CSE-202 (LAB)-DE

LAB
PROJECT

Green University of Bangladesh

Lab Project Report On
Restaurant Management System

Title: Object oriented programming lab

Course Title: CSE-202

Submitted To:

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Introduction

Java is a high-level programming language originally developed by Sun Microsystems and released in 1995. Java runs on a variety of platforms, such as Windows, Mac OS, and the various versions of UNIX. This lab report project will give a complete understanding of Java and will take through simple and practical approaches while learning Java Programming language. Java has now become a widely used professional language for various reasons:

- Easy to learn
- Object oriented language
- It produces efficient programs.
- It can handle low-level activities.
- It can be compiled on a variety of computers.

Theory

Brief discussion of our system: This project is a restaurant management system. In this project, we added some simple but useful features that can be very handy for a restaurant owner. This project is mainly divided by two major functions. First of all, there is an Item management system which will store restaurants all food/menu record up to date. Another important feature for a restaurant's owner is to account all labor/workers record.

By using this project, the restaurant manager will be able display our information what we give earlier, and also add a details information. When adding information, if there is any mistake in that information, we can modify its record and we will be able to add information in a new way. We can also update our information by modify option. In any case, we can also delete any wrong information by deletion function.
We hope that our system is a very useful and necessary system for keeping the information of the workers and food management in a restaurant and finding it easily.

Requirements:

a. A desktop or laptop Computer,
b. A proper compiler. Here, we used Netbeans and Intellij

Source code:

```
package restaurantsystem;

import java.io.File;
import java.io.IOException;
import java.nio.file.Files;
import java.util.logging.Level;
import java.util.logging.Logger;
import javax.swing.JFrame;

public class Main extends JFrame {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        // At first, show the login page and show menu after -
        // the authentication process completed

    }

    private static void createRequiredFileIfDoesNotExist() {
        String fileNames [];

        File rootDir = new File("storage");
        rootDir.mkdirs();

        fileNames = new String [] {"storage/item.txt",
            "storage/labour.txt",
            "storage/order.txt",
            "storage/orderLine.txt"};

        for (String fileName : fileNames) {
            File file = new File(fileName);
            if(!file.exists())
            {
```

```
 try {
                file.createNewFile();
            } catch (IOException ex) {
                Logger.getLogger(Main.class.getName()).log(Level.SEVERE, null, ex);
            }
        }
    }


    }

}
```

```
package restaurantsystem;

import restaurantsystem.component.item.ItemManagement;
import restaurantsystem.component.labour.LabourManagement;

public class MainMenu extends javax.swing.JFrame {


    public MainMenu() {
        initComponents();
    }


    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">//GEN-
BEGIN:initComponents
    private void initComponents() {

        jMenuBar1 = new javax.swing.JMenuBar();
        jMenu1 = new javax.swing.JMenu();
        jMenu2 = new javax.swing.JMenu();
        jPanel2 = new javax.swing.JPanel();
        jPanel1 = new javax.swing.JPanel();
        labourManagementButton = new javax.swing.JButton();
        itemManagementButton = new javax.swing.JButton();
        exitButton = new javax.swing.JButton();
        jMenu1.setText("File");
        jMenuBar1.add(jMenu1);

        jMenu2.setText("Edit");
        jMenuBar1.add(jMenu2);
```

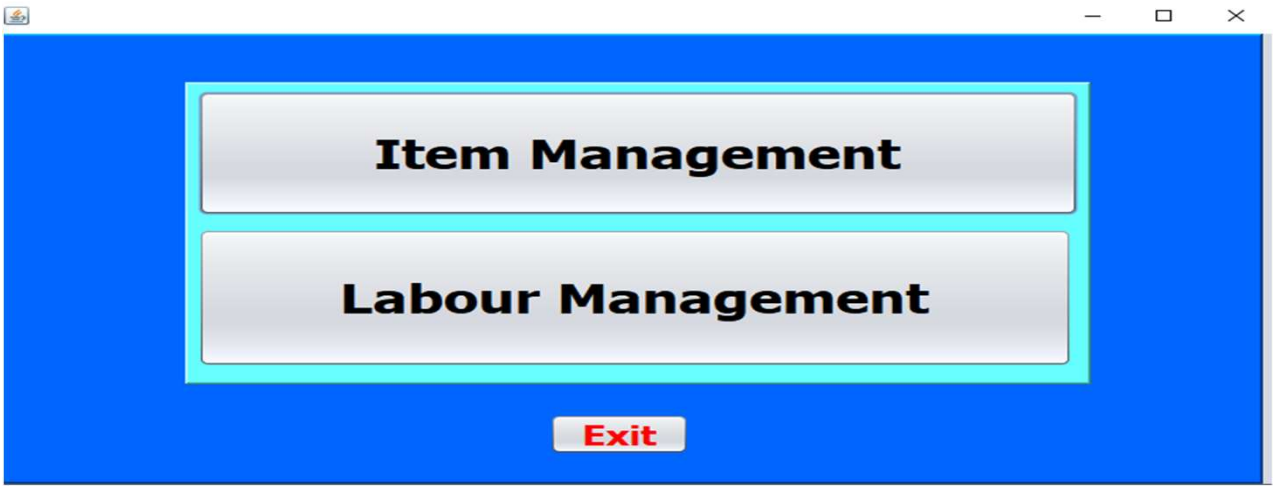
```
setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        setCursor(new java.awt.Cursor(java.awt.Cursor.DEFAULT_CURSOR));
        setLocationByPlatform(true);

        jPanel2.setBackground(new java.awt.Color(0, 102, 255));

jPanel2.setBorder(javax.swing.BorderFactory.createBevelBorder(javax.swing.border.BevelBor
der.RAISED));

        jPanel1.setBackground(new java.awt.Color(102, 255, 255));

jPanel1.setBorder(javax.swing.BorderFactory.createBevelBorder(javax.swing.border.BevelBor
der.RAISED));
        jPanel1.setForeground(new java.awt.Color(0, 102, 204));

        labourManagementButton.setFont(new java.awt.Font("Tahoma", 1, 36)); // NOI18N
        labourManagementButton.setText("Labour Management");
        labourManagementButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                labourManagementButtonActionPerformed(evt);
            }
        });
itemManagementButton.setFont(new java.awt.Font("Tahoma", 1, 36)); // NOI18N
        itemManagementButton.setText("Item Management");
        itemManagementButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                itemManagementButtonActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(
            jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addContainerGap()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G)
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .addComponent(labourManagementButton,
javax.swing.GroupLayout.DEFAULT_SIZE, 555, Short.MAX_VALUE)
                        .addGap(10, 10, 10))
 addGroup(jPanel1Layout.createSequentialGroup()
                        .addComponent(itemManagementButton,
```

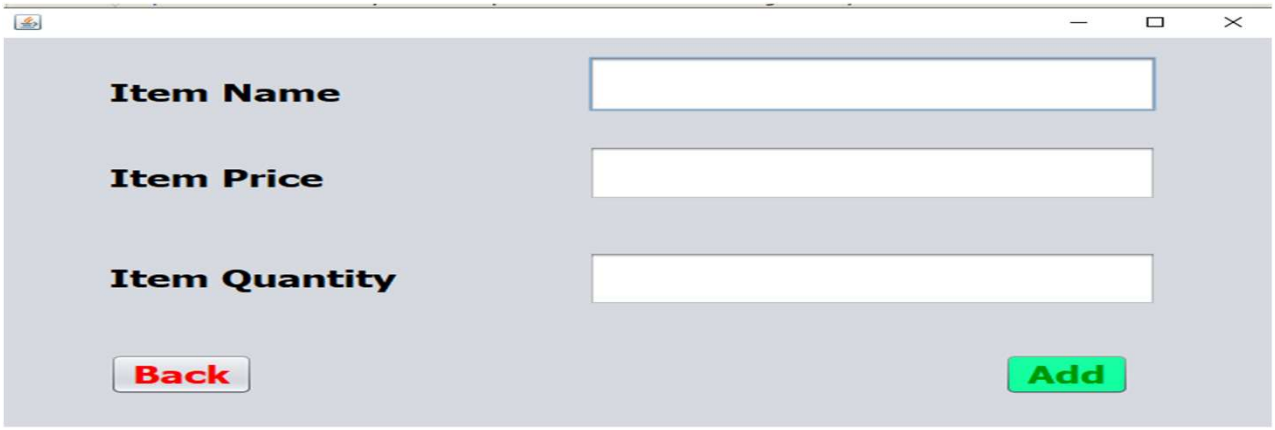
```
                . javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
                Short.MAX_VALUE)
                                .addContainerGap())))
                    );
                    jPanel1Layout.setVerticalGroup(
                        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addGroup(jPanel1Layout.createSequentialGroup()
                            .addContainerGap()
                            .addComponent(itemManagementButton,
                javax.swing.GroupLayout.PREFERRED_SIZE, 110,
                javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

            .addComponent(labourManagementButton, javax.swing.GroupLayout.PREFERRED_SIZE, 122,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(14, Short.MAX_VALUE))
        );

        exitButton.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
        exitButton.setForeground(new java.awt.Color(255, 0, 0));
        exitButton.setText("Exit");
        exitButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                exitButtonActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(
            jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(jPanel2Layout.createSequentialGroup()
                        .addGap(115, 115, 115)
                        .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGroup(jPanel2Layout.createSequentialGroup()
                        .addGap(346, 346, 346)
                        .addComponent(exitButton, javax.swing.GroupLayout.PREFERRED_SIZE, 89,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                .addContainerGap(107, Short.MAX_VALUE))
        );


         jPanel2Layout.setVerticalGroup(
                    jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(jPanel2Layout.createSequentialGroup()
                        .addGap(41, 41, 41)
                        .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
                javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 26,
                Short.MAX_VALUE)
                        .addComponent(exitButton, javax.swing.GroupLayout.PREFERRED_SIZE, 36,
                javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(24, 24, 24))
                );
```

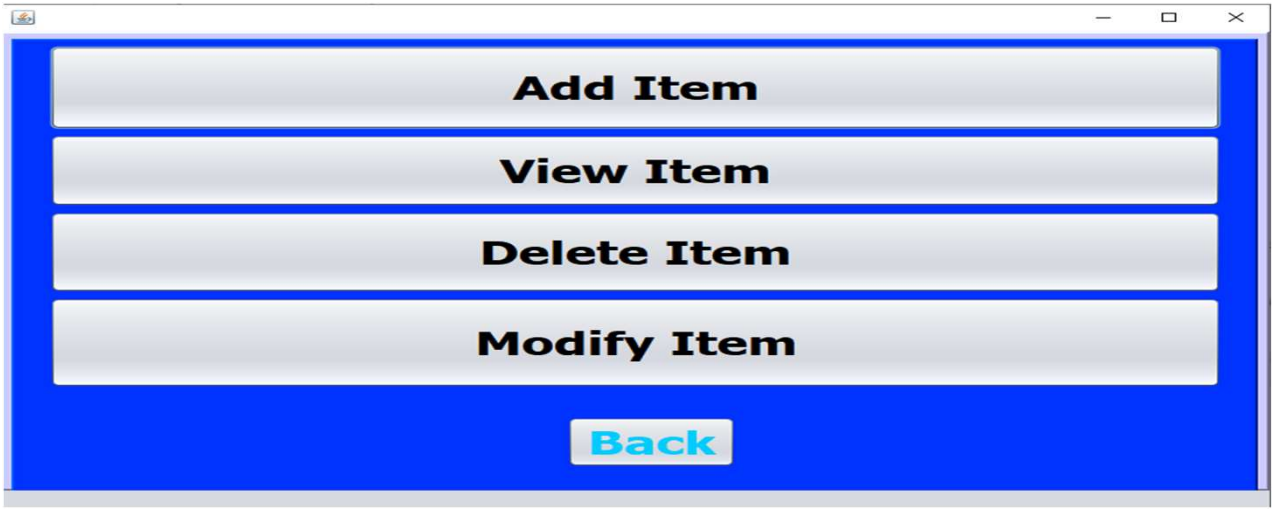
```
        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addContainerGap())
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        );

        pack();
        setLocationRelativeTo(null);
    }// </editor-fold>//GEN-END:initComponents

    private void
itemManagementButtonActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_itemManagementButtonActionPerformed
        ItemManagement im = new ItemManagement();
        im.setVisible(true);
        this.dispose();

    }//GEN-LAST:event_itemManagementButtonActionPerformed

    private void
labourManagementButtonActionPerformed(java.awt.event.ActionEvent evt)
{//GEN-FIRST:event_labourManagementButtonActionPerformed
        LabourManagement l = new LabourManagement();
        l.setVisible(true);
        this.dispose();
    }//GEN-LAST:event_labourManagementButtonActionPerformed

    private void exitButtonActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_exitButtonActionPerformed
        System.exit(0);
    }//GEN-LAST:event_exitButtonActionPerformed
```

```
public static void main(String args[]) {
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(MainMenu.class.getName()).log(java.util.loggin
g.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(MainMenu.class.getName()).log(java.util.loggin
g.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(MainMenu.class.getName()).log(java.util.loggin
g.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(MainMenu.class.getName()).log(java.util.loggin
g.Level.SEVERE, null, ex);
        }
        //</editor-fold>
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new MainMenu().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify//GEN-BEGIN:variables
    private javax.swing.JButton exitButton;
    private javax.swing.JButton itemManagementButton;
    private javax.swing.JMenu jMenu1;
    private javax.swing.JMenu jMenu2;
    private javax.swing.JMenuBar jMenuBar1;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JButton labourManagementButton;
    // End of variables declaration//GEN-END:variables
}
```

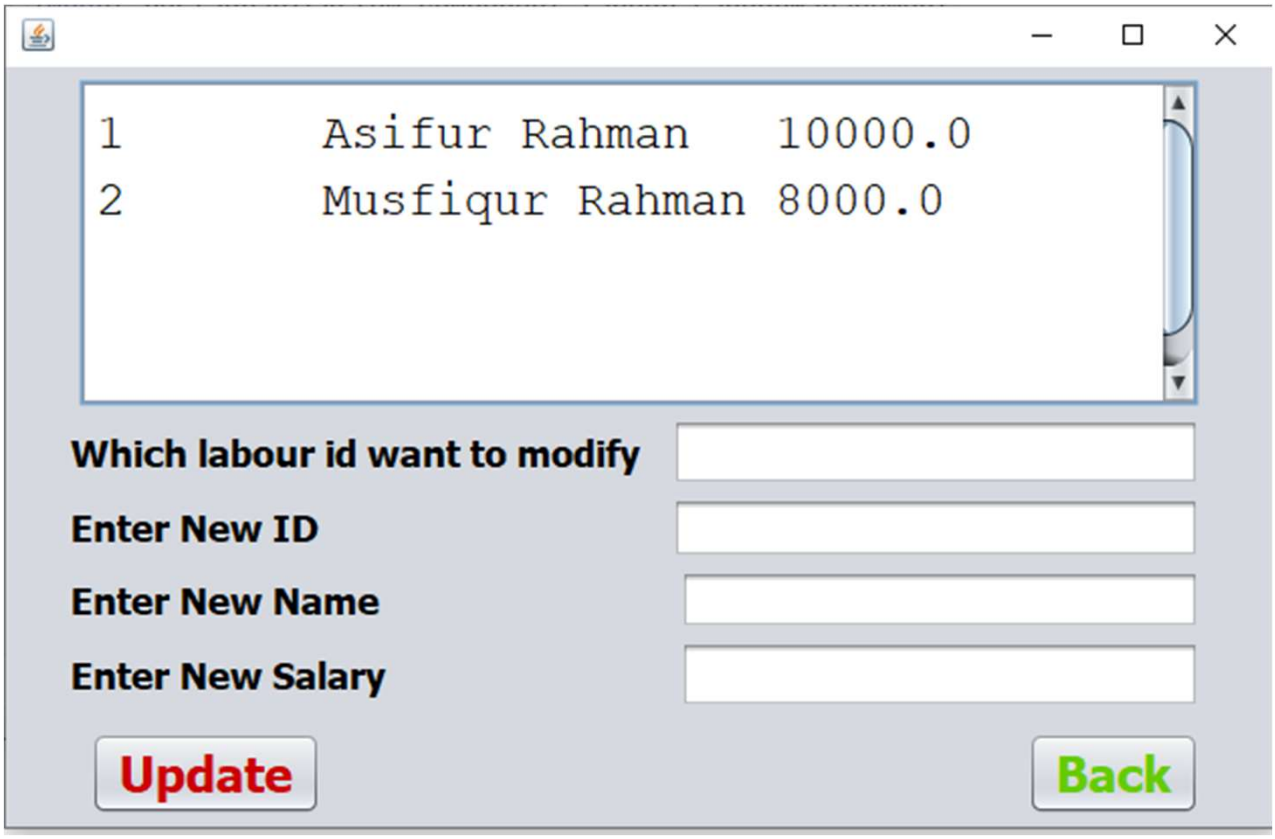
Output of Project:








Name
Price
Quantity
Chicken Fry 60.0 20
Chicken Burger 80.0 5
Beef Burger 100.0 10
Enter item name to update information
Enter New Name
Enter New Price
Enter New Quantity
Back
Update


1 Asifur Rahman 10000.0
2 Musfiqur Rahman 8000.0
Which labour id want to modify
Enter New ID
Enter New Name
Enter New Salary
Update
Back

Conclusions:

For Beginners, Java programming is not that easy to learn and apply. We are trying to know the basic idea of Java language and practice them properly. In this lab project, I was concern about some important things:
When I was writing the source code, I was very conscious about writing all syntax.
I called the function according to the situation.
Time efficient is very important in a program. So, I write this program as it will show less time complexity.
I try to solve as many bugs as possible.

References :

The Complete Reference Java 7th Edition-By Herbert Schildt

Introduction to Java Programming 10th Edition- By Y. Daniel Liang

https://www.tutorialspoint.com/java/

https://www.geeksforgeeks.org java/

https://en.wikipedia.org/wiki/Java_(programming_language)