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# Assignment Cover Letter (Individual/Group* Work)

| **Student Information**: | ***Surname*** | ***Given Names*** | ***Student ID Number*** |
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**Course Code** : COMP6699001 **Course Name** : Object Oriented Programming

**Class** : L2BC **Name of Lecturer(s)** :
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**Major** : Computer Science

**Title of Assignment** (if any) :

**Type of Assignment** : Final Project

**Submission Pattern**

**Due Date** : 16 June 2022 **Submission Date** : 14 June 2022

The assignment should meet the below requirements.

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Signature of Student:

Ferdinand Jacques

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**“Restaurant App”**

**Name : Ferdinand Jacques**

**NIM : 2501982600**

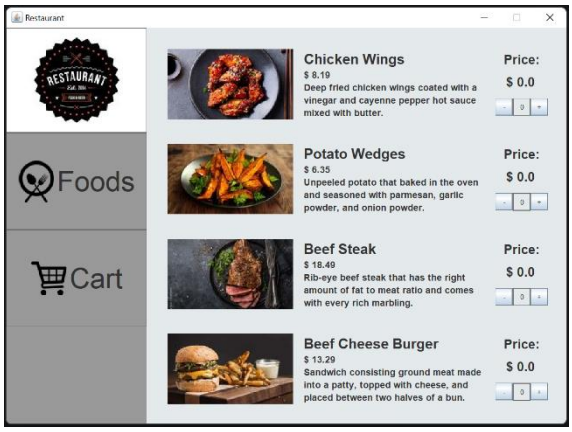
## I. Program Description

This is a simple restaurant application that is created by using java as the main programming language and a few imported modules, which are javax.swing, java.awt, java.util, and java.text. The main purpose of this application is to help the owner of restaurants save their money from hiring a worker to take their customers’ order. By using this application, customers can place their orders at the restaurant.

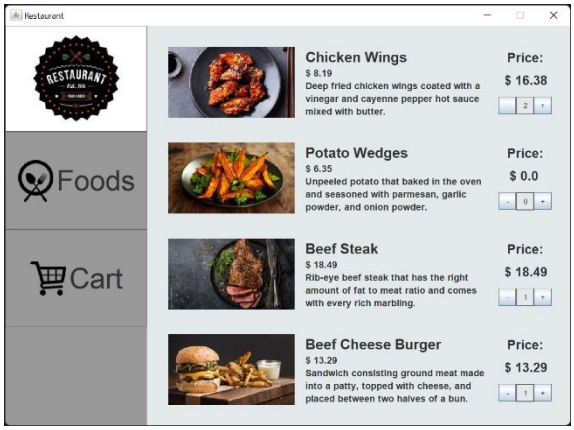
## II. Class Diagram

- The class App is used to run the frame that has been created in Frame.java.
- The class Frame is used to store/add all the panels and buttons that has been created and act as the main window of the application.
- The class Food is used to create the panel of foods and carts that will be shown in the main frame. It also creates the logic of adding or removing items from the cart.
- The class Window is used to create the popup window as the thank you window when the user has checked out their items.
- The class Button is used to create the button such as adding or removing items from the cart. Also, Button class create the label that act as the number of items that has been added to the cart.

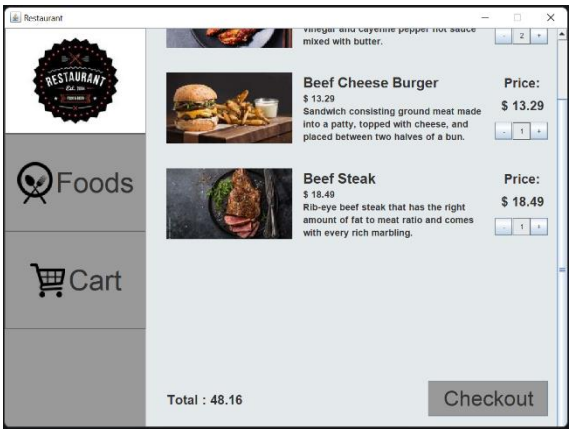
## III. Application Flow



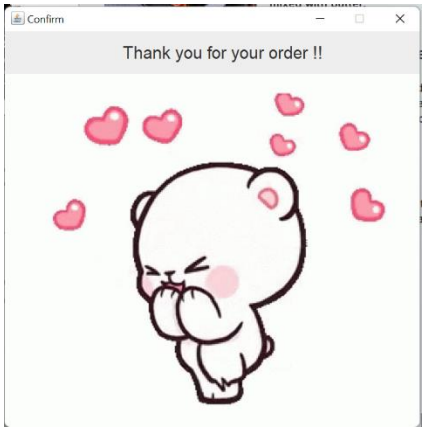

The main page




Adding items




Check the cart and Checkout




Transaction successful

## IV. Lesson that have been Learned

In this project, I've learned a lot of things such as creating a GUI window in Java language. I learned how to create a logic that can add a label from one panel to another by clicking a button. Also, I learned how to add a gif and image to a panel and set the position of the panel to the location that I wanted.

# V. Code Explanation

In this program, I divided the code into 5 files, which are :

1. App.java

```java
import design.Frame; //importing the Frame that has been created

public class App{   //Create class App
    Run | Debug
    public static void main(String[] args){     //Create the main function
        Frame JCafe = new Frame();              //Create variable JCafe with datatype from design.Frame
        JCafe.createFrame();                    //Run the function createFrame() to create the frame
    }
}
```

"App.java" is the file that I used as the main file to run the GUI application. In the main function of this file, it creates a variable that named JCafe that is imported from the package design. The name of the file that the JCafe called is Frame.java. JCafe variable is used to run the function "createFrame" that is created inside the Frame.java.

2. Frame.java

```java
public class Frame extends JFrame{      //Create the class Frame that inherit from JFrame class
    public void createFrame(){          //Create the function createFrame() that return nothing
        JFrame win = new JFrame(title: "Restaurant");          //Create the frame to store all the panels and buttons with title Restaurant
        win.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);    //Specify the close button to exit the frame
        win.setSize(width: 810, height: 600);                  //Set the size for the frame
        win.setResizable(resizable: false);                    //Set the frame to be unresizeable, so the user can't resize it

        JPanel left = new JPanel(new FlowLayout(FlowLayout.CENTER,hgap: 0,vgap: 0));       //Create the panel left to store the Items that will be shown on t
        left.setPreferredSize(new Dimension(width: 200, height: 600));                     //Set the size for the left panel
        left.setBackground(new Color(r: 153, g: 153, b: 153));                             //Set the background color for panel size

        //Creating img variable and set the icon based on the file restaurant.jpg
        //Source : https://graphiccloud.net/restaurant-logo-design/
        ImageIcon img = new ImageIcon(filename: "C:/Users/ferdi/OneDrive/Desktop/Binus/2nd Semester/Object Oriented Programming/Forum Exercise/Project/restau
        JLabel logo = new JLabel(img);                                                     //Create logo label and put the image
        logo.setPreferredSize(new Dimension(width: 200, height: 149));                    //Set the size for the Logo
        logo.setBorder(new LineBorder(new Color(r: 102, g: 102, b: 102),thickness: 1));    //Set the color and thickness of border for the Logo

        JPanel fright, cright;      //Creating panel fright (food in right) and cright (cart in right)
        JButton foods, carts;       //Creating the button foods and carts
```

"Frame.java" is the file that is used to create the frame to store all the panels and buttons that will be shown. "Frame.java" also acts to build the left side panel that is used by the user to choose between the food menu or the cart (to see the items that have been added) and call the right panel that show the food menu and the cart panel from the "Food.java".

3. Food.java

```
public class Food {         //Creating the class Food
    //Creating the variable that are needed
    private int wcount = 0;
    private int wecount = 0;
    private int scount = 0;
    private int bcount = 0;
    private double wingprice = 8.19;
    private double wedgeprice = 6.35;
    private double steakprice = 18.49;
    private double burgerprice = 13.29;
    private static double wingprices, wedgeprices, steakprices, burgerprices, total;
    private int margin = 35;
    private int margin2 = 0;
    Button button = new Button();
    private static Map<Integer, JLabel> ilist = new HashMap<Integer, JLabel>();
    private static Map<Integer, JLabel> nlist = new HashMap<Integer, JLabel>();
    private static ArrayList<JLabel> rilist = new ArrayList<JLabel>();
    private static ArrayList<JLabel> rnlist = new ArrayList<JLabel>();
    private int qcount = 0;
    private static final DecimalFormat df = new DecimalFormat(pattern: "0.00");
    static Timer timer;
```

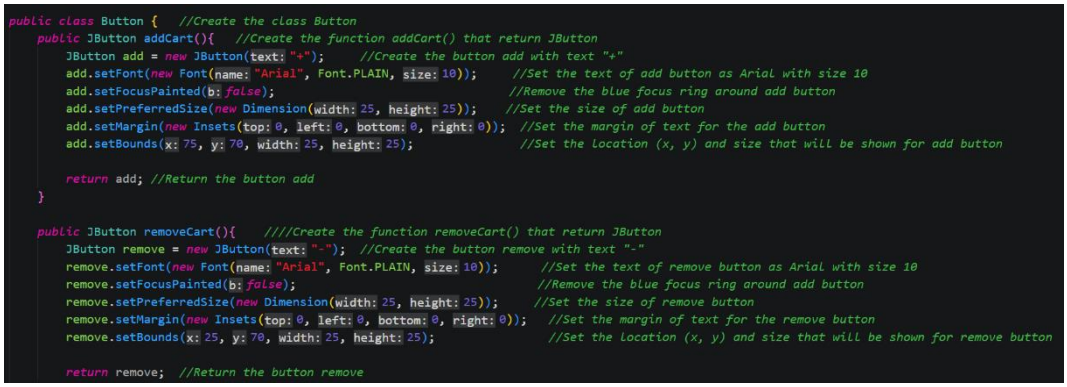
"Food.java" is the file that used to create the right panel such as food panel and cart panel. Each of the panel has its own function that will return the panel itself. The food panel's function will add all the function that act to show the name of the items, price, image, and also description. Also, there is a function that is used to call the add and remove button that is use to add or remove items from the cart and the label to show how many items that is added. The cart scroll panel's function to show the items that have been added to the cart. In this function, there is a logic that check if the user has added the item from the food panel or not. This logic use the module javax.swing.Timer to set a timer that keep checking and updates the panel.

4. Window.java

```
public class Window {       //Create the Window class
    public JFrame createWindow(){       //Create the function createWindow() that return JFrame
        JFrame thank = new JFrame(title: "Confirm");       //Create thank frame with title "Confirm"
        JLabel you = new JLabel(text: "Thank you for your order !!"); //Create the label you with text "Thank you for your order !!"
        thank.setSize(width: 500, height: 500);    //Set the size of the frame thank
        thank.setBackground(new Color(r: 228, g: 233, b: 236));  //Set the background color of the frame thank
        thank.setResizable(resizable: false);  //Set the thank frame to be unresizeable, so the user can't resize it
        thank.setLayout(manager: null);      //Set the thank frame layout as null
        thank.setVisible(b: true);     //Set the thank frame to be visible
```

"Window.java" will create a window that is used to be the popup window that is shown when the user has checkout their order. In this window, there is a label and a gif that says thank you.

5. Button.java



```
public class Button {   //Create the class Button
    public JButton addCart(){   //Create the function addCart() that return JButton
        JButton add = new JButton(text: "+");     //Create the button add with text "+"
        add.setFont(new Font(name: "Arial", Font.PLAIN, size: 10));     //Set the text of add button as Arial with size 10
        add.setFocusPainted(b: false);                                  //Remove the blue focus ring around add button
        add.setPreferredSize(new Dimension(width: 25, height: 25));    //Set the size of add button
        add.setMargin(new Insets(top: 0, left: 0, bottom: 0, right: 0)); //Set the margin of text for the add button
        add.setBounds(x: 75, y: 70, width: 25, height: 25);             //Set the Location (x, y) and size that will be shown for add button

        return add; //Return the button add
    }

    public JButton removeCart(){    ////Create the function removeCart() that return JButton
        JButton remove = new JButton(text: "-");  //Create the button remove with text "-"
        remove.setFont(new Font(name: "Arial", Font.PLAIN, size: 10));      //Set the text of remove button as Arial with size 10
        remove.setFocusPainted(b: false);                                   //Remove the blue focus ring around add button
        remove.setPreferredSize(new Dimension(width: 25, height: 25));     //Set the size of remove button
        remove.setMargin(new Insets(top: 0, left: 0, bottom: 0, right: 0));   //Set the margin of text for the remove button
        remove.setBounds(x: 25, y: 70, width: 25, height: 25);               //Set the Location (x, y) and size that will be shown for remove button

        return remove;  //Return the button remove
```

"Button.java" is the file that is used to create the add and remove button. The class "Button" has two function which is addCart function that is used to create the add button and removeCart function that is used to create the remove button. However, there's still no logic in this function. At this function, it has specified the size, text, margin and location of the button.

## VI. Project Link

https://github.com/Jacques7103/OOP/tree/main/Project

## VII. References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