

## Project Title: Hostel Seat Booking System

**Project Description:** The Hostel Seat Booking System is a program that simulates a hostel seat booking process for users. The program is designed to guide users through the process of logging in, inputting customer information, and making a booking. The program also calculates the total cost based on the user's input.

## Features:

1. Login feature with hardcoded username and password
2. User-friendly graphical user interface
3. Multiple choice input for customer information such as gender, education level, and room type
4. Calculation of total cost based on customer information
5. Error message display for invalid login credentials
6. Navigation between frames using button clicks
7. Saving customer information in a text file
8. Technologies Used: Java, Java Swing, ActionListener

## Installation:

1. Clone the repository or download the project files.
2. Open the project in an IDE such as Eclipse or IntelliJ IDEA.
3. Run the HostelSeatBooking.java file as a Java application.

## Usage:

1. The program will start with a welcome frame, where the user can click the "Next" button to proceed to the login frame.
2. In the login frame, the user can enter the login credentials (username: "Seendid" and password: "1234").
3. If the login credentials are correct, the user will be taken to the customer information frame where they can input their information and make a booking.
4. The program will calculate the total cost based on the user's input and display it on the customer information frame.
5. The user can submit the customer information by clicking the submit button and the information will be saved in a text file.
6. If the login credentials are incorrect, an error message will be displayed.

## Future Enhancements:

1. Implement a feature to view and edit previous bookings.
2. Implement a database to store customer information.
3. Implement a feature to make payments.
4. Implement a feature to generate a receipt or confirmation.

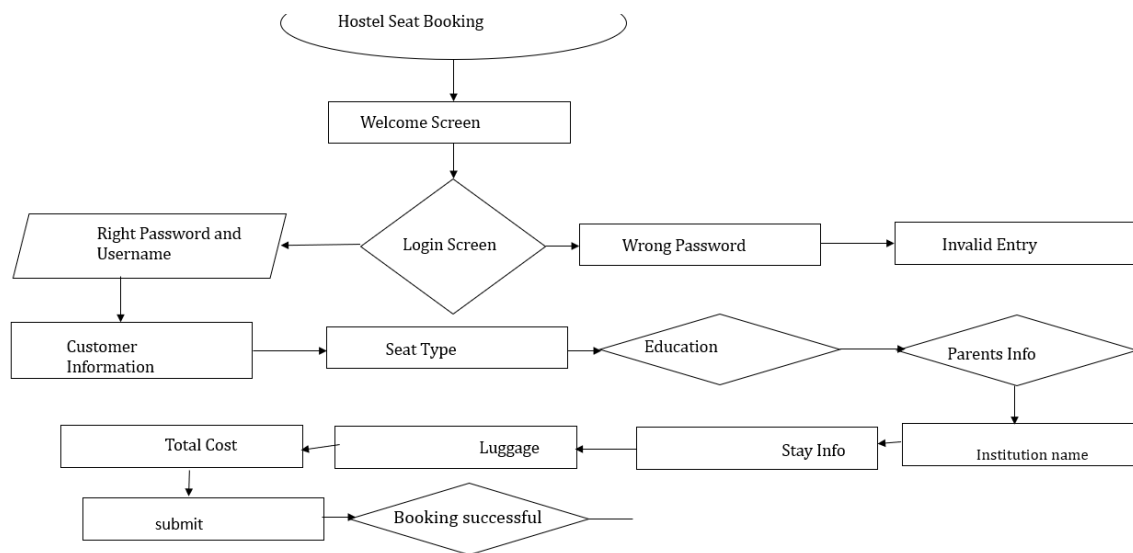
## Team Members:

Seendid Saleh Kabir (2022-1-60-122) - Project Manager/Lead Developer

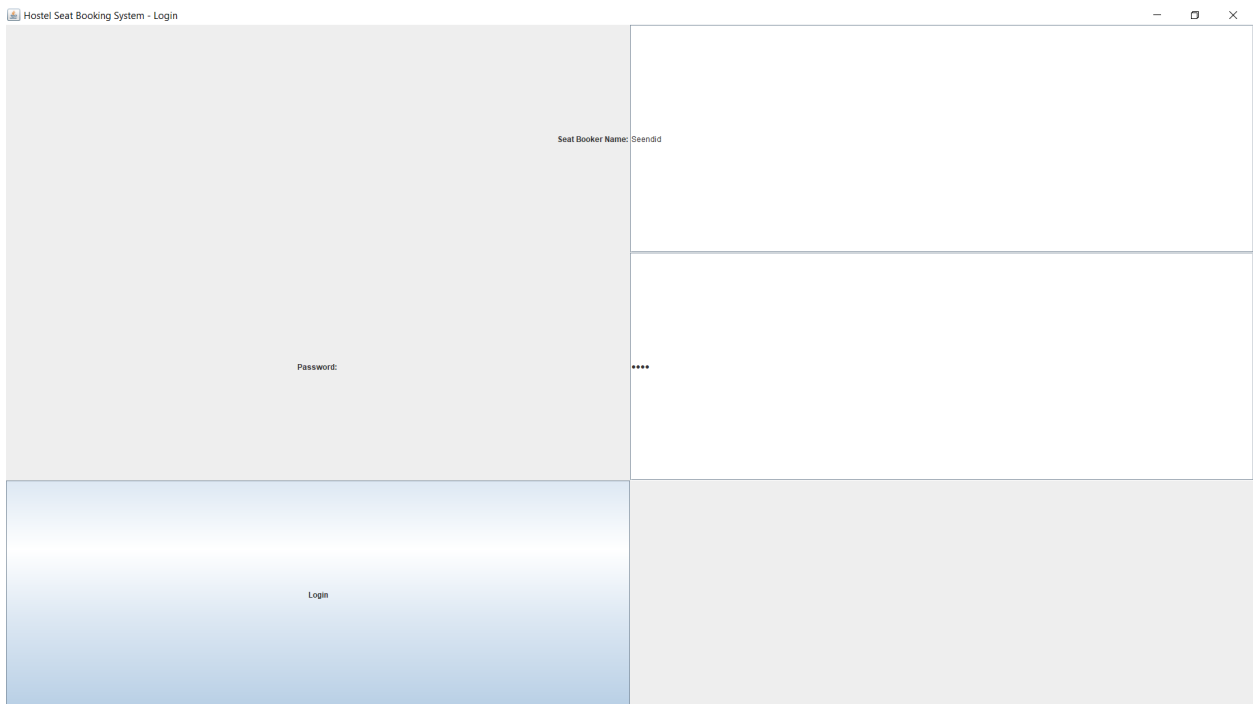
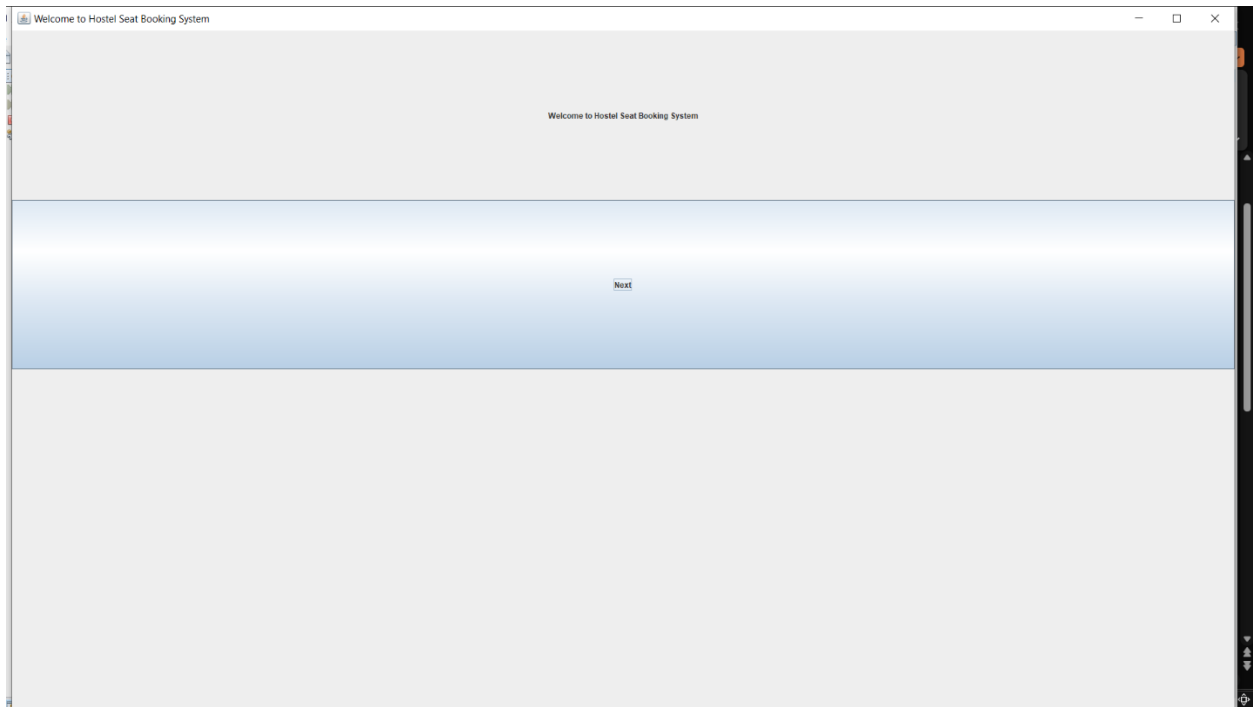
Monisha Bani (2022-1-60-328) - Developer

**Conclusion:** The Hostel Seat Booking System is a program that simulates a hostel seat booking process for users. The program is designed to be user-friendly and efficient, guiding the user through the process of logging in, inputting customer information, and making a booking. The program also calculates the total cost based on the user's input. The program is developed using Java and Java Swing, and can be run as a Java application in an IDE. The program can be enhanced with additional features such as viewing and editing previous bookings, making payments, and generating receipts.

## >Flowchart



## Pictures



Hostel Seat Booking System - Login

Seat Booker Name: Seeendid

Password:

Login

Message

Invalid entry

OK

Hostel Seat Booking System - Customer Info

Customer Name: Faima

Age: 22

Gender: ☒ Male ☐ Female

Next

Hostel Seat Booking System - Seat Type

Select seat type:

☒ Single

☐ Double

☐ Triple

Next

Hostel Seat Booking System - Education

Select your education level:

☐ School

☐ College

☒ University

Next

Hostel Seat Booking System - Parents Info

Father's Name:

Brock Lesnar

Father's Occupation:

Wrestler

Mother's Name:

Suepwoman

Mother's Occupation:

Swimmer

Next

Hostel Seat Booking System - Institution Info

Enter your institution:

Ewu

Next

Hostel Seat Booking System - Stay Info

Enter number of years you will stay:

2

Do you want food:

☒

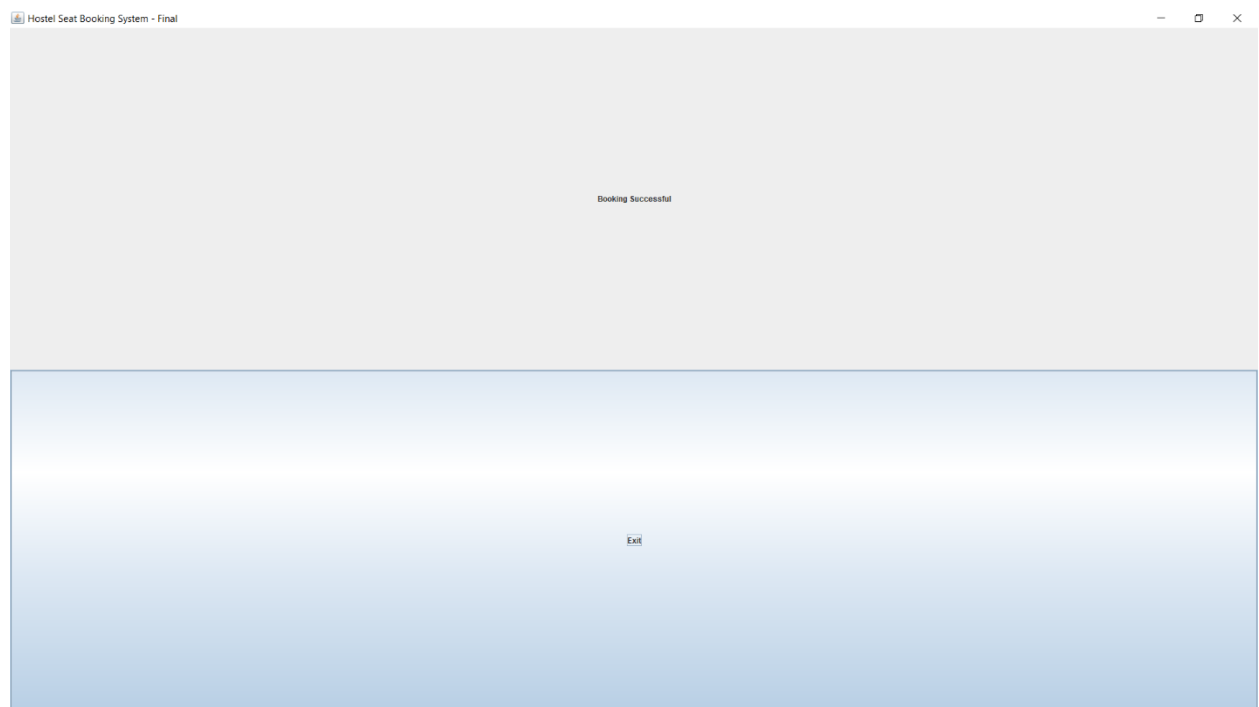
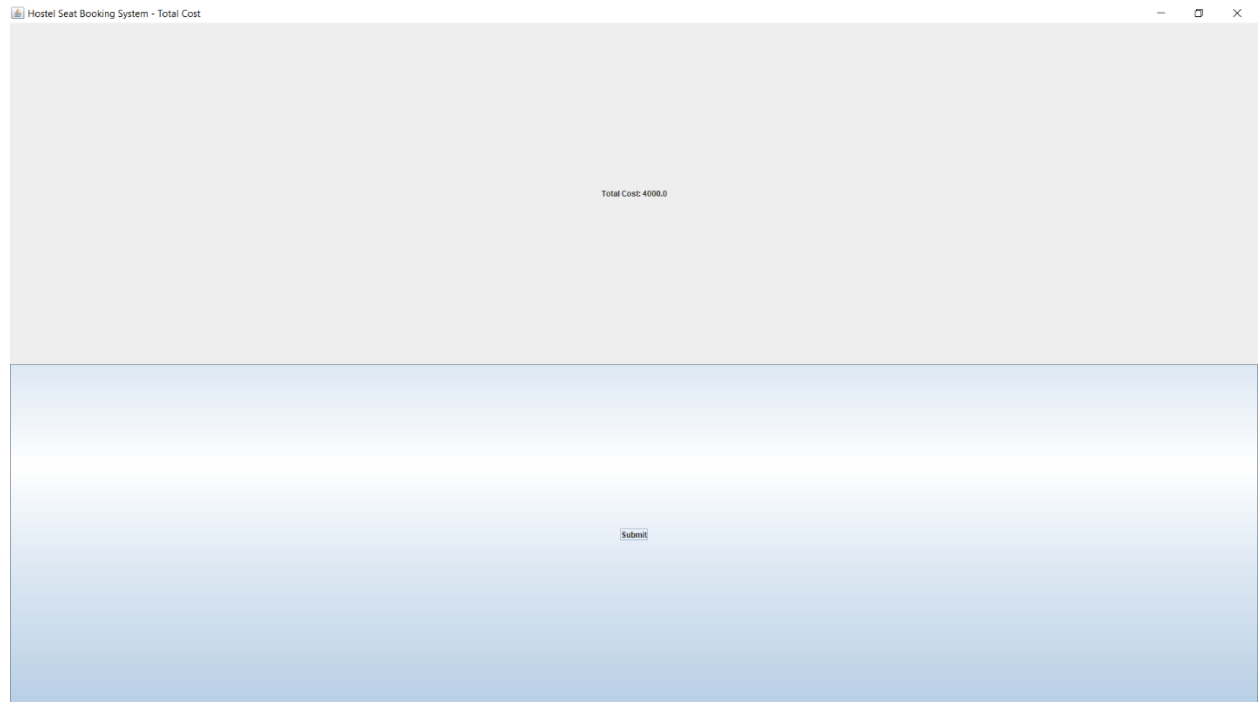
Next

Hostel Seat Booking System - Luggage Info

Enter number of luggage:

2

Next





```
customer_data.txt - Notepad
File Edit Format View Help
Customer Name: Faima
Age: 22
Gender: Male
Seat Type: Single
Education: University
Institution: Ewu
Father's Name: Brock Lesnar
Father's Occupation: Wrestler
Mother's Name: Superwomen
Mother's Occupation: Swimmer
Years of Stay: 2
Food Included: true
Number of Luggage: 2
Total Cost: 2000.0

Customer Name: Michale
Age: 33
Gender: Male
Seat Type: Triple
Education: University
Institution: ss
Father's Name: Jackson
Father's Occupation: Dancer
Mother's Name: Kamehameha
Mother's Occupation: Astronaut
Years of Stay: 2
Food Included: true
Number of Luggage: 22
Total Cost: 4000.0

Customer Name: Aftab
Age: 22
Gender: Male
Seat Type: Single
Education: School
Institution: ewu
Father's Name: Shauqi
Father's Occupation: Jaza kor
Mother's Name: Janza
Mother's Occupation: Housewife
Years of Stay: 4
Food Included: true
Number of Luggage: 4
Total Cost: 2000.0

Ln 1, Col 1 100% Windows (CRLF) UTF-8
```

## Full code

```
package JavaTest;

import javax.swing.*.*;

import java.awt.*.*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.io.BufferedWriter;
```

```
import java.io.File;
import java.io.FileWriter;
import java.io.IOException;

public class HostelSeatBooking {
    private JFrame mainFrame;
    private JTextField nameField;
    private JPasswordField passwordField;
    private JTextField customerNameField;
    private JTextField ageField;
    private JRadioButton maleButton;
    private JRadioButton femaleButton;
    private JCheckBox singleCheckBox;
    private JCheckBox doubleCheckBox;
    private JCheckBox tripleCheckBox;
    private JRadioButton schoolRadioButton;
    private JRadioButton collegeRadioButton;
    private JRadioButton universityRadioButton;
    private JTextField institutionField;
    private JTextField luggageField;
    private JTextField yearsField;
    private JCheckBox foodCheckBox;
    private float totalCost = 0;
    private String gender = "";
    private String education = "";
    private String institution = "";
    private int years = 0;
    private boolean isFood = false;
    private int luggage = 0;
```

```
private JTextField fatherNameField;  
private JTextField fatherOccupationField;  
private JTextField motherNameField;  
private JTextField motherOccupationField;
```

```
public HostelSeatBooking() {  
    prepareWelcomeFrame();  
}
```

```
public static void main(String[] args) {  
    HostelSeatBooking hostelSeatBooking = new HostelSeatBooking();  
}
```

```
private void prepareWelcomeFrame() {  
    JFrame welcomeFrame = new JFrame("Welcome to Hostel Seat Booking System");  
    welcomeFrame.setSize(300, 100);  
    welcomeFrame.setLayout(new GridLayout(4, 4));  
  
    JLabel welcomeLabel = new JLabel("Welcome to Hostel Seat Booking System", JLabel.CENTER);  
    welcomeFrame.add(welcomeLabel);  
  
    JButton nextButton = new JButton("Next");  
    nextButton.addActionListener(new ActionListener() {  
        public void actionPerformed(ActionEvent e) {  
            welcomeFrame.dispose();  
            prepareLoginFrame();  
        }  
    });  
};
```

```

welcomeFrame.add(nextButton);

welcomeFrame.setVisible(true);

}private void prepareLoginFrame() {

    mainFrame = new JFrame("Hostel Seat Booking System - Login");

    mainFrame.setSize(400, 400);

    mainFrame.setLayout(new GridLayout(3, 1));


    JLabel nameLabel = new JLabel("Seat Booker Name: ", JLabel.RIGHT);

    JLabel passwordLabel = new JLabel("Password: ", JLabel.CENTER);

    nameField = new JTextField(6);

    passwordField = new JPasswordField(6);

    JButton loginButton = new JButton("Login");

    loginButton.addActionListener(new ActionListener() {

        public void actionPerformed(ActionEvent e) {

            String username = nameField.getText();

            String password = String.valueOf(passwordField.getPassword());

            if (username.equals("Seendid") && password.equals("1234")) {

                prepareCustomerInfoFrame();

                mainFrame.dispose();

            } else {

                JOptionPane.showMessageDialog(mainFrame, "Invalid entry");

            }

        }

    });

    mainFrame.add(nameLabel);

    mainFrame.add(nameField);

    mainFrame.add(passwordLabel);

    mainFrame.add(passwordField);

    mainFrame.add(loginButton);

```

```
mainFrame.setVisible(true);
}

private void prepareCustomerInfoFrame() {
    JFrame customerInfoFrame = new JFrame("Hostel Seat Booking System - Customer Info");
    customerInfoFrame.setSize(400, 400);
    customerInfoFrame.setLayout(new GridLayout(3, 1));

    JLabel customerNameLabel = new JLabel("Customer Name: ", JLabel.CENTER);
    JLabel ageLabel = new JLabel("Age: ", JLabel.CENTER);
    JLabel genderLabel = new JLabel("Gender: ", JLabel.CENTER);

    customerNameField = new JTextField(6);
    ageField = new JTextField(6);

    maleButton = new JRadioButton("Male");
    femaleButton = new JRadioButton("Female");

    ButtonGroup genderGroup = new ButtonGroup();
    genderGroup.add(maleButton);
    genderGroup.add(femaleButton);

    JButton nextButton = new JButton("Next");
    nextButton.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            getCustomerData();
            customerInfoFrame.dispose();
            prepareSeatTypeFrame();
        }
    })
}
```

```

});

customerInfoFrame.add(customerNameLabel);
customerInfoFrame.add(customerNameField);
customerInfoFrame.add(ageLabel);
customerInfoFrame.add(ageField);
customerInfoFrame.add(genderLabel);
customerInfoFrame.add(maleButton);
customerInfoFrame.add(femaleButton);
customerInfoFrame.add(nextButton);
customerInfoFrame.setVisible(true);
}

private void prepareSeatTypeFrame() {
    JFrame seatTypeFrame = new JFrame("Hostel Seat Booking System - Seat Type");
    seatTypeFrame.setSize(400, 400);
    seatTypeFrame.setLayout(new GridLayout(4, 2));

    JLabel seatTypeLabel = new JLabel("Select seat type: ", JLabel.CENTER);

    singleCheckBox = new JCheckBox("Single");
    doubleCheckBox = new JCheckBox("Double");
    tripleCheckBox = new JCheckBox("Triple");

    JButton nextButton = new JButton("Next");
    nextButton.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            getSeatData();
        }
    });
}

```

```
        seatTypeFrame.dispose();  
        prepareEducationFrame();  
    }
```

```
});
```

```
seatTypeFrame.add(seatTypeLabel);  
seatTypeFrame.add(singleCheckBox);  
seatTypeFrame.add(doubleCheckBox);  
seatTypeFrame.add(tripleCheckBox);  
seatTypeFrame.add(nextButton);  
seatTypeFrame.setVisible(true);  
}
```

```
private void prepareEducationFrame() {  
    JFrame educationFrame = new JFrame("Hostel Seat Booking System - Education");  
    educationFrame.setSize(400, 400);  
    educationFrame.setLayout(new GridLayout(4, 2));  
  
    JLabel educationLabel = new JLabel("Select your education level: ", JLabel.CENTER);  
  
    schoolRadioButton = new JRadioButton("School");  
    collegeRadioButton = new JRadioButton("College");  
    universityRadioButton = new JRadioButton("University");  
  
    ButtonGroup educationGroup = new ButtonGroup();  
    educationGroup.add(schoolRadioButton);  
    educationGroup.add(collegeRadioButton);
```

```
educationGroup.add(universityRadioButton);
```

```
    JButton nextButton = new JButton("Next");  
    nextButton.addActionListener(new ActionListener() {  
        public void actionPerformed(ActionEvent e) {  
            getEducationData();  
            educationFrame.dispose();  
            prepareParentsFrame();  
        }  
    });
```

```
    educationFrame.add(educationLabel);  
    educationFrame.add(schoolRadioButton);  
    educationFrame.add(collegeRadioButton);  
    educationFrame.add(universityRadioButton);  
    educationFrame.add(nextButton);  
    educationFrame.setVisible(true);  
}
```

```
private void prepareParentsFrame(){  
    JFrame parentsFrame = new JFrame("Hostel Seat Booking System - Parents Info");  
    parentsFrame.setSize(400, 400);  
    parentsFrame.setLayout(new GridLayout(5, 2));
```

```
    JLabel fatherNameLabel = new JLabel("Father's Name: ", JLabel.CENTER);  
    JLabel fatherOccupationLabel = new JLabel("Father's Occupation: ", JLabel.CENTER);  
    JLabel motherNameLabel = new JLabel("Mother's Name: ", JLabel.CENTER);  
    JLabel motherOccupationLabel = new JLabel("Mother's Occupation: ", JLabel.CENTER);  
    fatherNameField = new JTextField(6);
```



```

fatherOccupationField = new JTextField(6);
motherNameField = new JTextField(6);
motherOccupationField = new JTextField(6);

JButton nextButton = new JButton("Next");
nextButton.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        getParentsData();
        parentsFrame.dispose();
        prepareInstitutionFrame();
    }

    // private void getParentsData() {

        //}
});
parentsFrame.add(fatherNameLabel);
parentsFrame.add(fatherNameField);
parentsFrame.add(fatherOccupationLabel);
parentsFrame.add(fatherOccupationField);
parentsFrame.add(motherNameLabel);
parentsFrame.add(motherNameField);
parentsFrame.add(motherOccupationLabel);
parentsFrame.add(motherOccupationField);
parentsFrame.add(nextButton);
parentsFrame.setVisible(true);
}

private void prepareInstitutionFrame(){
JFrame institutionFrame = new JFrame("Hostel Seat Booking System - Institution Info");

```

```

institutionFrame.setSize(400, 400);

institutionFrame.setLayout(new GridLayout(2,2));


JLabel institutionLabel = new JLabel("Enter your institution: ", JLabel.CENTER);
institutionField = new JTextField(6);
JButton nextButton = new JButton("Next");
nextButton.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        getInstitutionData();
        institutionFrame.dispose();
        prepareStayFrame();
    }
});

institutionFrame.add(institutionLabel);
institutionFrame.add(institutionField);
institutionFrame.add(nextButton);
institutionFrame.setVisible(true);
}

private void prepareStayFrame(){
    JFrame stayFrame = new JFrame("Hostel Seat Booking System - Stay Info");
    stayFrame.setSize(400, 400);
    stayFrame.setLayout(new GridLayout(3,2));


    JLabel yearsLabel = new JLabel("Enter number of years you will stay: ", JLabel.CENTER);
    JLabel foodLabel = new JLabel("Do you want food: ", JLabel.CENTER);
    yearsField = new JTextField(6);
    foodCheckBox = new JCheckBox();
    JButton nextButton = new JButton("Next");
    nextButton.addActionListener(new ActionListener() {

```

```

    public void actionPerformed(ActionEvent e) {
        getStayData();
        stayFrame.dispose();
        prepareLuggageFrame();
    }
});

stayFrame.add(yearsLabel);
stayFrame.add(yearsField);
stayFrame.add(foodLabel);
stayFrame.add(foodCheckBox);
stayFrame.add(nextButton);
stayFrame.setVisible(true);
}

private void prepareLuggageFrame(){
    JFrame luggageFrame = new JFrame("Hostel Seat Booking System - Luggage Info");
    luggageFrame.setSize(400, 400);
    luggageFrame.setLayout(new GridLayout(2,2));

    JLabel luggageLabel = new JLabel("Enter number of luggage: ", JLabel.CENTER);
    luggageField = new JTextField(6);
    JButton nextButton = new JButton("Next");
    nextButton.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            getLuggageData();
            luggageFrame.dispose();
            prepareTotalCostFrame();
        }
    });

    luggageFrame.add(luggageLabel);
    luggageFrame.add(luggageField);

```

```

luggageFrame.add(nextButton);
luggageFrame.setVisible(true);
}
private void prepareTotalCostFrame(){
    if(singleCheckBox.isSelected()){
totalCost += 2000;
    }
    if(doubleCheckBox.isSelected()){
totalCost += 3000;
    }
    if(tripleCheckBox.isSelected()){
totalCost += 4000;}

    JFrame totalCostFrame = new JFrame("Hostel Seat Booking System - Total Cost");
    totalCostFrame.setSize(400, 400);
    totalCostFrame.setLayout(new GridLayout(2,2));
    JLabel totalCostLabel = new JLabel("Total Cost: "+totalCost, JLabel.CENTER);
    // JLabel costLabel = new JFrame (+totalCost, JLabel.CENTER);
    JButton submitButton = new JButton("Submit");
    submitButton.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            //getTotalCost();
            storeData();
            totalCostFrame.dispose();
            prepareFinalFrame();
        }
    });
    totalCostFrame.add(totalCostLabel);
    //totalCostFrame.add(costLabel);
    totalCostFrame.add(submitButton);

```

```

        totalCostFrame.setVisible(true);
    }

    private void prepareFinalFrame(){
        JFrame finalFrame = new JFrame("Hostel Seat Booking System - Final");
        finalFrame.setSize(400, 400);
        finalFrame.setLayout(new GridLayout(2,2));
        JLabel finalLabel = new JLabel("Booking Successful", JLabel.CENTER);
        JButton exitButton = new JButton("Exit");
        exitButton.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent e) {
                finalFrame.dispose();
                System.exit(0);
            }
        });
        finalFrame.add(finalLabel);
        finalFrame.add(exitButton);
        finalFrame.setVisible(true);
    }

    private void getCustomerData(){
        String customerName = customerNameField.getText();
        int age = Integer.parseInt(ageField.getText());
        if(maleButton.isSelected()){
            gender = "Male";
        }else if(femaleButton.isSelected()){
            gender = "Female";
        }
    }

    private void getSeatData(){
        if(singleCheckBox.isSelected()){

```

```
totalCost += 2000;
}
if(doubleCheckBox.isSelected()){
totalCost += 3000;
}
if(tripleCheckBox.isSelected()){
totalCost += 4000;
}
}

private void getEducationData(){
if(schoolRadioButton.isSelected()){
education = "School";
}else if(collegeRadioButton.isSelected()){
education = "College";
}else if(universityRadioButton.isSelected()){
education = "University";
}
}

public void getParentsData(){
    String fatherName = fatherNameField.getText();
    String fatherOccupation = fatherOccupationField.getText();
    String motherName = motherNameField.getText();
    String motherOccupation = motherOccupationField.getText();
}

private void getInstitutionData(){
institution = institutionField.getText();
}

private void getStayData(){
years = Integer.parseInt(yearsField.getText());
```

```

isFood = foodCheckBox.isSelected();
}

private void getLuggageData(){
luggage = Integer.parseInt(luggageField.getText());
}

public float calculateTotalCost() {
    return totalCost;
    // totalCost = 3333;
    // if (singleCheckBox.isSelected()) {
    //     totalCost += 100;
    // }
    // if (doubleCheckBox.isSelected()) {
    //     totalCost += 150;
    // }
    // if (tripleCheckBox.isSelected()) {
    //     totalCost += 200;
    // }
    // if (foodCheckBox.isSelected()) {
    //     totalCost += 50;
    // }

    // add any other calculations for additional costs here
//}

//private float roomCost = 0;
//private void calculateTotalCost() {
//    totalCost = 0;
//    if (singleCheckBox.isSelected()) {
//        roomCost = 100;
//    }
//    }
//    if (doubleCheckBox.isSelected()) {

```

```

// roomCost = 150;
// }

//if (tripleCheckBox.isSelected()) {
//    roomCost = 200;
// }

// totalCost = roomCost;
// if (foodCheckBox.isSelected()) {
//    totalCost += 50;
// }else{totalCost+=0;
// add any other calculations for additional costs here

//return totalCost;
//}

```

```

void storeData(){
try{
File file = new File("customer_data.txt");

try (FileWriter fileWriter = new FileWriter(file, true)) {
    BufferedWriter bufferedWriter = new BufferedWriter(fileWriter);

String customerName = null;

    bufferedWriter.write("Customer Name: "+customerName);

    bufferedWriter.newLine();

String age = null;

    bufferedWriter.write("Age: "+age);

    bufferedWriter.newLine();

    bufferedWriter.write("Gender: "+gender);

    bufferedWriter.newLine();

    bufferedWriter.write("Seat Type: ");

```



```
if(singleCheckBox.isSelected()){
    bufferedWriter.write("Single ");
}
if(doubleCheckBox.isSelected()){
    bufferedWriter.write("Double ");
}
if(tripleCheckBox.isSelected()){
    bufferedWriter.write("Triple ");
}
bufferedWriter.newLine();
bufferedWriter.write("Education: "+education);
bufferedWriter.newLine();
bufferedWriter.write("Institution: "+institution);
bufferedWriter.newLine();
String fatherName = null;
    bufferedWriter.write("Father's Name: "+fatherName);
    bufferedWriter.newLine();
String fatherOccupation = null;
    bufferedWriter.write("Father's Occupation: "+fatherOccupation);
    bufferedWriter.newLine();
String motherName = null;
    bufferedWriter.write("Mother's Name: "+motherName);
    bufferedWriter.newLine();
String motherOccupation = null;
    bufferedWriter.write("Mother's Occupation: "+motherOccupation);
    bufferedWriter.newLine();
    bufferedWriter.write("Years of Stay: "+years);
    bufferedWriter.newLine();
    bufferedWriter.write("Food Included: "+isFood);
```

```
        bufferedWriter.newLine();

        bufferedWriter.write("Number of Luggage: "+luggage);

        bufferedWriter.newLine();

        bufferedWriter.write("Total Cost: "+totalCost);

        bufferedWriter.newLine();

        bufferedWriter.newLine();

        bufferedWriter.close();
    }

    }catch (IOException e){

        e.printStackTrace();

    }

}

//public static void main(String[] args) {

    // HostelSeatBooking hostelSeatBooking = new HostelSeatBooking();

}

//}
```