NORTH SOUTH UNIVERSITY

Project Report on

Coffee Shop Management System

(Kashundi Cafe)

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Section: 14 Semester: Spring 2024
Course: CSE215 (Java Programming)

- Submitted By:

Group -5

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Abstract

This report presents the design and implementation of a Coffee Shop Management System developed using Java programming language. The primary objective of this system is to streamline the ordering process in a coffee shop by facilitating efficient interactions between customers and employees. In this system, employees are responsible for taking orders from customers and generating bill receipts. A significant feature of this system is the administrative module, which is exclusively accessible to the admin. The admin has the authority to add new employees to the system and configure their login credentials, including usernames and passwords. This centralisation of employee management enhances the security and functionality of the system, ensuring that only authorised personnel can process orders and access sensitive information. The system is designed to be user-friendly, ensuring that employees can easily manage orders and generate receipts with minimal training. Overall, the Coffee Shop Management System aims to improve service speed, accuracy, and customer satisfaction in coffee shop operations, leveraging the robust capabilities of Java for backend processing.

GitHub Link: https://github.com/Sakibcheez/Kashundi-Cafe-Management-System-Java.git

Acknowledgement

We are immensely grateful for the opportunity to express our heartfelt thanks to everyone who guided and supported us throughout the completion of our project.

Foremost, we extend our profound appreciation to our Lab instructor, Md **Abdullah Al Sayed,** whose invaluable guidance was crucial to the success of this project. Without his support and expertise, this project would not have reached fruition.

We would like to thank our course faculty, **Maktuba Mohid Binni** mam, especially.

Lastly, we are thankful to all our friends for their unwavering encouragement and support throughout this project. Their motivation played a significant role in the completion of our work.

Table of Contents

Coffee Shop Management System

Introduction

The Coffee Shop Management System is designed to streamline the operations of a coffee shop, facilitating efficient order management and overall administration. This Java-based system allows an administrator to manage data, update information, and oversee employee activities. Employees can log in, take orders, generate bills, and interact with customers, ensuring a smooth and effective service experience.

Background

The "Coffee Shop Management System" is an automated and OS-based application tailored to enhance the management processes of a coffee shop. It provides a comprehensive platform where the admin can control data, and customers can suggest changes to the coffee offerings. This system enables the administrator to add, update, and delete information efficiently, thus maintaining an organized and updated database.

Objectives

- **Develop a Web-Based System**: To create a web-based application that effectively manages coffee information.
- **User Suggestions**: To facilitate customer feedback for potential changes in coffee offerings.
- **Support Rural Areas**: To aid rural communities by offering a platform that caters to their needs.
- **Efficiency**: To reduce processing time and improve service delivery.
- **Quality Products**: To ensure the provision of fresh and healthy coffee products.

Purpose and Scope

Purpose

- **Efficient Record Handling**: To save time and costs by automating record-keeping processes.
- **Automated Processes**: To streamline various operational tasks within the coffee shop.
- **Quality Assurance**: To consistently provide fresh and high-quality coffee.
- **Revenue Generation**: To enhance profitability through improved management.

Scope

The Coffee Shop Management System aims to efficiently manage and run the coffee shop. It offers functionalities for employees to take orders, process payments, and manage customer interactions. The administrator can oversee all records, including employee data, products, customers, orders, and billing information, ensuring a holistic view of the shop’s operations.

Applicability

- **User-Friendly**: Designed to be intuitive and easy to use.

- **High Security**: Ensures secure handling of sensitive data.
- **Flexibility**: More adaptable compared to previous systems.
- **Comprehensive Operations**: Supports all essential operations like add, view, delete, and update.
- **Transparency**: Provides clear and transparent processes for users.
- **Support for Farmers and Rural Areas**: Enhances earnings and supports rural communities through improved service delivery.

System Analysis

Existing System

- **Tedious Operations**: The previous system involved cumbersome processes.
- **Slow Data Processing**: Inefficiencies in data handling slowed down operations.
- **User Unfriendliness**: The earlier system was not easy to use.
- **Limited Orders and Benefits**: Restricted order capacity and minimal benefits.

Fact-Finding Requirements

1. **Operations to be Performed**:
    - **Update**: Modify existing information.
    - **Delete**: Remove outdated or unnecessary data.
    - **Insert**: Add new records and information.
    - **View**: Access and review data.

Proposed System:-

- This system is user-friendly.
- It provides high security.
- It contains all operations like add, update, delete, view, etc.
- It is an automated system.
- This system helps to place orders for coffee.

Requirement Analysis

I will use fact-finding techniques in my project, i.e., Coffee Shop Management. I gather information for my project according to the client's requirements so the client can handle this system easily. It provides high security. Coffee Shop Management is an automated system that allows customers to order coffee easily and at any time.

Hardware Requirements:-

- Processor: Intel / AMD, which supports JDK Applications
- Hard Disk: 256/500 GB
- RAM: 2GB minimum

Software Requirement:

Design Constraint:
- Front End: - Microsoft .net framework with Microsoft Visual Studio 2015
- Language: - English Requirement User:
- Operating system: - Any Operating System
- Browser: - Any Browser, jdk file

IDE: Apache NetBeans, Eclipse, IntelliJ Idea
JDK version: 20 or higher

Code Contains:

Package Name: cafeguii.app
.java File: CoffeShopCalculator.java
Class name: CoffeShopCalculator
Constructor name: CoffeShopCalculator()
Method name: calculateTax(double subtotal)

Package Name: cageguii.gui
.java File: Dashboard.java
Class name: Dashboard, ProductPeanel, YourClassName, JPanel,GroupLayout, SpinnerNumberModel

Constructor name : Dashboard(), YourClassName(), Font(String name, int style, int size), SpinnerNumberModel(int value, Comparable minimum, Comparablemaximum, int stepSize)

Method name: init(),setImage(),qtyIsZero(int qty),reset(),inintComponents(),ProductPanel(), setBorder(Border border),setFont(Font font),Kashundi_Cafe(),setTime(),run(),dudate(),setText(String text),setHorizontalAlignment(int alignment),addComponent(Component comp, Object constraints) ,addPreferredGap(LayoutStyle.ComponentPlacement type),actionPerformed(ActionEvent evt), jCheckBox1ActionPerformed(java.awt.event.ActionEvent evt)
btnTotalActionPerformed(ActionEvent evt)
btnReceiptActionPerformed(ActionEvent evt)
btnResetActionPerformed(ActionEvent evt)
btnExitActionPerformed(ActionEvent evt)

Package Name: cafeguii.images2
(All images of food for dashboard)

Package Name: cafeguii.menu
.java File: CoffeShopItem.java
MenuItem.java
Class Name(CoffeShopItem.java) : CoffeeShopItem
Constructor Names(CoffeShopItem.java): CoffeeShopItem(String name, double price, String imagePath, JLabel label)

Interface Name: MenuItem
Method Names : (MenuItem.java): getName()getPrice()
Method Names (CoffeShopItem.java): getName()
getPrice(),getIcon(),getLabel(),createImageIcon(String path)

Package Name: Homepage
.java File: AdminPanel.java
EmployeeDashboard.java
EmployeeUtils.java
KashundiCafe.java(Main Executable Run file of the project)
LoginPanel.java
Class Names (AdminPanel.java): AdminPanel
Method Names (AdminPanel.java): showEmployees()
Action Listener Methods
actionPerformed(ActionEvent e) for btnAddEmployee
actionPerformed(ActionEvent e) for btnShowEmployees
actionPerformed(ActionEvent e) for btnback
actionPerformed(ActionEvent e) for btnmenu
actionPerformed(ActionEvent e) for btnsell
actionPerformed(ActionEvent e) for btnincome

Class Name (EmployeeDashboard.java): EmployeeDashboard
Constructor Names (EmployeeDashboard.java): EmployeeDashboard()
Class Name (EmployeeUtils.java): EmployeeUtils

Method Names (EmployeeUtils.java): loadEmployees(Map<String, String> employees, String filename)

saveEmployees(Map<String, String>
employees, String filename)
Class Names (KashundiCafe.java): KashundiCafe
LoginPanel
AdminPanel
EmployeeDashboard
EmployeeUtils

Constructors Names (KashundiCafe.java): KashundiCafe()
LoginPanel(KashundiCafe mainApp)
AdminPanel(KashundiCafe mainApp)
EmployeeDashboard()

Method Names (KashundiCafe.java): main(String[] args)
initialize()
showAdminPanel()
showEmployeeDashboard()
getEmployees()
saveEmployees()

loadEmployees(Map<String, String>
employees, String filename) in
EmployeeUtils

saveEmployees(Map<String, String>
employees,String filename) in
EmployeeUtils

Class Name (LoginPanel.java):
LoginPanelConstructor Names (LoginPanel.java): LoginPanel(KashundiCafe mainApp)
Method Names (LoginPanel.java): login()
getlogin()

Package Name: Data File

FileReader.java --------abstract classs
Sales_History.java -------public class extend JFrame
-constructor
Sales_History()
private void displayFileContent()

TextFileReader.java-------public class extend FileReader

Total_income.java--------public class extends JFrame
-constructor
public Total_income()
private void displayFileContent()

All .java Classes are:

- AdminPanel.java
- EmployeeDashboard.java
- EmployeeUtils.java
- KashundiCafe.java (Main Executable Run file of the project)
- LoginPanel.java
- FileReader.java
- Sales_History.java
- TextFileReader.java
- Total_income.java
- CoffeShopCalculator.java
- Dashboard.java
- CoffeShopItem.java
- MenuItem.java

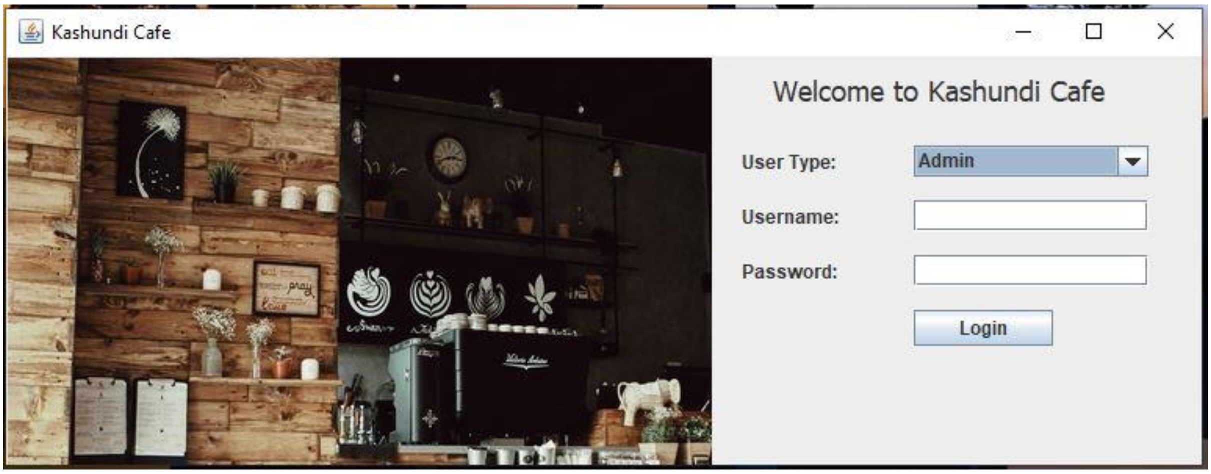
Project Features and Short Descriptions:

Features	Description	Developed By
Login Panel 1. Welcome Label 2. User Type Selection 3. Username Input 4. Password Input 5. Login Button 6. Login Process 7. Helper Method(getlogin)	The *Login Panel* class is a Swing GUI for the Kashundi Cafe application, enabling user login as either Admin or Employee. It features fields for username and password, a dropdown for user type selection, and a login button. Upon submission, it validates credentials and navigates to the appropriate dashboard, displaying error messages for invalid entries.	Farhin Ahmed Pranto
Admin Panel 1. Admin Panel Label 2. Add Employee 3. Show Employee 4. Remove Employee 5. Logout 6. Menu Navigation 7. Dynamin Employee	The *Admin Panel* class is a Swing GUI for the Kashundi Cafe application, providing administrative functionalities. It allows admins to add new employees, view the employee list, and remove employees. The interface includes fields for entering employee details and buttons for adding employees, displaying the employee list, logging out, and accessing the employee dashboard.	Farhin Ahmed Pranto
Employee Utils 1. Load Employees from file 2. Save Employees to file	*Employee Utils* provides methods for loading and saving employee data. *loadEmployees* reads username-password pairs from a file into a map. *saveEmployees* writes username- password pairs from a map to a file. Both methods handle file I/O and ensure data integrity. Errors during file operations are reported. This utility assists in managing employee information for the Kashundi Cafe application.	Choitannyo Saha
Employee Dashboard 1. Employee Dashboard Label 2. Integration with External Dashboard 3. Unsupported ‘dispose()’method	The *Employee Dashboard* class represents the user interface for employees in the Kashundi Cafe application. It displays a dashboard with relevant information and options. The layout is set manually using absolute positioning. Additional components can be added as required. Currently, it disposes of the panel, awaiting further implementation.	Choitannyo Saha
Kashundi Cafe 1. The main executable class	*Kashundi Cafe* manages employee information. It includes a login system with admin and employee roles, an admin panel for managing employees and an employee	Choitannyo Saha

	dashboard. The application uses a HashMap to store employee data and reads and writes to a file named "employees.txt".	, Sakib Ahmed Shishir, Farhin Ahmed Pranto
Coffee Shop Calculator 1. Calculating with Tax	The *Coffee Shop Calculator* class manages calculations for a coffee shop's transactions. It initializes variables for total, items, and tax. The constructor sets default values. The *calculateTax* method computes tax based on a subtotal using a fixed rate. This utility assists in computing taxes for purchases in the coffee shop application.	Farhin Ahmed Pranto
Coffee Shop Item 1. Attributes 2. Constructors 3. Getter Methods 4. Helper Methods	The *Coffee Shop Item* class represents an item in the cafe's menu. It stores the name, price, and icon of the item. The constructor initializes these attributes with the provided parameters. It also provides methods to retrieve the item's details, such as name, price, icon, and associated label.	Sakib Ahmed Shishir
Dashboard 1. Design of Dashboard 2. The Billing System	*Dashboard* contains the design of the menu bar, purchase sign, and the design of the billing system and the printing feature which will save as a PDF or we can print the slip from the printer.	Sakib Ahmed Shishir
Data File 1. Abstract class File Reader 2. Sell History 3. Total Income	In admin panel admin can see sell history and total income by clicking sell info and total income. The .txt file passes through an object file called Path.	Sakib Ahmed Shishir

Project Description Part:

1. Login Panel (kashundiCafe.java)



Kashundi Cafe

Welcome to Kashundi Cafe

User Type: Admin

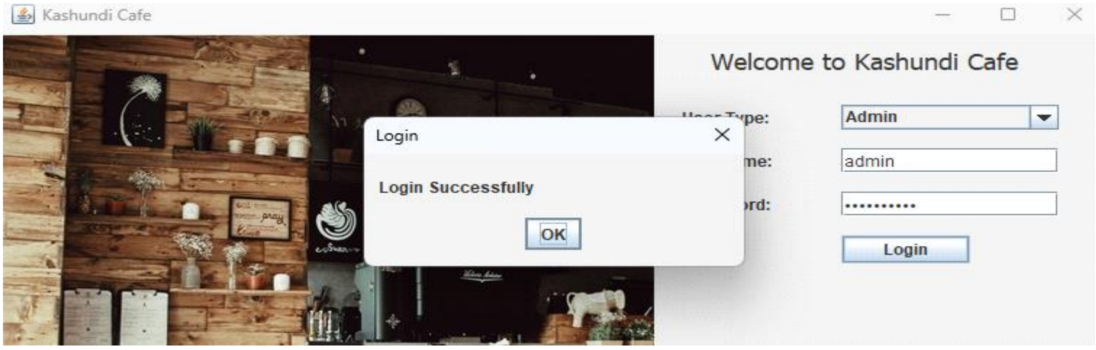
Username:

Password:

Login

It is the first look of Kashundi Café (Coffee Shop Management System) when we run the Programme. The interface shows a "Kashundi Cafe" window with a welcoming message: "Welcome to Kashundi Cafe." There is a dropdown menu labelled "User Type" with the option "Admin" and "Employee". Below the "User Type" dropdown, there are fields for "Username" and "Password" to log in. There is a "Login" button below the password field. The right side of the interface displays a cosy and aesthetically pleasing coffee shop interior with wooden shelves, coffee equipment, and decorative items, providing a welcoming and inviting atmosphere.

If the admin's Username and Password are correct, then it will show 'Login Successfully'.



Kashundi Cafe

Welcome to Kashundi Cafe

User Type: Admin

Username: admin

Password: ••••••••••

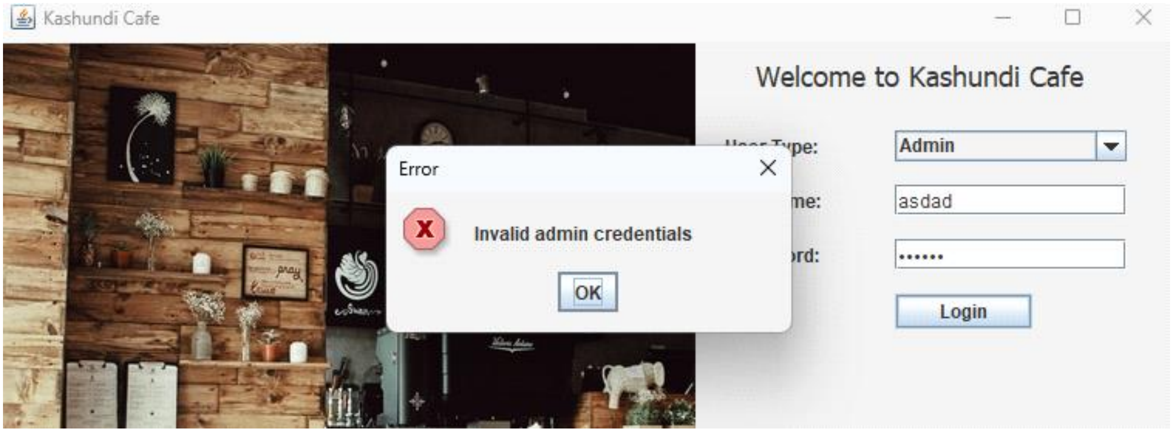
Login

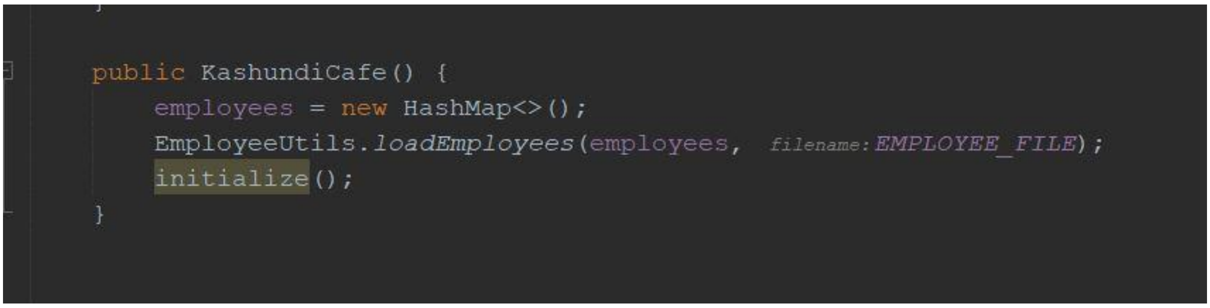
Login

Login Successfully

OK

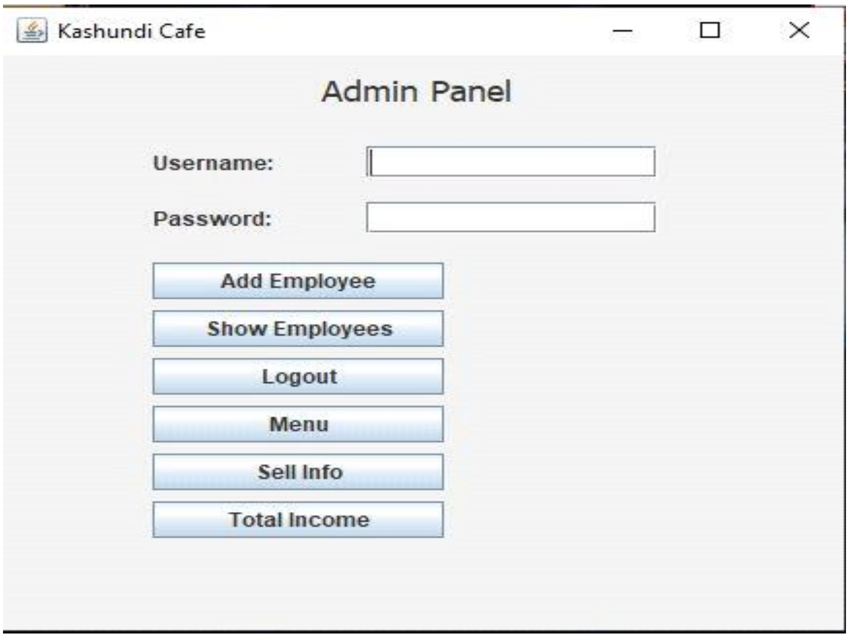
If the admin's Username and Password are incorrect, than it will show 'Invalid admin credentials.'





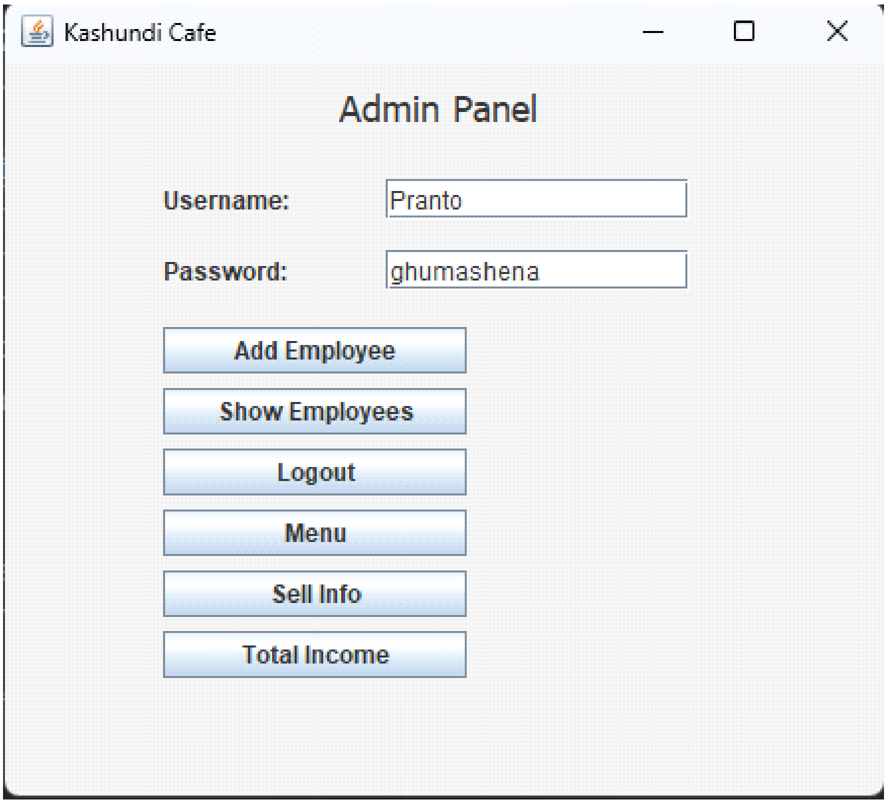
```
public KashundiCafe() {
    employees = new HashMap<>();
    EmployeeUtils.loadEmployees(employees,  filename: EMPLOYEE_FILE);
    initialize();
}
```

2. Admin Panel



The "Admin Panel" has a Username and Password box. There are options for adding employees, showing employees, menu, selling info, total income and a logout option for admin. Only the admin can add and remove an employee.

3. Add Employee

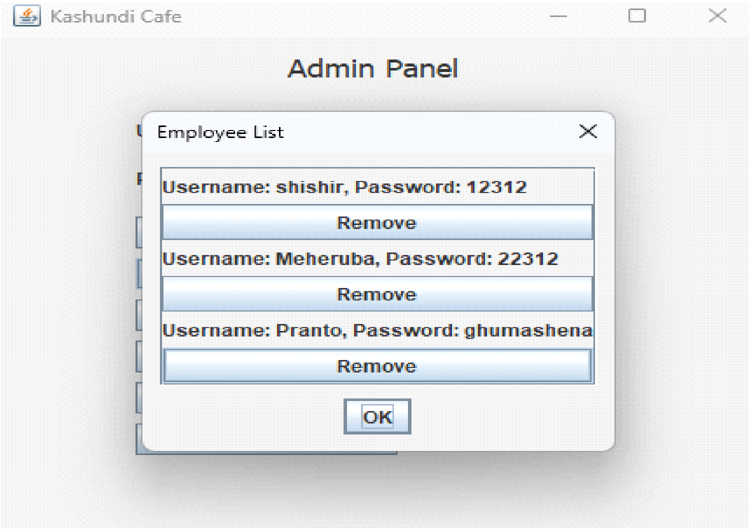


Username: Pranto

Password: ghumashena

In this part, the admin can add employees. The admin has to just write the username and password for the employee and choose the option for "Add Employee." This will create an account for the employee, and the employee can use this username and password to log into the Employee section.

4. Show Employee



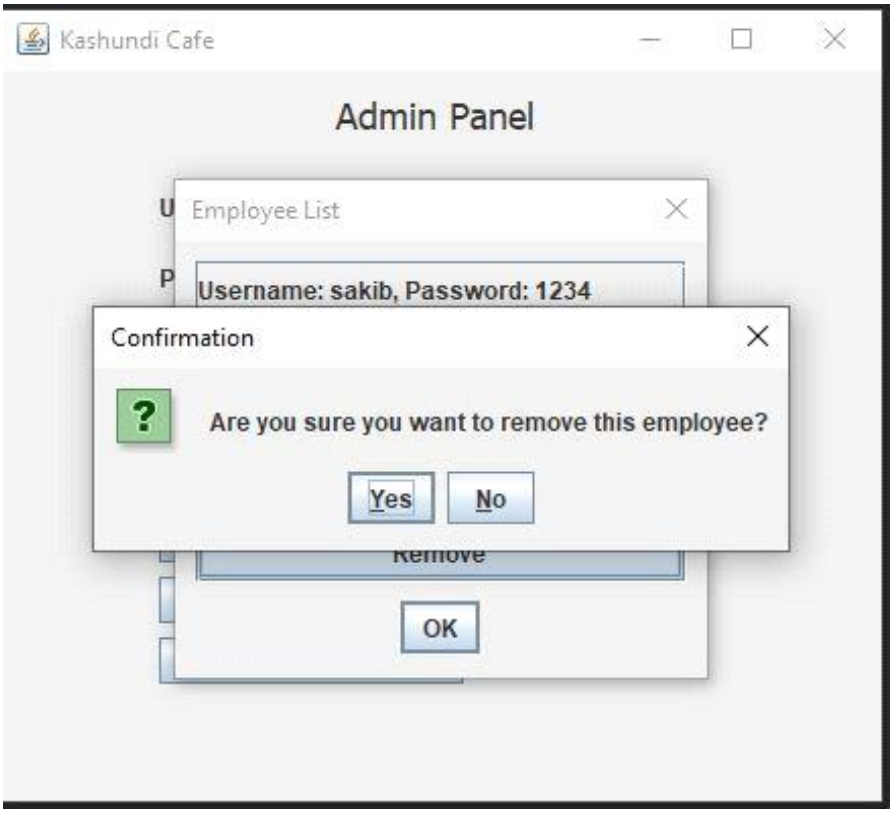
Username: shishir, Password: 12312

Username: Meheruba, Password: 22312

Username: Pranto, Password: ghumashena

In this part, an admin can see the list of all the employees. The admin can also see every employee's username and password. This username and password are saved in the employees.txt file.

5. Remove Employee

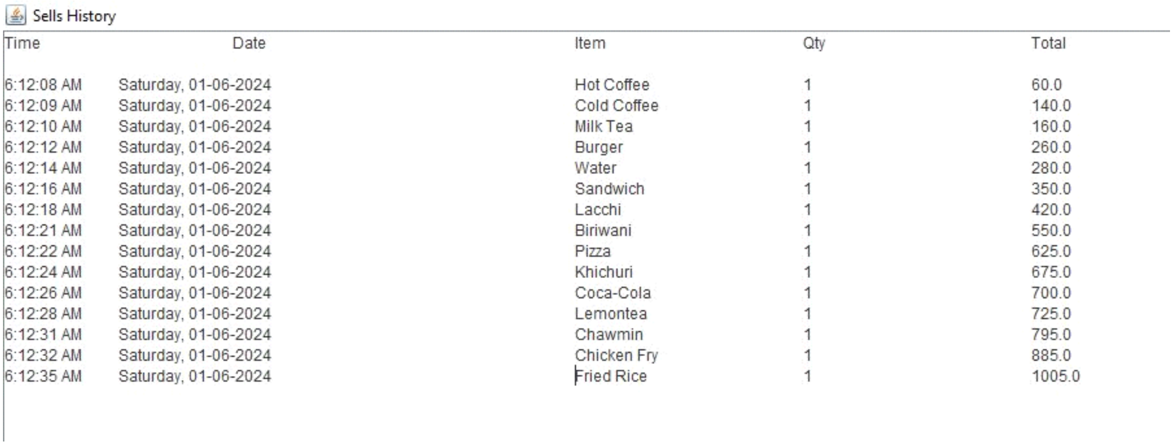


Username: sakib, Password: 1234

Are you sure you want to remove this employee?

If the admin wants to remove an employee, the admin has to press "Remove", and after that, a confirmation box will show, and the employee will be removed from the list, and the employee's username and password will also be removed from the employees.txt file.

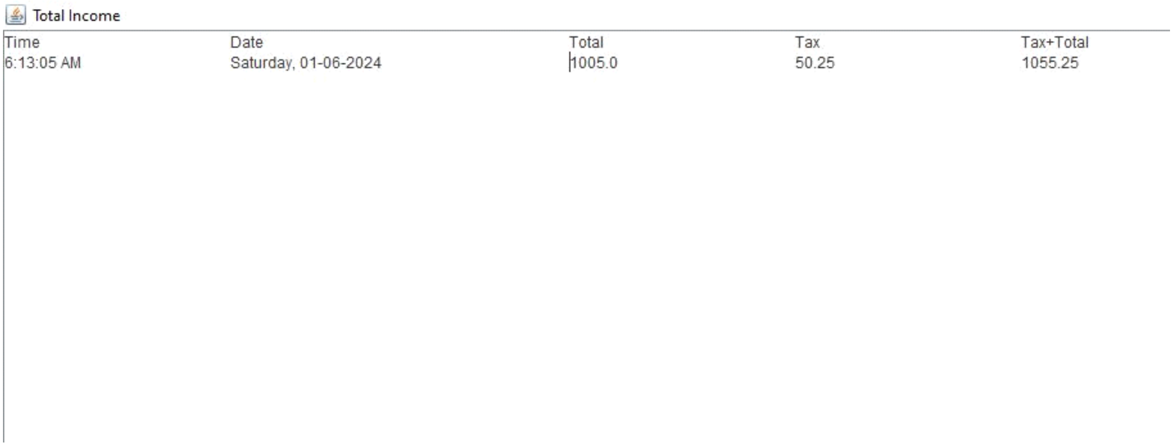
6. Sales History



Time	Date	Item	Qty	Total
6:12:08 AM	Saturday, 01-06-2024	Hot Coffee	1	60.0
6:12:09 AM	Saturday, 01-06-2024	Cold Coffee	1	140.0
6:12:10 AM	Saturday, 01-06-2024	Milk Tea	1	160.0
6:12:12 AM	Saturday, 01-06-2024	Burger	1	260.0
6:12:14 AM	Saturday, 01-06-2024	Water	1	280.0
6:12:16 AM	Saturday, 01-06-2024	Sandwich	1	350.0
6:12:18 AM	Saturday, 01-06-2024	Lacchi	1	420.0
6:12:21 AM	Saturday, 01-06-2024	Biriwani	1	550.0
6:12:22 AM	Saturday, 01-06-2024	Pizza	1	625.0
6:12:24 AM	Saturday, 01-06-2024	Khichuri	1	675.0
6:12:26 AM	Saturday, 01-06-2024	Coca-Cola	1	700.0
6:12:28 AM	Saturday, 01-06-2024	Lemontea	1	725.0
6:12:31 AM	Saturday, 01-06-2024	Chawmin	1	795.0
6:12:32 AM	Saturday, 01-06-2024	Chicken Fry	1	885.0
6:12:35 AM	Saturday, 01-06-2024	Fried Rice	1	1005.0

In this section, the admin can see the day's sales history. It is saved as a table Time-Date-Item-Quantity-Total. Sales history is in the salex.txt file, saved there, and reads from there to show the sales history.

8. Total Sells

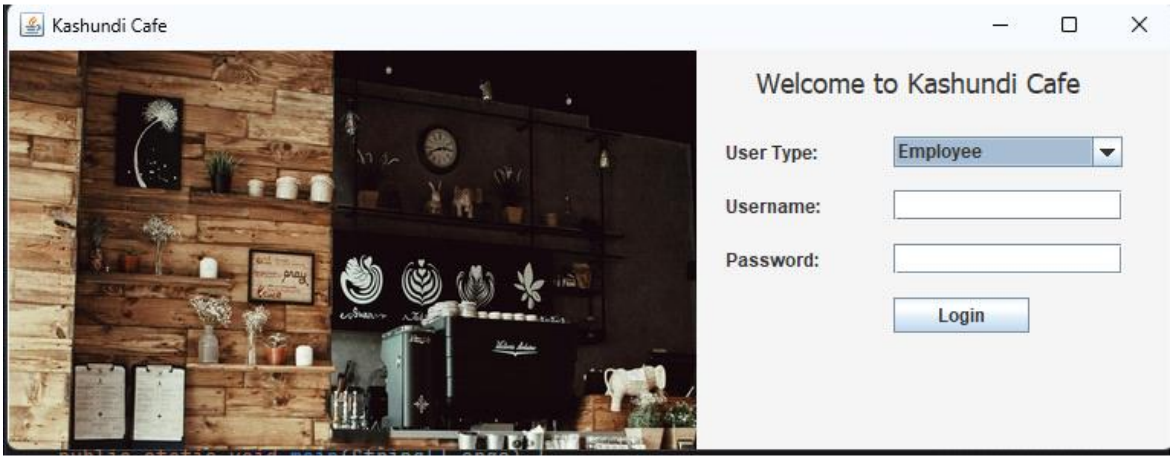


Time	Date	Total	Tax	Tax+Total
6:13:05 AM	Saturday, 01-06-2024	1005.0	50.25	1055.25

In Total Sells, the admin can see the wholesale of the month. It is also saved as a table Time-Date-Total-Tax-Tax+Total. It is saved in the totalsales.txt file, and it reads from there to show the total list of sales.

9. Employee Login

From the first login page, the Employee must select "User Type" as Employee and give his username and password. If his username and password are correct, then this page will redirect him to the Dashboard section.



Kashundi Cafe

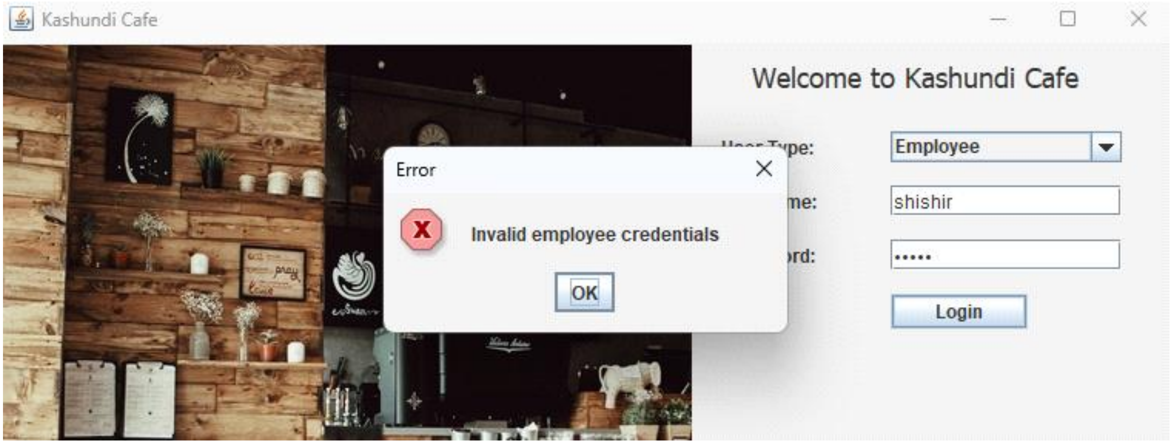
Welcome to Kashundi Cafe

User Type: Employee

Username:

Password:

If the employee username and password are wrong, then 'Invalid employee credentials' will appear.



Kashundi Cafe

Welcome to Kashundi Cafe

User Type: Employee

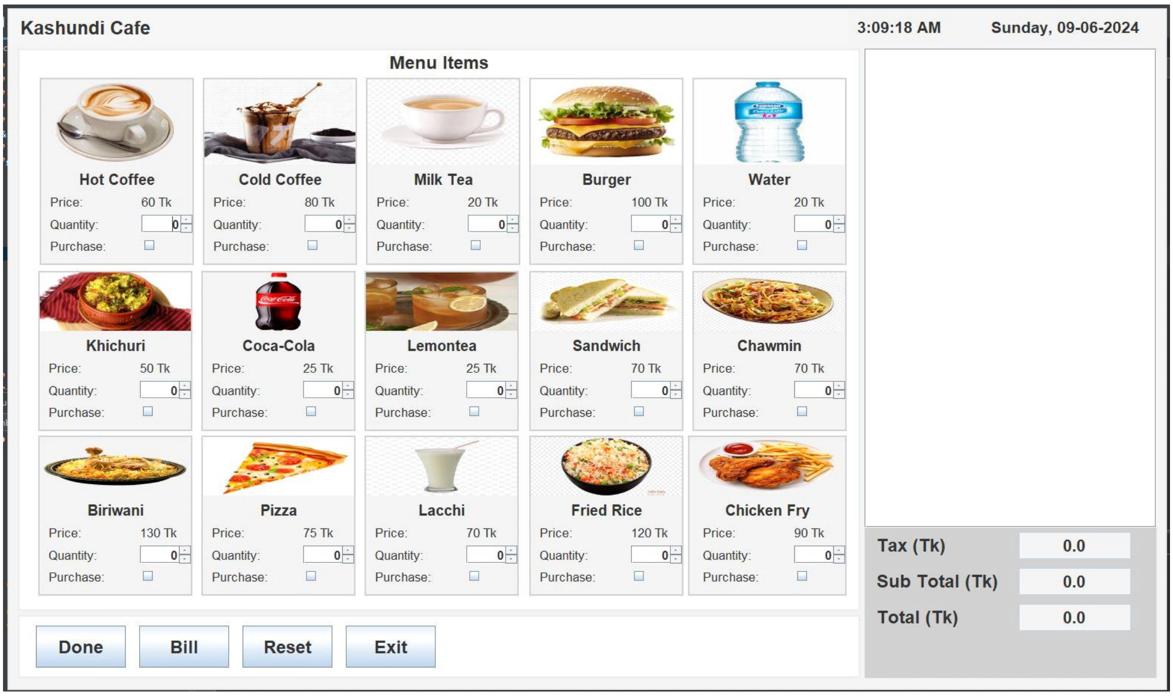
Username: shishir

Password: •••••

Error

Invalid employee credentials

10. Dashboard



Kashundi Cafe

3:09:18 AM Sunday, 09-06-2024

Menu Items

Hot Coffee
Price: 60 Tk
Quantity: 0
Purchase: □

Cold Coffee
Price: 80 Tk
Quantity: 0
Purchase: □

Milk Tea
Price: 20 Tk
Quantity: 0
Purchase: □

Burger
Price: 100 Tk
Quantity: 0
Purchase: □

Water
Price: 20 Tk
Quantity: 0
Purchase: □

Khichuri
Price: 50 Tk
Quantity: 0
Purchase: □

Coca-Cola
Price: 25 Tk
Quantity: 0
Purchase: □

Lemontea
Price: 25 Tk
Quantity: 0
Purchase: □

Sandwich
Price: 70 Tk
Quantity: 0
Purchase: □

Chawmin
Price: 70 Tk
Quantity: 0
Purchase: □

Biriwani
Price: 130 Tk
Quantity: 0
Purchase: □

Pizza
Price: 75 Tk
Quantity: 0
Purchase: □

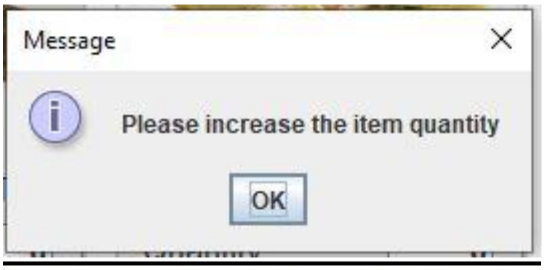
Lacchi
Price: 70 Tk
Quantity: 0
Purchase: □

Fried Rice
Price: 120 Tk
Quantity: 0
Purchase: □

Chicken Fry
Price: 90 Tk
Quantity: 0
Purchase: □

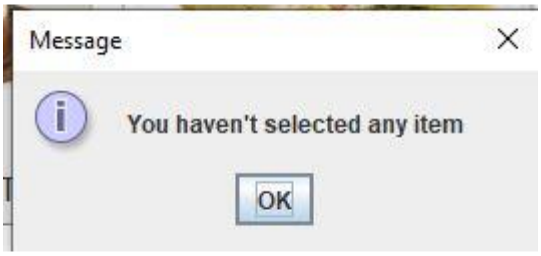
Tax (Tk) 0.0
Sub Total (Tk) 0.0
Total (Tk) 0.0

In this dashboard, all the items that are sold in the coffee shop are listed. There is a “Done”, "Bill", "Reset", and "Exit" options. If you click Done without selecting any item, it shows “You haven’t selected any item”. If you click to purchase without increasing any quantity, it shows, “Please Increase the item quantity”.



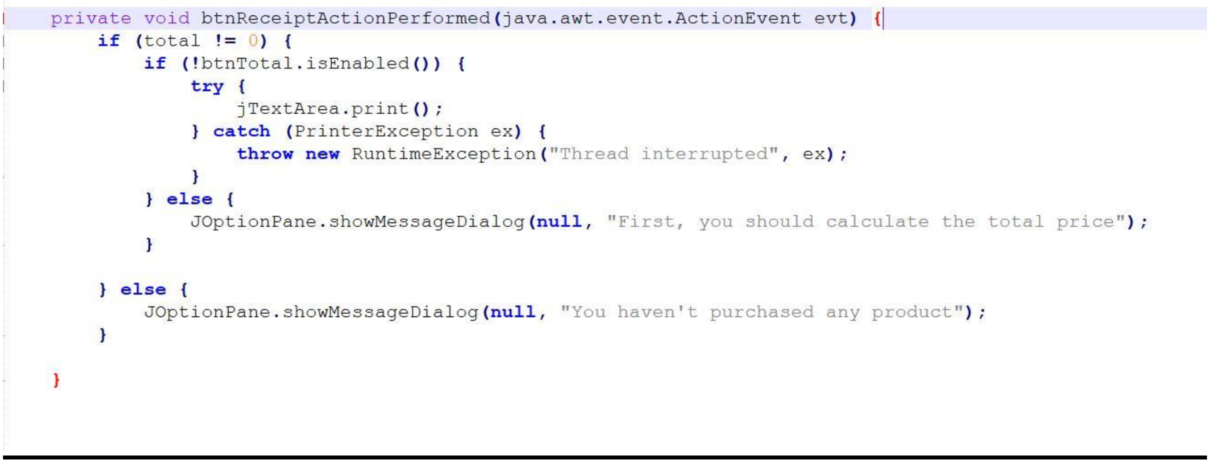
Message

Please increase the item quantity

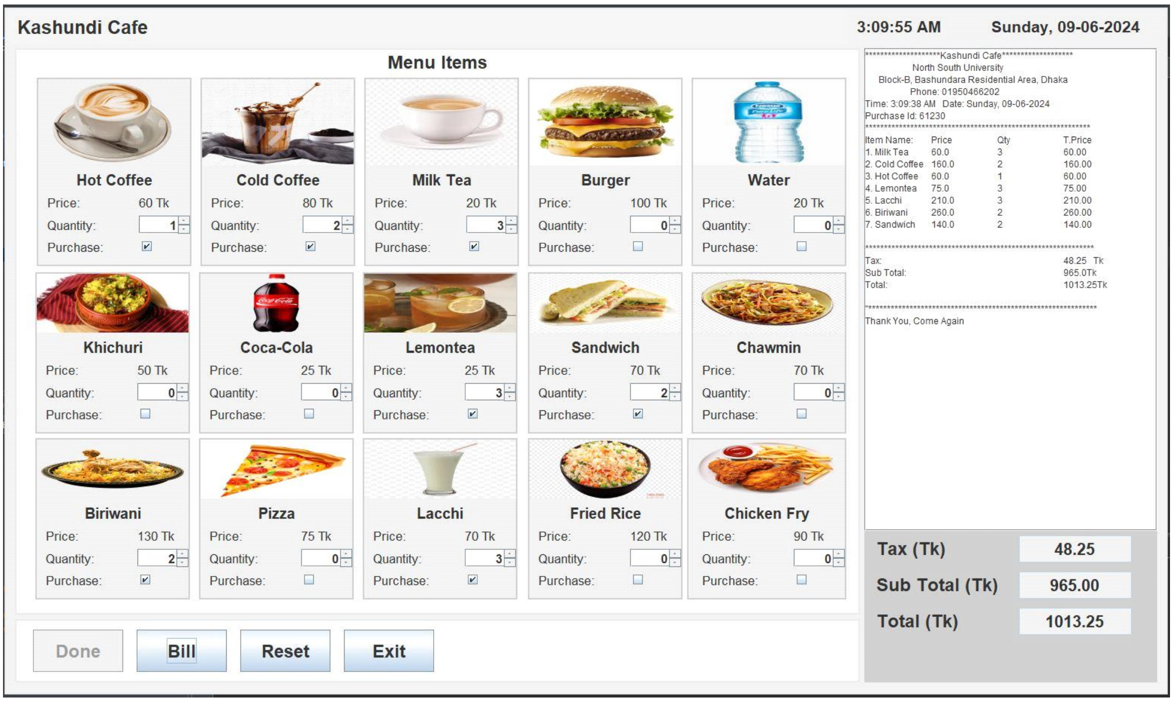


Message

You haven't selected any item



```
private void btnReceiptActionPerformed(java.awt.event.ActionEvent evt) {
    if (total != 0) {
        if (!btnTotal.isEnabled()) {
            try {
                jTextArea.print();
            } catch (PrinterException ex) {
                throw new RuntimeException("Thread interrupted", ex);
            }
        } else {
            JOptionPane.showMessageDialog(null, "First, you should calculate the total price");
        }

    } else {
        JOptionPane.showMessageDialog(null, "You haven't purchased any product");
    }

}
```



Hot Coffee
Price: 60 Tk
Quantity: 1
Purchase: ☑

Cold Coffee
Price: 80 Tk
Quantity: 2
Purchase: ☑

Milk Tea
Price: 20 Tk
Quantity: 3
Purchase: ☑

Burger
Price: 100 Tk
Quantity: 0
Purchase: □

Water
Price: 20 Tk
Quantity: 0
Purchase: □

Khichuri
Price: 50 Tk
Quantity: 0
Purchase: □

Coca-Cola
Price: 25 Tk
Quantity: 0
Purchase: □

Lemontea
Price: 25 Tk
Quantity: 3
Purchase: ☑

Sandwich
Price: 70 Tk
Quantity: 2
Purchase: ☑

Chawmin
Price: 70 Tk
Quantity: 0
Purchase: □

Biriwani
Price: 130 Tk
Quantity: 2
Purchase: ☑

Pizza
Price: 75 Tk
Quantity: 0
Purchase: □

Lacchi
Price: 70 Tk
Quantity: 3
Purchase: ☑

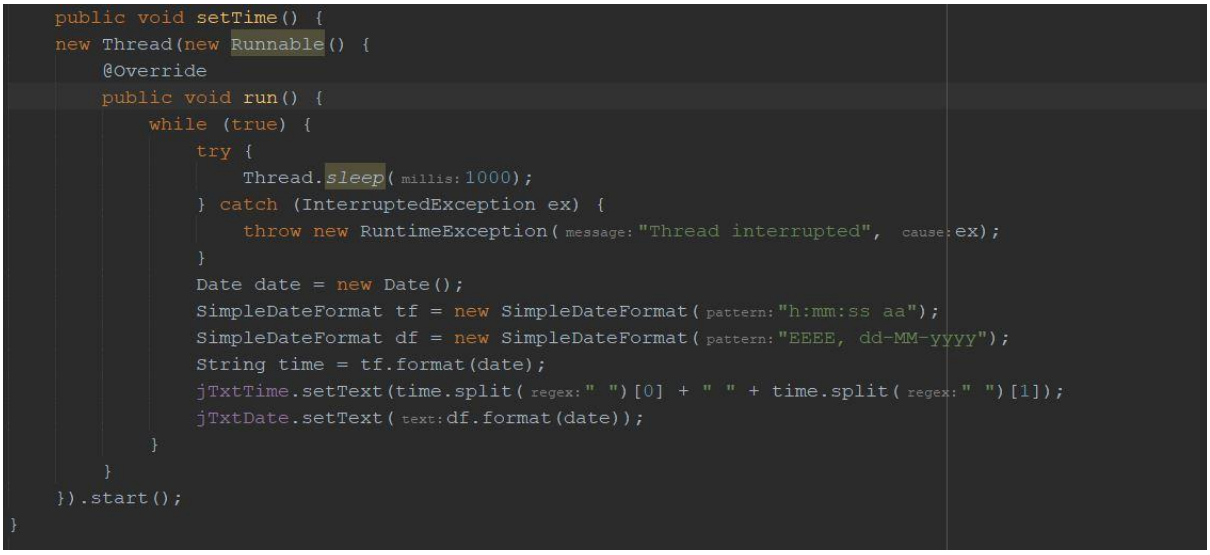
Fried Rice
Price: 120 Tk
Quantity: 0
Purchase: □

Chicken Fry
Price: 90 Tk
Quantity: 0
Purchase: □

```
*******************Kashundi Cafe*******************
              North South University
    Block-B, Bashundara Residential Area, Dhaka
              Phone: 01950466202
Time: 3:09:38 AM   Date: Sunday, 09-06-2024
Purchase Id: 61230
*************************************************************
Item Name:     Price          Qty          T.Price
1. Milk Tea    60.0           3            60.00
2. Cold Coffee 160.0          2            160.00
3. Hot Coffee  60.0           1            60.00
4. Lemontea    75.0           3            75.00
5. Lacchi      210.0          3            210.00
6. Biriwani    260.0          2            260.00
7. Sandwich    140.0          2            140.00

*************************************************************
Tax:                                       48.25  Tk
Sub Total:                                 965.0Tk
Total:                                     1013.25Tk

*************************************************************
Thank You, Come Again
```

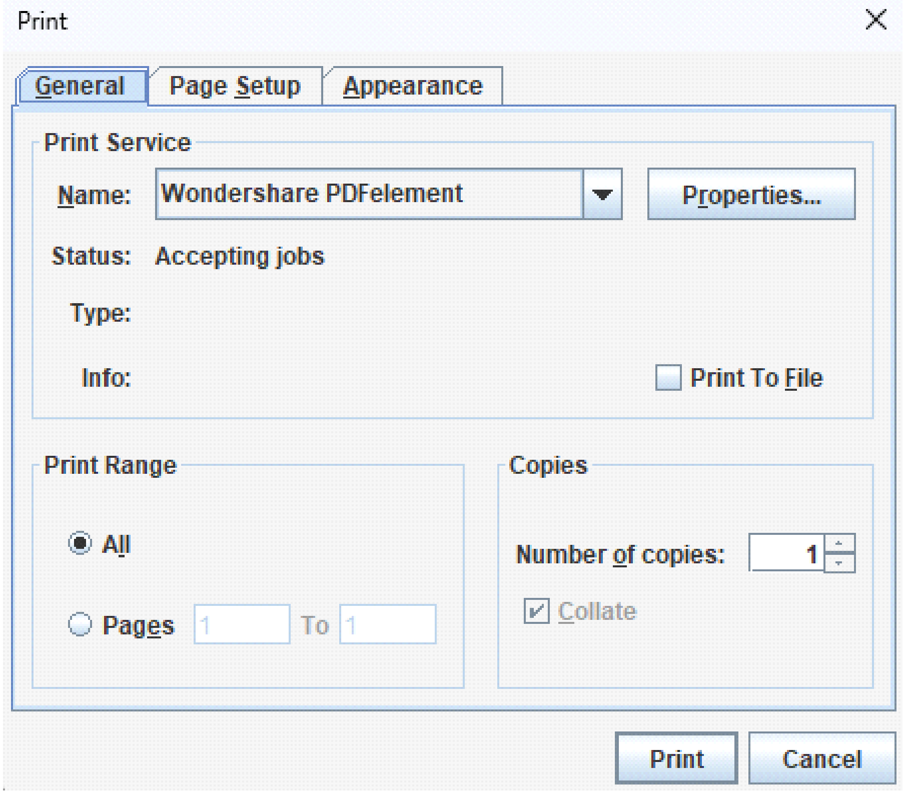
Tax (Tk) 48.25
Sub Total (Tk) 965.00
Total (Tk) 1013.25

Employees have to take the customer's order. To take it, employees have to add the quantity that the customer demanded and click the purchase option below the "Quantity", so it will add items to the Billing slip. After taking the orders of the customer, the employee has to select done in the left below corner, which means that the order is finished for the customer.



```
    public void setTime() {
    new Thread(new Runnable() {
        @Override
        public void run() {
            while (true) {
                try {
                    Thread.sleep( millis: 1000);
                } catch (InterruptedException ex) {
                    throw new RuntimeException( message: "Thread interrupted",  cause: ex);
                }
                Date date = new Date();
                SimpleDateFormat tf = new SimpleDateFormat( pattern: "h:mm:ss aa");
                SimpleDateFormat df = new SimpleDateFormat( pattern: "EEEE, dd-MM-yyyy");
                String time = tf.format(date);
                jTxtTime.setText(time.split( regex: " ")[0] + " " + time.split( regex: " ")[1]);
                jTxtDate.setText( text: df.format(date));
            }
        }
    }).start();
}
```

11. **Bill**



Print Service

Name: Wondershare PDFelement

Status: Accepting jobs

Type:

Info:

□ Print To File

Print Range

● All

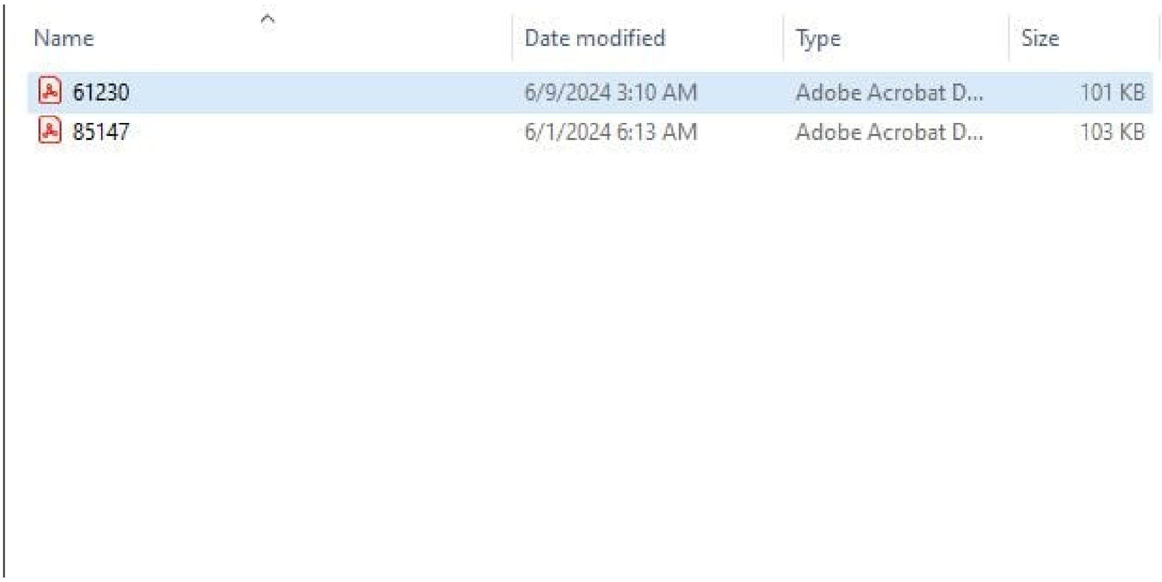
○ Pages 1 To 1

Copies

Number of copies: 1

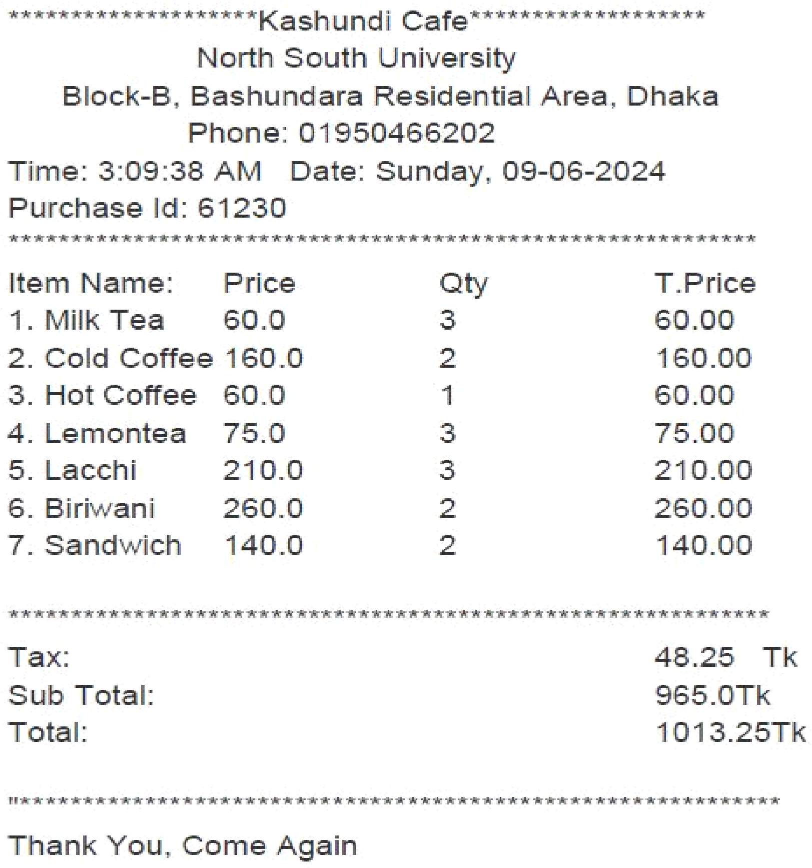
☑ Collate

In "Bill" employee can print the billing slip as .pdf format or can print through the printer.



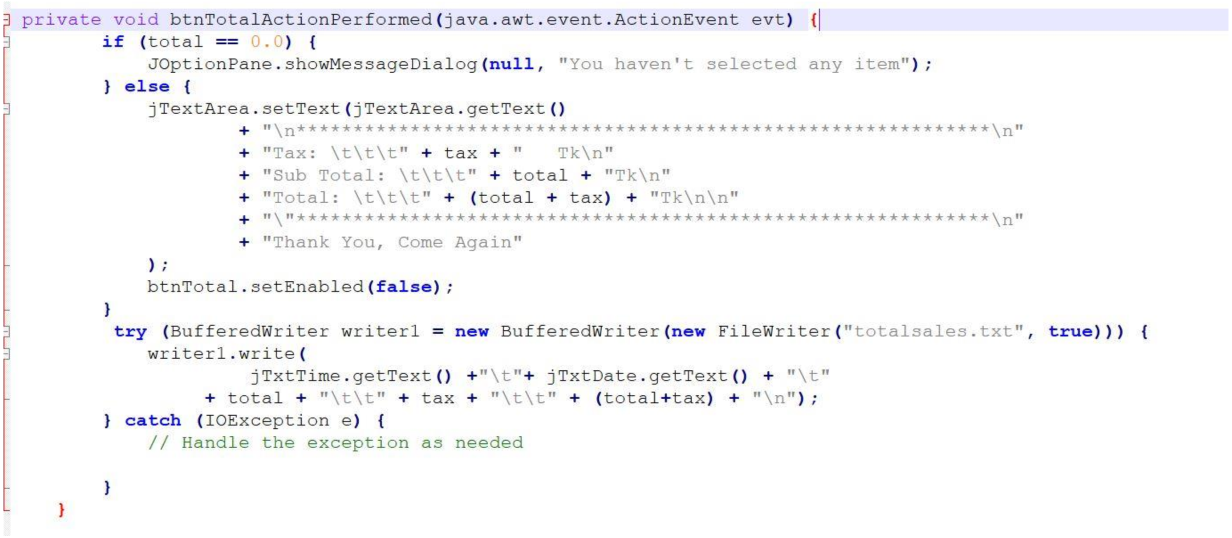
Name	Date modified	Type	Size
61230	6/9/2024 3:10 AM	Adobe Acrobat D...	101 KB
85147	6/1/2024 6:13 AM	Adobe Acrobat D...	103 KB

This is the .pdf format saved in file explorer.

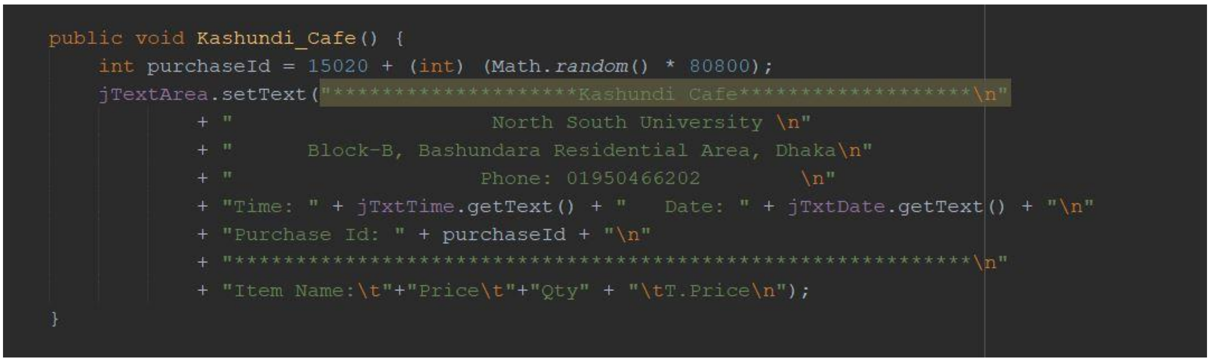


```
********************Kashundi Cafe*******************
                North South University
    Block-B, Bashundara Residential Area, Dhaka
               Phone: 01950466202
Time: 3:09:38 AM   Date: Sunday, 09-06-2024
Purchase Id: 61230
**************************************************************

Item Name:      Price           Qty          T.Price
1. Milk Tea     60.0            3            60.00
2. Cold Coffee  160.0           2            160.00
3. Hot Coffee   60.0            1            60.00
4. Lemontea     75.0            3            75.00
5. Lacchi       210.0           3            210.00
6. Biriwani     260.0           2            260.00
7. Sandwich     140.0           2            140.00

***************************************************************
Tax:                                         48.25   Tk
Sub Total:                                   965.0Tk
Total:                                       1013.25Tk

"**************************************************************
Thank You, Come Again
```

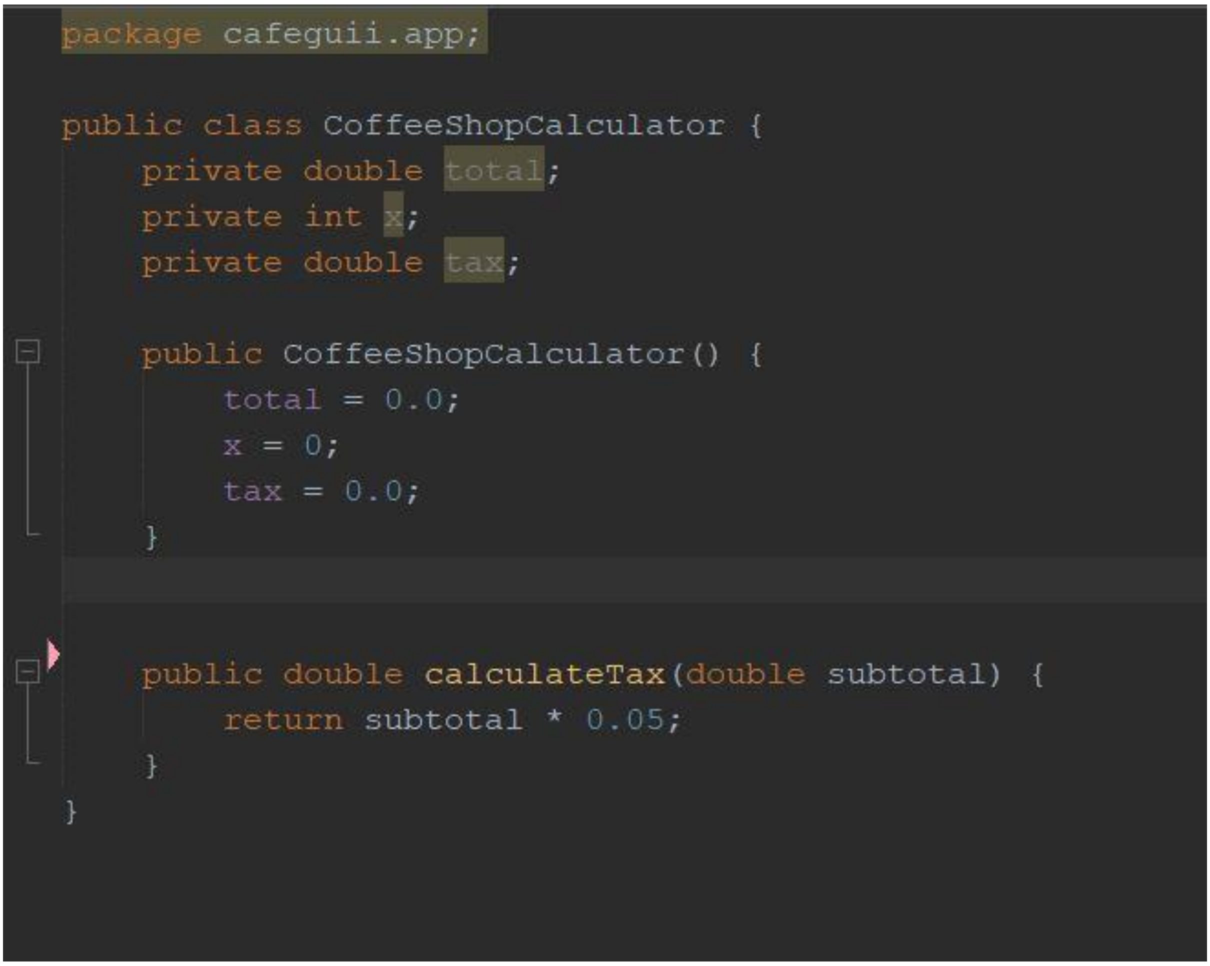
This is the bill that the customer ordered.



```
private void btnTotalActionPerformed(java.awt.event.ActionEvent evt) {
        if (total == 0.0) {
            JOptionPane.showMessageDialog(null, "You haven't selected any item");
        } else {
            jTextArea.setText(jTextArea.getText()
                    + "\n************************************************************\n"
                    + "Tax: \t\t\t" + tax + "    Tk\n"
                    + "Sub Total: \t\t\t" + total + "Tk\n"
                    + "Total: \t\t\t" + (total + tax) + "Tk\n\n"
                    + "\"************************************************************\n"
                    + "Thank You, Come Again"
            );
            btnTotal.setEnabled(false);
        }
         try (BufferedWriter writer1 = new BufferedWriter(new FileWriter("totalsales.txt", true))) {
            writer1.write(
                     jTxtTime.getText() +"\t"+ jTxtDate.getText() + "\t"
                 + total + "\t\t" + tax + "\t\t" + (total+tax) + "\n");
        } catch (IOException e) {
            // Handle the exception as needed

        }
    }
```

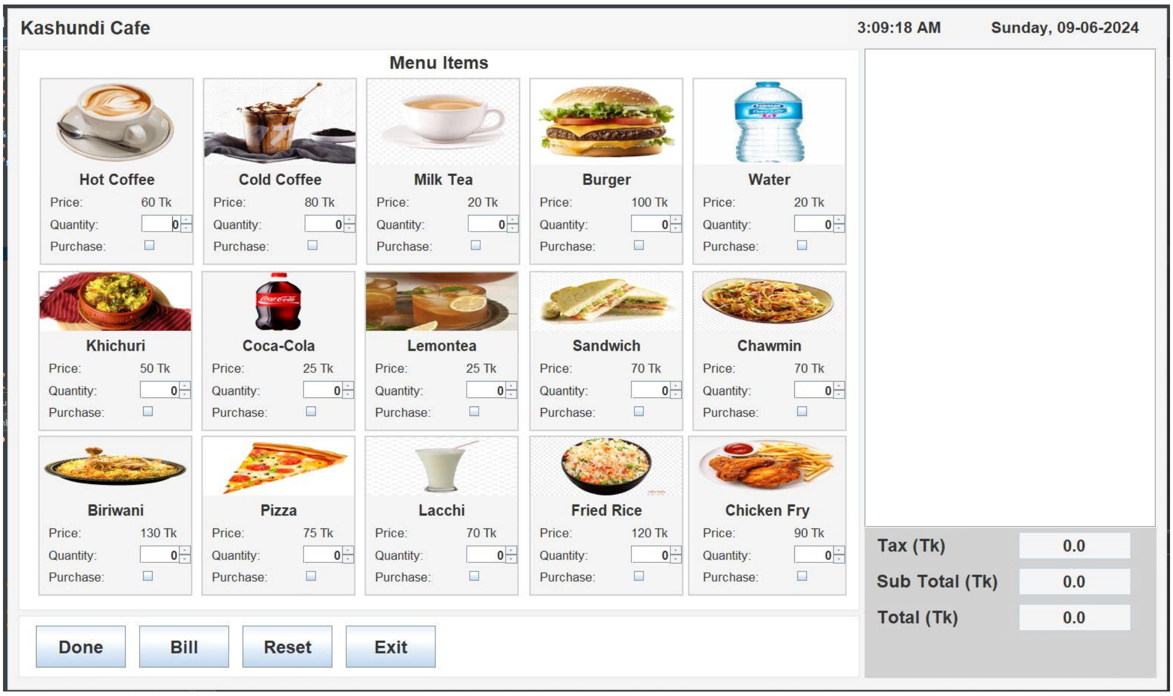


```
public void Kashundi_Cafe() {
    int purchaseId = 15020 + (int) (Math.random() * 80800);
    jTextArea.setText("********************Kashundi Cafe*******************\n"
            + "                     North South University \n"
            + "      Block-B, Bashundara Residential Area, Dhaka\n"
            + "                    Phone: 01950466202        \n"
            + "Time: " + jTxtTime.getText() + "   Date: " + jTxtDate.getText() + "\n"
            + "Purchase Id: " + purchaseId + "\n"
            + "************************************************************\n"
            + "Item Name:\t"+"Price\t"+"Qty" + "\tT.Price\n");
}
```



```
package cafeguii.app;

public class CoffeeShopCalculator {
    private double total;
    private int x;
    private double tax;

    public CoffeeShopCalculator() {
        total = 0.0;
        x = 0;
        tax = 0.0;
    }


    public double calculateTax(double subtotal) {
        return subtotal * 0.05;
    }
}
```

12. Reset



Kashundi Cafe

3:09:18 AM Sunday, 09-06-2024

Menu Items

Item	Price:	Quantity:	Purchase:
Hot Coffee	60 Tk	0	□
Cold Coffee	80 Tk	0	□
Milk Tea	20 Tk	0	□
Burger	100 Tk	0	□
Water	20 Tk	0	□
Khichuri	50 Tk	0	□
Coca-Cola	25 Tk	0	□
Lemontea	25 Tk	0	□
Sandwich	70 Tk	0	□
Chawmin	70 Tk	0	□
Biriwani	130 Tk	0	□
Pizza	75 Tk	0	□
Lacchi	70 Tk	0	□
Fried Rice	120 Tk	0	□
Chicken Fry	90 Tk	0	□

Tax (Tk): 0.0

Sub Total (Tk): 0.0

Total (Tk): 0.0

"Reset" option will reset all the previous order of a customer. And now employee can take a new order of another customer.

Difficulties:

1. **Data File Rearrangement:** Rearranging data files can be time-consuming, especially if there's a lot of data to organise or if the file structure needs frequent changes.
2. **Data File Handling:** Managing data files within your Java project, including reading from and writing to them, can be challenging, particularly if there are complex data structures involved.
3. **Object Handling:** Calling objects to display data information can sometimes be tricky, especially if there are dependencies or if the data retrieval process is complex.
4. **GUI and Interface Design:** Designing a user-friendly graphical user interface (GUI) and implementing interface actions can pose challenges, especially when trying to ensure smooth interaction and intuitive navigation for users.

Limitations:

1. **Closing Panel Issue:** The limitation where closing a panel box results in the entire program closing is a significant usability issue. It restricts the user's ability to navigate within the application seamlessly and can lead to frustration.

   In the Admin Panel Section, when the admin opens the total income or total sales, it closes that section only, but it closes the whole program. We tried a lot to fix the problem, but we could not. We tried when the admin showed the total income or sales information from the admin panel and closed the box, and then it returned to the admin panel section.

Conclusion

The Coffee Shop Management System (CSMS) developed for Kashundi Cafe has successfully streamlined the ordering process, improving efficiency and customer satisfaction. This Java-based system allows administrators to manage employee data securely, ensuring only authorised personnel have access to sensitive information. The system minimises training requirements and enhances operational efficiency by providing an intuitive interface for employees to manage orders and generate receipts.

Throughout the project, we faced challenges such as data file rearrangement, GUI design complexities, and object handling. Despite these difficulties, the team managed to create a functional and user-friendly system. However, limitations remain, particularly with the panel closing issue in the Admin Panel, which affects the overall user experience. This is an area for future improvement.

The CSMS embodies our goal of leveraging technology to create a seamless and efficient management solution for coffee shops. It simplifies operations and supports rural communities by offering a platform catering to their needs. Moving forward, continuous enhancements and addressing the identified limitations will ensure the system remains robust and effective, contributing to better service delivery and operational excellence in coffee shop management.