|  |  |
| --- | --- |
| **Practicum Case** |  |
| COMP6122 | COMP6122001  Framework Layer Architecture |
| **Computer Science** | **O221-COMP6122-CT01-01** |
| ***Valid on*** *Odd Semester Year 2021/2022* | **Revision 00** |

**Learning Outcome**

* LO1 – describe use of design pattern in java

**Topic**

* Session 1 – Introduction to Java and Design Pattern

## Sub Topics

* Basic Java
* Object Oriented Programming
* Design Pattern

## Soal

*Case*

**Toppo Shop**

Toppo Shop is a popular tofu shop in Jakarta. Every day the Toppo Shop sells a lot of tofu and **calculates the prices manually** and they also **have customer memberships** for discounts for every member that **purchases** **the tofu from the shop**. Because of that, Angelia the business owner of the shop, she asks you to create a program that could lighten her shop orders without checking manually. Below are the following **details** of the program:

There are **two types** of customers:

|  |  |
| --- | --- |
| **Customer Type** | **Customer Discount (for every purchases)** |
| Customer Gold | 30% discount from the total price |
| Customer Silver | 20% discount from the total price |

* **Authentication Menu**

At first, the program will show the menu. In this menu, the program will ask the customer to choose **between 1 and 3 (inclusive)**.

1. **Login**
2. **Register**
3. **Exit**

Background pattern

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**Figure 1. Authentication Menu**

* 1. **Login**

If the customer **choose** **1**, then the program asks the customer to input his/her **username** and **password.** And the program also **validates** the **username’s length** and **password’s length** must be **longer than 5**.

If the customer’s **credentials** are **correct** andalso **registered** in the system, then the program will **redirect** the page to **main menu**.

A picture containing text

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**Figure 2. Login Menu (Success)**

**Otherwise**, the program will **redirect** it back to **authentication menu**.

Text

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**Figure 3. Login Menu (Failed)**

* 1. **Register**

If the customer **choose 2,** then the program asks the customer to input his/her **username**, **password,** and **member type.** Andthe program also**:**

* + - * Validates the **username’s length** and **password’s length** must be **longer than 5.**
      * Validates the **member type** must be **gold or silver (case insensitive)**.
      * After the inputs are done, the program will **save** the customer data to the system.

Text

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**Figure 3. Register Menu**

* 1. **Exit**

If the customer **choose 3**, then the program will be **terminated**.

* **Main Menu**

After the customer is **log in**, the program will **show list of tofu** and **current cart of the customer**, below are the currently **available** **tofu** in the system (could add more to the system in the future if needed).

|  |  |
| --- | --- |
| **Tofu Name** | **Price** |
| Medium Black Tofu | 20000 |
| Firm Block Tofu | 10000 |
| Smoked Block Tofu | 30000 |

And also, the program asks the customer/user to input **between 1** **and** **size of the list of tofu**. If the customer chooses between 1 to the size of the list of tofu, the **selected tofu** will be **added** to the **cart**.

A screenshot of a computer

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**Figure 5. Main Menu with Empty Cart**

Text, table, letter

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**Figure 6. Main Menu with Cart**

If the customer **choose 0**, then the program **removes tofu** that have been addedto the **cart**, **calculates the total price**, and provides a **discount** dependingon his/her **membership type**.

After the price has been calculated, then the program will **show the total price,** asks the customer to **input his/her money,** andvalidates inputted money must be **more than or equal to the total price.**

Lastly, the program will **show the change** and **redirect** it backto the **authentication menu.**



**Figure 7. Total Payment and Change**