UNIVERSITI MALAYSIA TERENGGANU

CSM3023 WEB BASED APPLICATION DEVELOPMENT

BACHELOR OF COMPUTER SCIENCE (MOBILE COMPUTING) WITH HONORS

LAB 04

SEMESTER I 2023/2024

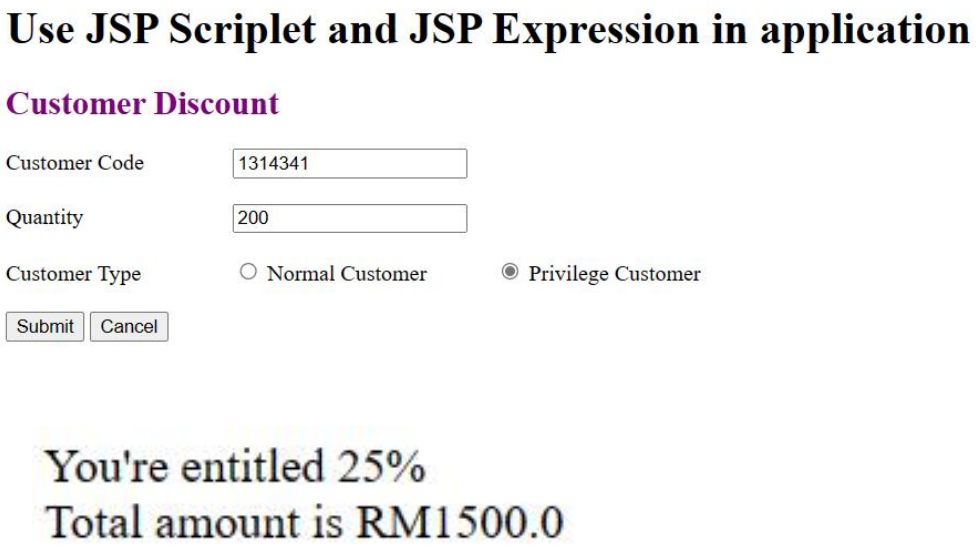
Prepared for:

DR MOHAMAD NOR BIN HASSAN

Prepared by:

NUR ATIRAH BINTI SHAMSUDDIN (S67397)

Task 1: Using JSP Scripting



Reflection

1. What you have learnt from this exercise?
This exercise shows you how to create dynamic web pages using JavaServer Pages, or JSP. It involves interacting with user input and producing dynamic content by using JSP scripting elements like expressions and scriplets.

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

- **Declaration: In a JSP page, this is where variables and methods are declared. The beginning is <%!, and the ending is %>. Generally, utility methods or variables that are accessible from anywhere on the JSP page are defined using declarations.**

- **Expression: This is used to directly insert the Java expression's result into the HTML page that is produced. The symbol for it is <%= expression %>. Expressions are used inside HTML elements to display dynamic data, like method results or variable values.**

- **Scriptlet: A tool for writing Java code right on a JSP page. It is contained within <%> and %>. Scriptlets are useful for interacting with user input and producing dynamic responses because they enable more complex logic and dynamic content generation directly within the page.**

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

Reflection

1. What have you learn from this exercise?

Create a simple web application using JSP (JavaServer Pages) to perform currency conversion. It involves taking user input, processing it using Java code embedded within the JSP page, and displaying the result dynamically.

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

Reflection

1. What you have learnt from this exercise?
How to include one JSP page inside another and pass parameters between them using JSP standard actions like <jsp:include> and <jsp:param>. This makes it possible to improve code reusability and modularize code in JSP applications.

2. List **TWO (2)** other JSP Standard Action Tag.
- **<jsp:forward>: This action forwards the request from one JSP page to another resource (such as another JSP page, servlet, or HTML file) on the server. It's commonly used for URL redirection or passing control to another resource for further processing.**
- **<jsp:useBean>: This action is used to instantiate and access JavaBeans components within a JSP page. It allows JSP pages to interact with Java objects using predefined properties and methods, promoting separation of concerns between presentation and business logic.**

Task 4: Using JSP Standard Action (Forward)

Using JSP: forward to display user info.

Fouad Abdulameer
fouadaug@gmail.com
Iraqi
Developer

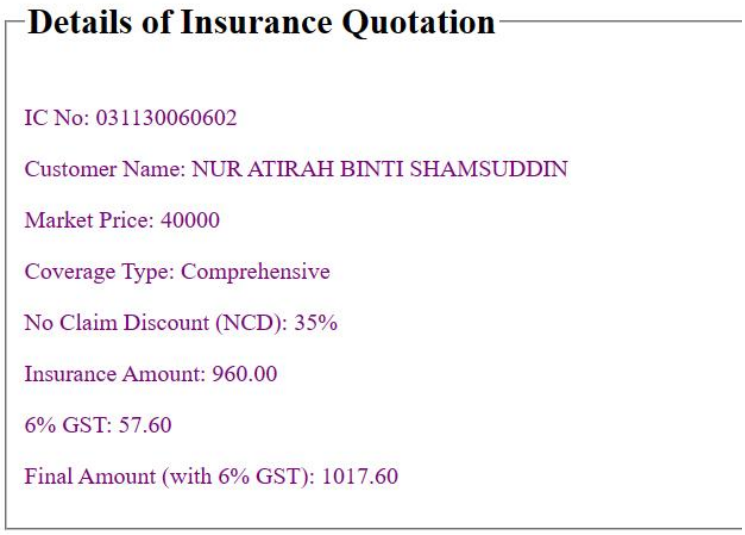
Today is:Mon Apr 29 01:15:38 MYT 2024

Reflection

1. What you have learnt from this exercise?
The use of <jsp:include>, the JSP standard action, in conjunction with <jsp:param> to pass parameters and forward control between JSP pages. This improves readability and maintainability by facilitating the modularization and reuse of code in JSP applications.

2. List **TWO(2)** More JSP Standard Action Tag.
- **<jsp:useBean>: This action is used to declare and instantiate JavaBeans components within a JSP page. It simplifies the process of working with Java objects in JSP by providing automatic instantiation and scope management.**
- **<jsp:setProperty>: This action is used to set properties on JavaBeans components declared using <jsp:useBean>. It allows for the binding of form parameters or other request attributes to JavaBean properties, enabling easy data manipulation and validation within JSP pages.**

Task 5: Use Java Scriptlet To Construct Business Logic



Reflection

1. What you have learnt from this exercise?

The steps involved in developing a basic web application for insurance quotations using JavaServer Pages (JSP). Users of this application can enter their personal data, the market value of their car, the type of coverage they want, and the percentage of their no-claim discount (NCD). After calculating the insurance amount and adding GST (Goods and Services Tax), the application shows the total amount along with a breakdown of expenses.

2. List all Java features you used in Java Scriptlet.

- **Variables: Declaring and initializing variables to store user input values, calculation results, and text strings.**
- **Conditional statements (switch-case): Using switch-case statements to determine the coverage type and apply different calculations based on the selected coverage and NCD percentage.**
- **Arithmetic operations: Performing arithmetic operations such as multiplication and subtraction to calculate insurance amounts, GST, and final amounts.**
- **String formatting: Using the String.format() method to format double values with two decimal places for display purposes.**
- **HttpServletRequest: Retrieving parameter values from the HTTP request using request.getParameter() to access user input data.**

Exercise

1. Write a simple application to calculate and display a person's body mass index (BMI). The BMI is often used to determine whether a person is overweight or underweight for his or her height. A person's BMI is calculated with the following formula:

$$\textbf{BMI} = \textbf{weight} / \textbf{height}^2$$

Where weight is measured in kilogram and height is measured in meter. User should enter his or her weight and height and then display the user's BMI. The program should also display a message indicating whether the person has optimal weight, is underweight, or is overweight. A person's weight is considered to be optimal if his or her BMI is between 18.5 and 25. If the BMI is less than 18.5, the person is considered to be underweight. If the BMI value is greater than 25, the person is considered to be overweight.