </div>
                    <div class="form-group">
                        <label>Height</label>:
                        <input type="text" name="height_r2" value="0" required>
                    </div>
                </fieldset>
                <div class="form-group">
                    <button type="submit">Calculate</button>
                </div>
            </form>
        <p></p>
```

```
</div>
</body>
</html>
```

```
<%--
    Document   : ex2p2
    Created on : 19 Apr 2024, 5:52:52 pm
    Author    : MUHAMMAD IMRAN BIN ABD HAMID
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <title>Calculate Area of Rectangle - JSP</title>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    </head>
    <body>
        <div>
            <fieldset>
                <legend>Result</legend>
                <%
                    String num1 = "0", num2 = "0", num3 = "0", num4 = "0";
                    double rect1 = 0, rect2 = 0;
                    String result, msg = "";

                    java.util.Formatter myFormat = new java.util.Formatter();
                    java.util.Formatter myFormat1 = new java.util.Formatter();

                    num1 = request.getParameter("width_r1");
                    num2 = request.getParameter("height_r1");
                    num3 = request.getParameter("width_r2");
                    num4 = request.getParameter("height_r2");

                    rect1 = Double.parseDouble(num1) * Double.parseDouble(num2);
                    rect2 = Double.parseDouble(num3) * Double.parseDouble(num4);

                    result = "<div class='form-group'>"
                        + "<label>Area of rectangle 1</label> : " + myFormat.format("%.2f", rect1)
                        + "</div><div class='form-group'>"
                        + "<label>Area of rectangle 2</label> : " + myFormat1.format("%.2f", rect2)
                        + "</div>";

                    if(rect1 > rect2) {
                        msg = result + "<p>Therefore, area of Rectangle 1 is greater than Rectangle
2</p>";
                    }
                <%>
            </fieldset>
        </div>
    </body>
</html>
```

```

else if(rect1 == rect2) {
    msg = result + "<p>Therefore, area of Rectangle 1 is equal to Rectangle 2</p>";
}
else {
    msg = result + "<p>Therefore, area of Rectangle 2 is greater than Rectangle
1</p>";
}
%>
<%= msg %>
</fieldset>
</div>
<% request.getRequestDispatcher("Exercise2.jsp").include(request, response); %>
</body>
</html>

```

Output:

Calculate Rectangle Area

Rectangle 1

Width:

Height:

Rectangle 2

Width:

Height:

Result

Area of rectangle 1 : 16.00
Area of rectangle 2 : 25.00

Therefore, area of Rectangle 2 is greater than Rectangle 1

Calculate Rectangle Area

Rectangle 1

Width:

Height:

Rectangle 2

Width:

Height:

Result

Area of rectangle 1 : 16.00
Area of rectangle 2 : 16.00

Therefore, area of Rectangle 1 is equal to Rectangle 2