CSM3023 WEB BASED APPLICATION DEVELOPMENT (K1)

BACHELOR OF COMPUTER SCIENCE (MOBILE COMPUTING) WITH HONORS

SEMESTER 2 2023/2024

LAB 4 – JSP: Scriptlet, Expression &Standard Actions

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Task 1:

Coding:

customer.html

```
    Click nbfs://nbhost/SystemFileSystem/Templates/JSP_Servlet/Html.html to edit this template
    -->
<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><br>
        <h2>Customer discount</h2><br>

        <form action="processCustomer.jsp">
            <label for="custCode">Customer Code</label>
            <input type="text" id="Custcode" name="custCode"><br>
            <label for="qtty">Quantity</label>
            <input type="number" id="qtty" name="qtty"><br>
            <label>Customer type</label>
            <input type="radio" id="normal" name="custType" value="1">
            <label for="normal">Normal</label>
            <input type="radio" id="privilege" name="custType" value="2">
            <label for="privilige">Privilege</label><br>

            <button type="submit" value="Submit">Submit</button>
            <button type="reset" value="Reset">Reset</button>
        </form>
    </body>
</html>
```

processCustomer.html

```
<%@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><br>
        <%
            final int price = 10;
            //Using JSP Scriplet...
            String cust_no1 = request.getParameter("custCode");
            int quantity1 = Integer.parseInt(request.getParameter("qtty"));
            String cust_type1 = request.getParameter("custType");

            //Determine customer...
            if(cust_type1.equals("1") && quantity1 > 100){
                out.print("You're entitle " + "10%");%> <br>
            <% out.print("Total amount is RM" + quantity1 * price*0.9);
                }else if(cust_type1.equals("2") && quantity1 > 100){
                    out.print("You're entitle " + "25%");%> <br>
                <% out.print("Total amount is RM" + quantity1 * price * 0.75);
                    }else{
                        out.print("You're not entitle discount..!");%> <br> <%
                            out.print("Total amount is RM" + quantity1 * price);
                        }
        %>

    </body>
</html>
```

Output:

Use JSP Scriplet and JSP Expression in application

Customer discount

Customer Code [1233]
Quantity [150]
Customer type ● Normal ○ Privilege
[Submit] [Reset]

Use JSP Scriplet and JSP EXpression in application

You're entitle 10%
Total amount is RM1350.0

Reflection

1. What you have learnt from this exercise?
   I have learnt how to apply JSP scriplet and expression in web application.
2. Explain three (3) type of JSP scripting?
   JSP declaration, expression and scriplet.

Task 2:

Coding:

currencyConversion.jsp

```
5      -->
6    <html>
7        <head>
8            <title>ziqman kacak</title>
9            <meta charset="UTF-8">
10           <meta name="viewport" content="width=device-width, initial-scale=1.0">
11       </head>
12       <body>
13           <h1>Use JSP Declaration tag,JSP Scriplet and JSP Expression in application</h1><br>
14           <h3>Currency Conversion</h3><br>
15           <form action="processCurrency.jsp">
16               <table>
17                   <tr>
18                       <td>
19                           <label for="amount">Amount(in RM)</label>
20                           <input type="text" id="amount" name="amount" placeholder="(in RM)">
21                       </td>
22                   </tr>
23                   <tr>
24                       <td>
25                           <label for="currency">Convert to</label>
26                           <select id="currency" name="currency">
27                               <option value="1">USD</option>
28                               <option value="2">Pound Sterling</option>
29                               <option value="3">Euro</option>
30                           </select>
31                       </td>
32                   </tr>
33                   <tr>
34                       <td>
35                           <button type="submit" value="Submit">Submit</button>
36                           <button type="reset" value="Reset">Cancel</button>
37                       </td>
38                   </tr>
39               </table>
40           </form>
41
42       </body>
43   </html>
44
```

processCurrency.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>
        <%!
            //Define constant...
            final double USD = 4.75;
            final double STG = 5.94;
            final double EURO = 5.09;

            //Define method to perform currency exchange..
            private double calculateRate(String currency, int amount){
                double currencyChange=0.00f;
                switch(currency){
                    case "1":
                        currencyChange = (double)(amount * USD);
                        break;
                    case "2":
                        currencyChange = (double)(amount * STG);
                        break;
                    case "3":
                        currencyChange = (double)(amount * EURO);
                        break;
                }
                return currencyChange;
            }
        %>
        <%
            int amount1 = Integer.parseInt(request.getParameter("amount"));
            String currencyType = request.getParameter("currency");
            double result = calculateRate(currencyType, amount1);
            String currencyName = "";
            switch(currencyType){
                case "1":
                    currencyName = "USD";
```

```
47                    currencyName = "USD";
48                    break;
49              case "2":
50                    currencyName = "STG";
51                    break;
52              case "3":
53                    currencyName = "EURO";
54                    break;
55              }
56        %>
57        <p>Amount in Ringgit Malaysia is <%=amount1%></p>
58        <p>Amount in <%=currencyName%> is <%=String.format("%.2f", result)%></p>
59    </body>
60  </html>
61
```

Output:

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

Currency Conversion

Amount(in RM) [1000]
Convert to [Pound Sterling ▼]
[Submit] [Cancel]

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

Amount in Ringgit Malaysia is 1000

Amount in STG is 5940.00

Reflection

1. What have you learn from this exercise?
   I have learnt how to us JSP declaration tag to declare variable and function, JSP Expression and JSP Scriplet.

Task 3:

Coding:

jspParam.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>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)";
        %>
        <!-- Call subjectInfo.jsp page & passing course information to respective parameters -->
        <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>
        <p>Subject = <%=request.getParameter("subject")%></p>
        <p>Credit = <%=request.getParameter("credit")%></p>
    </body>
</html>
```

Output:

Using jsp:include and jsp:param to display information on JSP page

Calling subjectInfo.jsp page

Code = CSF3107

Subject = Web Programming 2

Credit = 3(2+1)

Reflection

1. What you have learnt from this exercise?

   I have learnt how to use jsp:include to call method than pass information using jsp:param.

2. List TWO (2) other JSP Standard Action Tag
   jsp:forward & jsp:useBean

Task 4:

Coding:

forward.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(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="fouadaug@gmail.com"/>
            <jsp:param name= "Nationality" value="Iraqi"/>
            <jsp:param name= "Background" value="Developer"/>
        </jsp:forward>
    </body>
</html>
```

forwardInfo.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>&lt;Forwarded_Action Example in JSP&gt;</title>
    </head>
    <body>
        <% String name = request.getParameter("U_Name"); %>
        <% String Email = request.getParameter("Email"); %>
        <% String Nationality = request.getParameter("Nationality"); %>
        <% String Background = request.getParameter("Background"); %>
        <% if (name != null) {%>
        <b><br><br><h2 align="center">

            <%=name%><br>
            <%=Email%><br>
            <%=Nationality%><br>
            <%=Background%><br>

            <% out.print("Today is:" + java.util.Calendar.getInstance().getTime());%>
        </h2></b></br>
        <%}%>
    </body>
</html>
```

Output:

<div align="center">

Fouad Abdulameer
fouadaug@gmail.com
Iraqi
Developer
Today is:Sat Apr 27 16:35:17 MYT 2024

</div>

Reflection

1. What you have learnt from this exercise?
   I have learnt how to use JSP Standard Action Tag JSP:forward to call targeted method than use JSP:param to forward information.
2. List TWO(2) More JSP Standard Action Tag
   1.jspsetProperty
   2.jspgetProperty

Task 5:

Coding:

insuranceQuotation.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>ZIQRICH INSURANCE</title>
        <style>
            td{
                padding: 5px;
            }
        </style>
    </head>
    <body>
        <h1>Insurance Quotation</h1>
        <fieldset>
            <legend>Insurance Calculation</legend>
            <form action="processInsuranceQuo.jsp">
                <table>
                    <tr>
                        <td>
                            <label for="icNo">ICNo*</label>
                        </td>
                        <td>
                            <input type="text" id="icNo" name="icNo" placeholder="E.g 821210-05-3478" required>
                        </td>
                    </tr>
                    <tr>
                        <td>
                            <label for="name">Name*</label>
                        </td>
                        <td>
                            <input type="text" id="name" name="name" placeholder="Enter name" required>
                        </td>
                    </tr>
                    <tr>
                        <td>
                            <label for="market">Market Price*</label>
                        </td>
                        <td>
                            <input type="text" id="market" name="market" placeholder="Price" required>
                        </td>
                    </tr>
                    <tr>
                        <td>
                            <label for="type">Coverage Type</label>
                        </td>
                        <td>
                            <select id="type" name="type">
                                <option value="1">Third Party</option>
                                <option value="2">Comprehensive</option>
                            </select>
                        </td>
                    </tr>
                    <tr>
                        <td>
                            <label for="ncd">No claims discount (NCD)</label>
                        </td>
                        <td>
                            <select id="ncd" name="ncd">
                                <option value="10%">10%</option>
                                <option value="25%">25%</option>
                                <option value="35%">35%</option>
                                <option value="55%">55%</option>
                            </select>
                        </td>
                    </tr>
                    <tr>
                        <td>
                            <button type="submit" value="Submit">Submit</button>
                            <button type="reset" value="Reset">Cancel</button>
                        </td>
                    </tr>
                </table>
            </form>
        </fieldset>
    </body>
</html>
```

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">
        <title>ZIQRICH INSURANCE</title>
    </head>
    <body>
        <%!
            final double gst = 0.06;

            private double calcInsurance(String cover, String NCD, int market){
                double insurance = 0.0;
                if(cover.equals("Comprehensive")){
                    switch(NCD){
                        case "55%":
                            insurance = 0.018 * market;
                            break;
                        case "35%":
                            insurance = 0.024 * market;
                            break;
                        case "25%":
                            insurance = 0.030 * market;
                            break;
                        case "10":
                            insurance = 0.038 * market;
                            break;
                    }
                }else{
                    switch(NCD){
                        case "55%":
                            insurance = 0.012 * market;
                            break;
                        case "35%":
                            insurance = 0.018 * market;
                            break;
                        case "25%":
                            insurance = 0.025 * market;
                            break;
                        case "10%":
                            insurance = 0.033 * market;
                            break;
                    }
                }
                return insurance;
            }
        %>
        <%
            String icNo = request.getParameter("icNo");
            String custName = request.getParameter("name");
            int market_price = Integer.parseInt(request.getParameter("market"));
            String cover_type = request.getParameter("type");

            String coverage = "";
            switch(cover_type){
                case "1":
                    coverage = "Third Party";
                    break;
                case "2":
                    coverage = "Comprehensive";
                    break;
            }

            String Ncd = request.getParameter("ncd");
            double ins_amount = calcInsurance(coverage, Ncd, market_price);
            double gst_charge = ins_amount * gst;
            double final_amount = ins_amount + gst_charge;
        %>
        <fieldset>
            <legend>Details of Insurance Quotation</legend>
            <p>IC No: <%=icNo%></p>
            <p>Customer Name: <%=custName%></p>
            <p>Market Price: <%=market_price%></p>
            <p>Market Price: <%=market_price%></p>
            <p>Coverage Type: <%=coverage%></p>
            <p>No claim discount (NCD) = <%=Ncd%></p>
            <p>Insurance amount: <%=String.format("%.2f", ins_amount)%></p>
            <p>6% GST: <%=String.format("%.2f", gst_charge)%></p>
            <p>Final amount(with 6% GST): <%=String.format("%.2f", final_amount)%></p>
        </fieldset>
    </body>
</html>
```

Output:

Insurance Quotation

┌─ Insurance Calculation ────────────────────────────────┐
│ ICNo*   `041120-01-0865`   │
│   │
│ Name*   `RyoukiTenkai`   │
│   │
│ Market Price*   `40000`   │
│   │
│ Coverage Type   [Comprehensive ▾]   │
│   │
│ No claims discount (NCD) [35% ▾]   │
│   │
│ [Submit] [Cancel]   │
└───┘

┌─ Details of Insurance Quotation ───────────────────────┐
│   │
│ IC No: 041120-01-0865   │
│   │
│ Customer Name: RyoukiTenkai   │
│   │
│ Market Price: 40000   │
│   │
│ Coverage Type: Comprehensive   │
│   │
│ No claim discount (NCD) = 35%   │
│   │
│ Insurance amount: 960.00   │
│   │
│ 6% GST: 57.60   │
│   │
│ Final amount(with 6% GST): 1017.60   │
│   │
└───┘

Reflection

1. What you have learnt from this exercise?
   I have learnt how to use Java Scriplet.
2. List all Java features you used in Java Scriptlet.
   Variable, data type, operator and control statement.

Exercise:

Coding:

bmiCalculator.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>BMI Analyzer</title>
    </head>
    <body>
        <fieldset>
            <legend>BMI Analyzer</legend>
            <form action="processBmiCalculator.jsp">
                <table>
                    <tr>
                        <td>
                            <label for="height">Enter your height in(m):</label>
                        </td>
                        <td>
                            <input type="text" id="height" name="height" placeholder="e.g. 1.7" required>
                        </td>
                    </tr>
                    <tr>
                        <td>
                            <label for="weight">Enter your weight in(kg):</label>
                        </td>
                        <td>
                            <input type="text" id="weight" name="weight" placeholder="e.g 60" required>
                        </td>
                    </tr>
                    <tr>
                        <td>
                            <button type="submit" value="Submit">Submit</button>
                            <button type="reset" value="Reset">Cancel</button>
                        </td>
                    </tr>
                </table>
            </form>
        </fieldset>
    </body>
</html>
```

processBmiCalculator.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>BMI Analyzer</title>
    </head>
    <body>
        <%
            double u_height = Double.parseDouble(request.getParameter("height"));
            double u_weight = Double.parseDouble(request.getParameter("weight"));
            double bmi = u_weight / (u_height * u_height);

            String category = "";
            if(bmi > 25){
                category = "overweight";
            }
            else if(bmi > 18.5 && bmi <= 25){
                category = "optimal";
            }
            else{
                category = "underweight";
            }
        %>
        <fieldset>
            <legend>Your BMI result</legend>
            <p>Height: <%=u_height%></p>
            <p>Weight: <%=u_weight%></p>
            <p>BMI: <%=String.format("%.2f", bmi)%></p>
            <p>Your bmi is <%=category%>!</p>
        </fieldset>
    </body>
</html>
```

Output:

BMI Analyzer

Enter your height in(m): 1.7

Enter your weight in(kg): 110

Submit   Cancel

Your BMI result

Height: 1.7

Weight: 110.0

BMI: 38.06

Your bmi is overweight!