UNIVERSITY MALAYSIA TERENGGANU

FACULTY OF COMPUTER SCIENCE AND MATHEMATICS

WEB BASED APPLICATION DEVELOPMENT

CSM3023 (K1)

Lab Report 4

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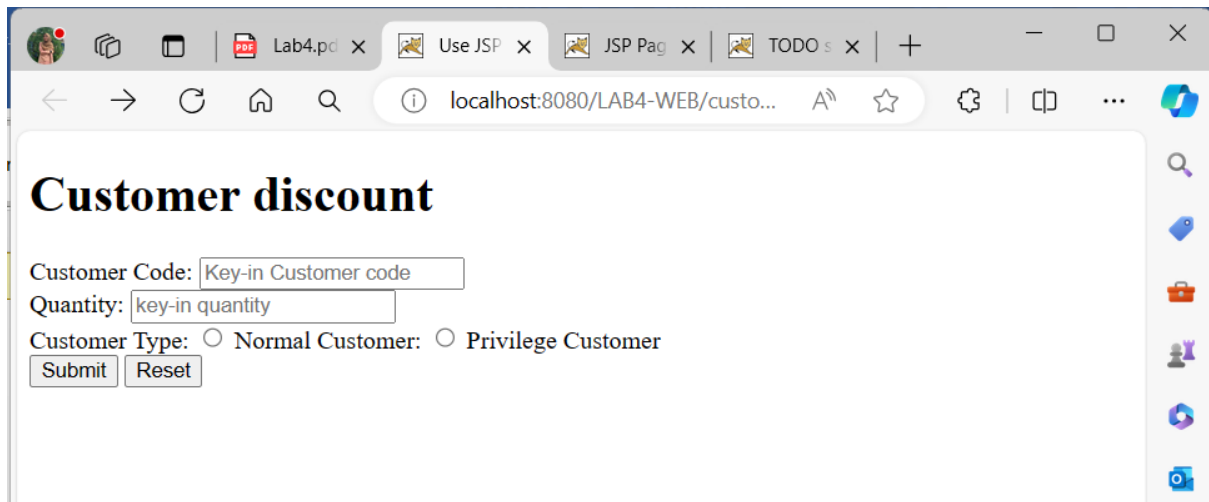[BACHELOR OF COMPUTER SCIENCE (MOBILE COMPUTING)]

SEMESTER II 2023/2024

Task1 Using jsp scripting

HTML file name customer.jsp

```html
7   <html>
8       <head>
9           <title>TODO supply a title</title>
10          <meta charset="UTF-8">
11          <meta name="viewport" content="width=device-width, initial-scale=1.0">
12      </head>
13
14      <body>
15
16          <h2 style= "color:purple; font-family: Arial">Customer discount</h2>
17
18          <form method ="get" name ="f1" action="processCustomer.jsp">
19
20
21                  <label>Customer Code</label>
22                       
23                   <input type="text" id="cust_no" name="cust_no"  placeholder="Key-in-customer code">
24                   <br><br>
25
26                   <label>Quantity</label>
27
28                         
29                  <input  id="quantity"  name="quantity" placeholder="Key-in quantity">
30
31                  <br><br>
32                  <label>Customer Type</label>
33             
34                  <input type="radio" id="normal" name="cust_type" value="1"/>
35                  <label for="normal">Normal Customer</label>
36
37                  <input type="radio" id="privilege" name="cust_type" value="2"/>
                    <label for="privilage">Privilege Customer</label>
39
40
41                  <br><br><br>
42          <input type="submit" value="Submit"/>
43          <input type="reset" value="Cancel"/>
44
45
46          </form>
47
48      </body>
49  </html>
50
```

Run the customer.jsp file , get view like this.

User able to key in Customer code , quantity and choose customer type.

Next create **processCustomer.jsp.**

```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>Use JSP Scriplet and JSP Expression in application</h1>
            <form method ="get" name ="f1">

        <%
            final int price = 10;

                String cust_nol = request.getParameter("cust_no");
                int quantityl = Integer.parseInt(request.getParameter("quantity"));
                String cust_typel = request.getParameter("cust_type");

                if (cust_typel.equals("1") && quantityl > 100) {
                    out.print("You're entitle " + "10%");%> <br> <%
                        out.print("Total amount is RM" + quantityl * price * 0.9);

            } else if (cust_typel.equals("2") && quantityl > 100) {
                out.print("You're entitle " + "25%");%> <br> <%
                    out.print("Total amount is RM" + quantityl * price * 0.75);

            } else {
                out.print("You're not entitle discount...!");%><br><%
                    out.print("Total amount is RM" + quantityl * price);
        }
        %>



    </body>
</html>
```

User can run the customer.jsp again by key in data complete.

If user is a normal customer.

Customer discount

Customer Code: 1234
Quantity: 1
Customer Type: ● Normal Customer: ○ Privilege Customer
Submit Reset

The output is

You're not entitled to any discount.
Total amount is RM 10

If user is a privilege customer :

Customer discount

Customer Code: 223
Quantity: 3
Customer Type: ○ Normal Customer: ● Privilege Customer
Submit Reset

The output:

You're not entitled to any discount.
Total amount is RM 30

1. What you have learnt from this exercise?

   Know how to use JSP scriplet and JSP application.

2 . Explain three (3) type of JSP scripting?

JSP Expressions: It is a small java code which you can include into a JSP page. The syntax is "<%= some java code %>"

JSP Scriptlet: The syntax for a scriptlet is "<% some java code %>". You can add 1 to many lines of Java code in here.

JSP Declaration: The syntax for declaration is "<%! Variable or method declaration %>", in here you can declare a variable or a method for use later in the code.

Task 2 : Using JSP (Scripting , Declaration and Expression)

currencyConversion.jsp

```html
-->
<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>Use JSP Scriplet and JSP Expression in application</h1>
        <h2 style= "color:purple; font-family: Arial">Customer discount</h2>

        <form method ="POST" action="processCurrency.jsp">

            <label>Amount(in RM)</label>
                    
                <input type="text" id="rm" name="rm"  placeholder="(in RM)">
                <br><br>


            <label>Convert to </label>
                         
            <select name="currency" id="currency">
                <option value="1">USD</option>
                <option value="2">Pound Sterling</option>
                <option value="3">Euro</option>
            </select>

                <br><br><br>
        <input type="submit" value="Submit"/>
        <input type="reset" value="Cancel">
    </body>
</html>
```

processCurrencyConversion.jsp

```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>Use JSP Declaration tag ,  JSP Scriplet and JSP Expression in application</h1>
        <!-- Untuk declare currencyChange/currencyType -->

        <%!
            double currencyChange;
            String currencyType;
        %>
        <!-- Get parameter from currency Conversion -->

        <%
            double amountRM = Double.parseDouble(request.getParameter("rm"));
            String currency = request.getParameter("currency");

            currencyChange  = calculateRate(currency, amountRM);


        %>


        <%!
                final double USD = 3.92;
                final double STG = 5.96;
                final double EURO = 4.47;

```

```jsp
        private double calculateRate(String currency, double amount) {

            double currencyChange = 0.00f;

            if (currency.equals("1")) {
                currencyChange =   (double)(amount / USD);
                currencyType = "USD";
            }

            if (currency.equals("2")) {
                currencyChange = (double)(amount / STG);
              currencyType = "STG";
        }

            if (currency.equals("3")) {
                currencyChange = (double)(amount / EURO);
             currencyType= "EURO";
        }


            return currencyChange;

        }


    %>

    <p> Use JSP Declaration tag , JSP Scriplet and JSP Expression in application</p>

        <p> Amount in Ringgit Malaysia is <%=amountRM%></p>
        <p> Amount is  <%=currencyChange%></p>

</body>
</html>
```

The output:

Use JSP Scriplet and JSP Expression in application

Customer discount

Amount(in RM)   [(in RM)]

Convert to   [USD ▼]

[Submit] [Cancel]

Use JSP Declaration tag , JSP Scriplet and JSP Expression in application

Use JSP Declaration tag , JSP Scriplet and JSP Expression in application

Amount in Ringgit Malaysia is 2000.0

Amount is 510.2040816326531

---

localhost:8080/LAB4-WEB/processCurre...

Use JSP Declaration tag , JSP Scriplet and JSP Expression in application

Use JSP Declaration tag , JSP Scriplet and JSP Expression in application

Amount in Ringgit Malaysia is 2000.0

Amount is 335.5704697986577

Use JSP Declaration tag , JSP Scriplet and JSP Expression in application

Use JSP Declaration tag , JSP Scriplet and JSP Expression in application

Amount in Ringgit Malaysia is 2000.0

Amount is 447.427293064877

Task 3: Using JSP Standard Acction (Include and Param)

jspParam.jsp

```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>Using jsp : include and jsp : param to display information on JSP page</h1>

        <%

            String sCode = "CSF3107";
            String sSubject="Web Programming 2";
            String sCredit="3(2+1)";


        %>

            <jsp:include page="subjectInfo.jsp" flush="true">

                    <jsp:param name="code" value="<%=sCode%>"/>
                    <jsp:param name="subject" value="<%=sSubject%>"/>
                    <jsp:param name="credit" value="<%=sCredit%>"/>

            </jsp:include>

    </body>
</html>
```

subjectInfo.jsp

```jsp
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>Using JSP Standard Action</title>
    </head>
    <body>
        <h1>Calling subjectInfo.jsp page</h1>

        <p> Code=<%= request.getParameter("code")%></p><!-- comment -->
        <p> Subject=<%= request.getParameter("subject")%></p><!-- comment -->
        <p> Credit=<%= request.getParameter("credit")%></p>


    </body>
</html>
```

List **TWO (2)** other JSP Standard Action Tag.

jsp:include. It also used to insert a jsp file into another file, just like include directive

jsp:param. This is child object of the plugin object described above

Task 4: Using JSP Standard Acction (Forward)

forward.jsp

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

        <title> Using JSP Standard Action(forward)  </title>
    </head>
    <body>
        <h2> Using jsp : forward to display user info . </h2>
        <jsp:forward page = "forwardInfo.jsp">
            <jsp:param name="U_Name" value="Fouad Abdulameer"/>
            <jsp:param name="Email" value="foudaug@gmail.com"/>
            <jsp:param name="Nationality" value="Iraqi"/>
            <jsp:param name="Background" value="Developer"/>
        </jsp:forward>


    </body>
</html>
```

forwardInfo.jsp

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

        <title> Using JSP Standard Action(forward)  </title>
    </head>
    <body>
        <h2> Using jsp : forward to display user info . </h2>
        <jsp:forward page = "forwardInfo.jsp">
            <jsp:param name="U_Name" value="Fouad Abdulameer"/>
            <jsp:param name="Email" value="foudaug@gmail.com"/>
            <jsp:param name="Nationality" value="Iraqi"/>
            <jsp:param name="Background" value="Developer"/>
        </jsp:forward>


    </body>
</html>
```

The output :

Fouad Abdulameer
foudaug@gmail.com
Iraqi
Developer

Today is:Mon Apr 29 12:05:44 SGT 2024

List **TWO(2)** More JSP Standard Action Tag.

Jsp:forward and jsp:param

Task 5: Use java Scriplet to construct business logic.

insuranceQuotation.jsp

```html
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">

    </head>
    <body>
        <form action="processInsuranceQuo.jsp" method="GET">
            <h1><b>Insurance Quotation<b></h1>
                    <fieldset>

                        <legend>Insurance Calculation</legend>
                        <br><br>

                        <label>ICNo</label>
                                      &
                        <input type="text" id="ic_no" name="ic_no"  placeholder="E.g.821210-05-3478">
                        <br><br>

                        <label>Name</label>
                                      &
                        <input  id="name"  name="name" placeholder="Enter name">

                        <br><br>
                        <label>Market Price</label>
                                      &
                        <input  id="mrktprice"  name="mrktprice" placeholder="Price">

                        <br><br>
                        <label>Coverage Type</label>
                                    
                        <select name = "cvgtyp" id="cvgtyp" >
                            <option value = "1" > Third Party </option>
                            <option value = "2" > Comprehensive </option>

                        </select>


            </select>

            <br><br>
            <label>No claims discount <br> (NCD)</label>
                          &
            <select name ="ncd" id ="ncd">

                <option value = "10" > 10% </option>
                <option value = "25" > 25% </option>
                <option value = "35" > 35% </option>
                <option value = "55" > 55% </option>
            </select>


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

            </p>


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            <br><br>

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

Insurance Quotation

Insurance Calculation

ICNo	E.g.821210-05-3478
Name	Enter name
Market Price	Price
Coverage Type	Third Party ▾
No claims discount (NCD)	10% ▾

Submit   Cancel

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processInsuranceQuo.jsp

```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>
    <field>
        <legend>Details of Insurance Calculation</legend>

        <%! //Declare variable @ storage 9 kotak - JAVAvariable(benda baru) //
            double finAmount;
            double insAmount;
            double gst;
            String Jcvgtyp;

        %>


        <% //request.getParameter(guna yg kat HTML)
            String ic_no = request.getParameter("ic_no");
            String name = request.getParameter("name");
            int mrktprice = Integer.parseInt(request.getParameter("mrktprice"));
            String cvgtyp = request.getParameter("cvgtyp");
            String ncd = request.getParameter("ncd");

            insAmount = caltInsAmount(cvgtyp, mrktprice, ncd);
        %>
```

```jsp
<%! //Method/jalan kira //calculate
    private double caltInsAmount(String m_cvgtyp, int m_mrktprice, String m_ncd) {

        double m_insAmount = 0.0f;
        if (m_cvgtyp.equals("1")) {

            Jcvgtyp = "Third Party";

            if (m_ncd.equals("55")) {

                m_insAmount = (0.012 * m_mrktprice);
            }
            if (m_ncd.equals("35")) {

                m_insAmount = (0.018 * m_mrktprice);
            }
            if (m_ncd.equals("25")) {

                m_insAmount = (0.025 * m_mrktprice);
            }
            if (m_ncd.equals("10")) {

                m_insAmount = (0.033 * m_mrktprice);
            }
        }

        if (m_cvgtyp.equals("2")) {

            Jcvgtyp = "Comprehensive";

            if (m_ncd.equals("55")) {

                m_insAmount = (0.018 * m_mrktprice);
            }
            if (m_ncd.equals("35")) {

                m_insAmount = (0.024 * m_mrktprice);
            }
            if (m_ncd.equals("25")) {

                m_insAmount = (0.03 * m_mrktprice);
            }
            if (m_ncd.equals("10")) {

                m_insAmount = (0.38 * m_mrktprice);
            }
        }
```

```jsp
                gst = (m_insAmount * 0.06);
                finAmount = gst + m_insAmount;

                return m_insAmount;

            }

        %>

        <p> IC No :<%=ic_no%></p>
            <p>Customer Name:<%=name%></p>
            <p>Market Price:<%=mrktprice%></p>
            <p>Coverage Type:<%=Jcvgtyp%></p>
            <p> No claim discount(NCD): <%=ncd%></p>
            <p>Insurance amount:<%=insAmount%></p>
            <p>6 % GST:<%=gst%></p>
            <p>Final amount(with 6% GST):<%=finAmount%></p>

    </field>
</body>

<p> &copy2016-Mohamad Nor</p>
</html>
```

The output:

Insurance Quotation

Insurance Calculation

ICNo   990503-09-5120

Name   Atiqah

Market Price   40000   ✕

Coverage Type   Third Party ⌄

**No claims discount
(NCD)**   35% ⌄

Submit   Cancel

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Details of Insurance Calculation

IC No :990503-09-5120

Customer Name:Atiqah

Market Price:40000

Coverage Type:Third Party

No claim discount(NCD): 35

Insurance amount:720.0

6 % GST:43.199999999999996

Final amount(with 6% GST):763.2

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Insurance Quotation

Insurance Calculation

ICNo
990503-09-5120

Name
Atiqah

Market Price
40000

Coverage Type
Comprehensive ▾

No claims discount (NCD)
35% ▾

Submit Cancel

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---

localhost ×

Details of Insurance Calculation

IC No :990503-09-5120

Customer Name:Atiqah

Market Price:40000

Coverage Type:Comprehensive

No claim discount(NCD): 35

Insurance amount:960.0

6 % GST:57.599999999999994

Final amount(with 6% GST):1017.6

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Exercise:

massIndex.jsp

```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>Determine person overweight / underweight</h1>

        <h2 style= "color:purple; font-family: Arial">Caculate index body mass (BMI)</h2>

        <form  action="processMassIndex.jsp"method ="POST">

            <label>Weight</label>
               
            <input type="text" size=" 10"  name="weight"  placeholder="in Kilogram">
            <br><br>

            <label>Height</label>
                
            <input  type="text" size="10" name="height"  placeholder="in Centimeter">
            <br><br>

            <br>
            <input type="submit" value="Submit"/>
            <input type="reset" value="Cancel">


            </body>
            </html>
```

processMassIndex.jsp

```jsp
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>
        <h1>Result mass index BMI</h1>


        <%!
            double caltBMI;
            float BMI;
            String resultBMI;
        %>


        <%
            int weight = Integer.parseInt(request.getParameter("weight"));
            int height = Integer.parseInt(request.getParameter("height"));

            //Multiplication by 100 100)
            BMI =(float)(100*100* weight)/(height*height);
            caltBMI = calculateBMI(BMI);


        %>


        <%!                 private double calculateBMI(double BMI) {



            if( (BMI > 18.5) && (BMI < 25) ){
                resultBMI = ("Your weight considered optimal");
            } else if ((BMI < 18.5)) {

                resultBMI = ("Your weight is underweight");
            } else {
                resultBMI = ("Your weight is overweight");
            }

            return 0;

        }
        %>

        <p> Your weight :<%=weight%></p>
        <p> Your height :<%=height%></p>
        <p> Your BMI :<%=BMI%></p>
        <p> Status BMI:<%=resultBMI%></p>

    </body>
</html>
```

Determine person overweight / underweight

Caculate index body mass (BMI)

Weight [in Kilogram]

Height [in Centimeter]

[Submit] [Cancel]

Weight [40]

Height [160   ×]

[Submit] [Cancel]

Result mass index BMI

Your weight :40

Your height :160

Your BMI :15.625

Status BMI:Your weight is underweight

Caculate index body mass (BMI)

Weight 60

Height 160

Submit Cancel

Your weight :60

Your height :160

Your BMI :23.4375

Status BMI:Your weight considered optimal

Caculate index body mass (BMI)

Weight 80

Height 160

Submit Cancel

Your weight :80

Your height :160

Your BMI :31.25

Status BMI:Your weight is overweight

Java Scriplet features:

1.
```
<%!
   double caltBMI;
   float BMI;
   String resultBMI;
%>
```

2.
```
int weight = Integer.parseInt(request.getParameter("weight"));
int height = Integer.parseInt(request.getParameter("height"));

BMI = (float)(100 * 100 * weight) / (height * height);
```

3.
```
if ((BMI > 18.5) && (BMI < 25)) {
   resultBMI = ("Your weight considered optimal");
} else if ((BMI < 18.5)) {
   resultBMI = ("Your weight is underweight");
} else {
   resultBMI = ("Your weight is overweight");
}
```

4.

<p> Your BMI :<%=BMI%></p>

<p> Status BMI:<%=resultBMI%></p>