

A Project Report
on
HOSTEL MANAGEMENT SYSTEM

*Submitted in partial fulfillment of the
requirement for the award of the degree of*

**Bachelor of Technology in Computer Science and
Engineering**



**Under The Supervision of
Mr. Dhruv Kumar
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**SCHOOL OF COMPUTING SCIENCE AND
ENGINEERING
GALGOTIAS UNIVERSITY, GREATER NOIDA**

CANDIDATE'S DECLARATION

We hereby certify that the work which is being presented in the project, entitled “**HOSTEL MANAGEMENT SYSTEM**” in partial fulfillment of the requirements for the award of the Bachelor of Technology submitted in the School of Computing Science and Engineering of Galgotias University, Greater Noida, is an original work carried out during the period of July 2021 to December 2021, under the supervision of Mr. Dhruv Kumar, Assistant Professor, Department of Computer Science and Engineering , Galgotias University, Greater Noida.

The matter presented in the project has not been submitted by us for the award of any other degree of this or any other places.

Karan Kapoor (18SCSE1140028)

Vikrant Chauhan (18SCSE1140039)

This is to certify that the above statement made by the candidates is correct to the best of my knowledge.

Supervisor Name

Designation

CERTIFICATE

The Final Project Viva-Voce examination of Karan Kapoor (18SCSE1140028) and Vikrant Chauhan (18SCSE1140039) has been held on _____ and his/her work is recommended for the award of Bachelors of Technology in Computer Science and Engineering.

Signature of Examiner(s)

Signature of Supervisor(s)

Signature of Project Coordinator

Signature of Dean

Date: December, 2021

Place: Greater Noida

Acknowledgement

We take this occasion to thank God, almighty for blessing us with his grace and taking our endeavor to a successful culmination. We extend our sincere and heartfelt thanks to our esteemed guide, Mr. Dhruv Kumar for providing us with the right guidance and advice at the crucial junctures and for showing us the right way. We would like to thank the other faculty members also, at this occasion. Last but not the least, we would like to thank friends for the support and encouragement they have given us during the course of our work.

Abstract

As the name specifies “HOSTEL MANAGEMENT SYSTEM” is a software developed for managing various activities in the hostel. For the past few years, the number of educational institutions is increasing rapidly. Thereby the number of hostels is also increasing for the accommodation of the students studying in the institution. And hence there is a lot of strain on the people who are running the hostel and software’s are not usually used in this context. This particular project deals with the problems on managing a hostel and avoids the problems which occur when carried manually.

Identification of the drawbacks of the existing system leads to the designing of computerized system that will be compatible to the existing system with the system which is more user friendly and more GUI oriented. We can improve the efficiency of the system, thus overcome the drawbacks of the existing system.

- Less human error
- Strength and strain of manual labor can be reduced
 - High security
- Data redundancy can be avoided to some extent
 - Data consistency
 - Easy to handle
 - Easy data updating
 - Easy record keeping
- Backup data can be easily generated.

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Introduction

This system is designed in the favor of the Hostel Management, which helps them to save the records of the students about their Rooms, Mess, Fees, Staff details and other related things.

It helps them from the manual work from which it is very difficult to find the record of the students and the mess bills of the students, and the information about those students who left the hostel some years before.

To replace the existing system which is much more time consuming, we are developing a software which is user-friendly and its functionality is very good compared to the existing one.

This project can be used in hostel to facilitate to store new records of students in database, to display the saved records with printing facilities.

During the development of this project, I have visited the hostel administration for collection of data and analyze their problem. We have tried to fulfil most of the desire of the hostel requirements but due to the lack of time some of the requirements were solved. The problem analyzed for the hostel were:

- Check in/ checkout system for students to keep records of room that have been reserved.
- Room Reservation system to keep records of the students and find their room number.
- To generate report of each room reserved.

Among these problems we have choose the Mark sheet problem and try to make the project to display Mark sheet of the students with printing facility. The user can also save record of total number of students in the hostel, information about their faculty and course the study. We have also attached the form to keep simple record of the teachers.

This software is totally secure with password protected facility. The administrator can create new

user, update them when required and delete them if necessary. The administrator staff can utilize all the facility provided by the software and all the guest staff can get some of the facility. This software also provides the facility to create backup of the database which will help to retrieve data when the accidental loss in the original database happens.

Literature Survey

This project is aimed at developing a system for keeping records and showing information about or in a hostel. This system will help the hostel officer to be able to manage the affairs of the hostel. This system will provide full information about a student in the hostel. It will show rooms available or not and number of people in a particular room. This will also provide information on students who have paid in full or are still owing. This system will also provide a report on the summary detail regarding fees and bills students are owing. Also included is a user module for employees or the hostel officer. There will also be administrator module which will be accessed by the administrator and has the ability to delete, add and edit employee records. This system will be developed based on Software Development Life Cycle (SDLC) with Java and My SQL server. Java is good for the development and design of web-based programs whiles My SQL is good for databases because of its security and its advanced features and properties.

It may help collecting perfect Management in detail that too in a very short time. It will help a person to know the management and record of the previous year's perfectly and vividly. It will also reduce the cost of collecting the management and collection procedure will go on smoothly.

Functionality / Working

- **Algorithm for Login**

Step1: Start

Step2: Select User Name

Step3: Enter password

Step4: Click on Login button

If (User ID) and (Password) is Valid then Unload the user form from memory and Load and show MDI Main form.

Else

Display the message “Username and Password doesn't match”

Go to Step2

Step5: Stop

- **Algorithm for Adding New User**

Step1: Start

Step2: Go to system > manage user

Step3: Enter the administrative password to carry out the operation.

Step4: Click on Add New User and a field appears,

Step5: Enter new User name, Password, Confirm Password.

Step6: Click on save button for adding user and cancel button for cancelling operation.

Step7: If all condition remains true then print message “Username Added”.

Step8: End

- **Algorithm for Editing User's record**

Step1: Start

Step2: Go to system > manage user

Step3: Enter the administrative password to carry out the operation

Step4: Click on update user and a field appears,

Step5: Choose the username you want to edit and click on save button for adding user and cancel button for cancelling operation

Step6: if the User ID after editing is found on the database, then print the message "User already exists"

Else save the record on the database with message.

Step7: End

- **Algorithm for Deleting User's**

Step1: Start

Step2: Click on the user's record from the list whom you want to Delete

Step3: Click on the Delete button then print the message "Do you really want to delete this user"

Step4: If click on yes the user will be deleted, If click on no the operation will be cancelled

Step6: End

- **Algorithm for Adding New Room Reservation**

Step1: Start

Step2: Go to New Room Reservation

Step3: Click on New Button of the form

Step4: Fill all the given fields,

Step5: Click on Save button to save record or Cancel button to cancel the operation

Step6: If clicked Save

Print the message “Record Saved successfully”. And it saves the record to the database Else

program terminates to main form.

Step8: Stop.

- **Algorithm for Delete Record**

Step1: Start

Step2: Go to Customer > New Room Reservation

Step3: Click on Delete Button of the form

Step4: Enter the Reservation Number which you want to delete.

Step5: click on Ok button to delete record or Cancel button to cancel the operation

Step6: If clicked ok, Print the message “Record Deleted successfully”. And it deletes the record

from the

Database Else program terminates to main form.

Step7: Stop.

- **Algorithm for Print Record**

Step1: Start

Step2: Click on Report >Print or Open the Room Reservation form and click Print.

Step3: The system calls the print function and starts printing if the printer is installed.

Step4: Stop

- **Algorithm for Backup**

Step1: Start.

Step2: Open Main form >Tools >Database Backup.

Step3: The form opens and asks the user to give the path.

Step4: Click on Ok to create backup or cancel to cancel operation. If Ok button is the program creates a backup in the specified path. Else the program terminates to the previous form.

Step5: Stop.

- **Algorithm for Search**

Step1: Start

Step2: Open Main form >Customer >Search

Step3: Click on the search type.

Step4: Enter the part of data you want to search.

Step5: Click on Ok to search record or cancel to change search type. If record exists then record

is shown

Else print message "No Record was found"

Step6: Stop

- **Algorithm for Exit menu**

Step1: Start

Step2: Click on File > Exit to exit from the program.

Step2: Print the message "Do you really want to exit from program"

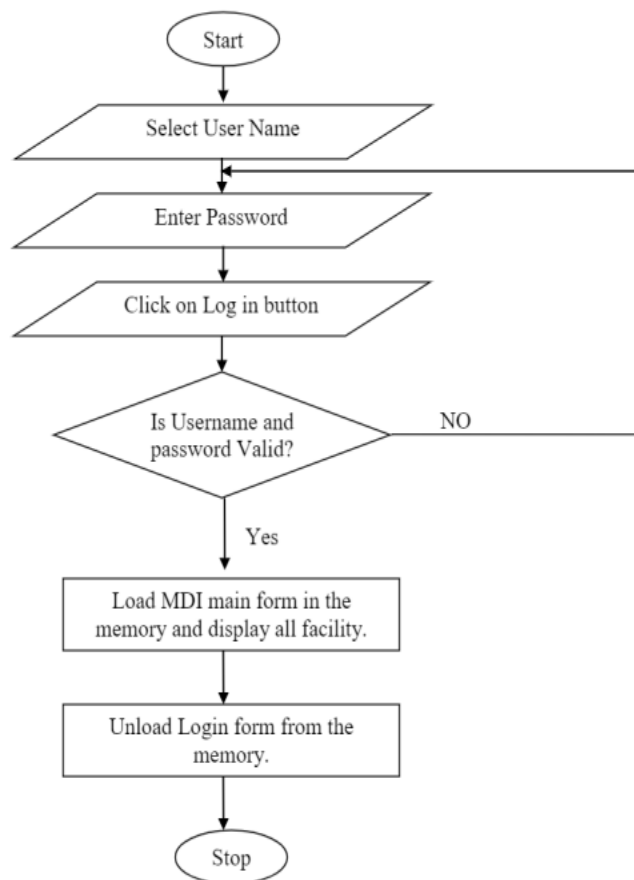
Step3: If yes then close the program and all running forms. If no then return to the MDI main

form

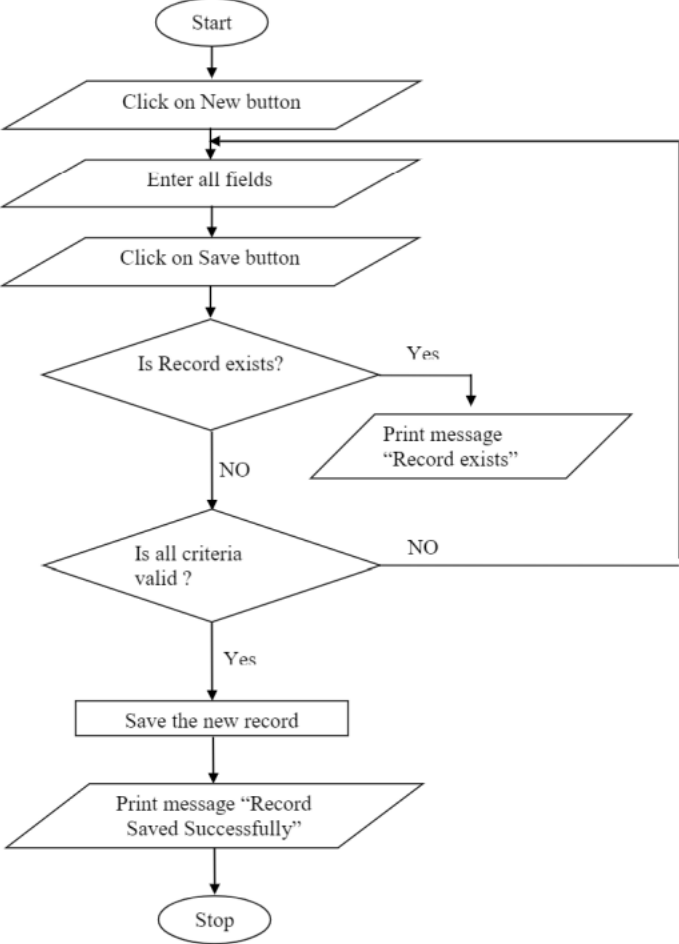
Step4: End

Flowcharts

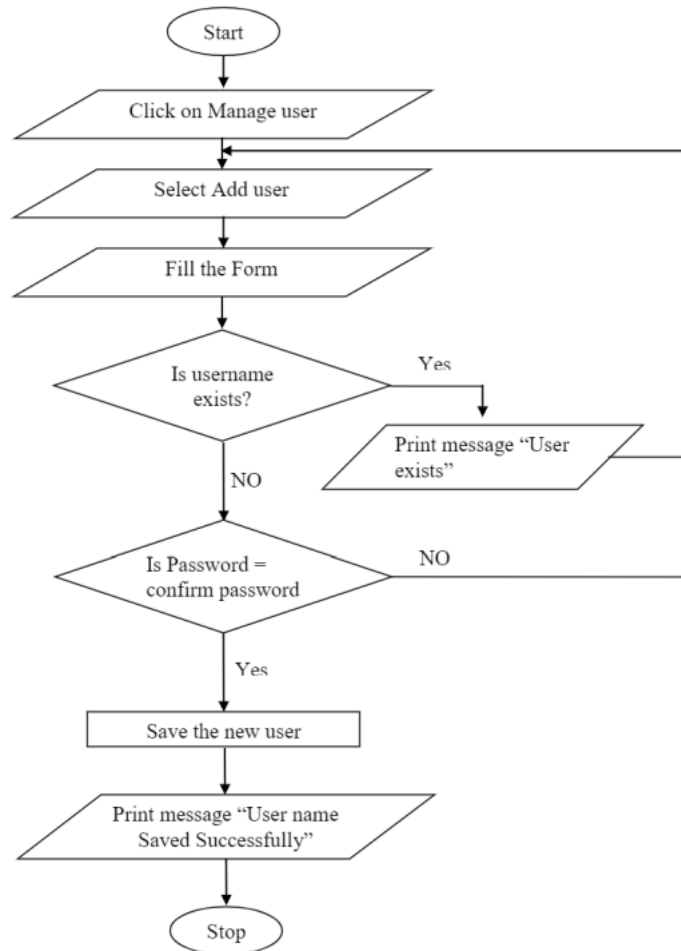
Flowchart for login



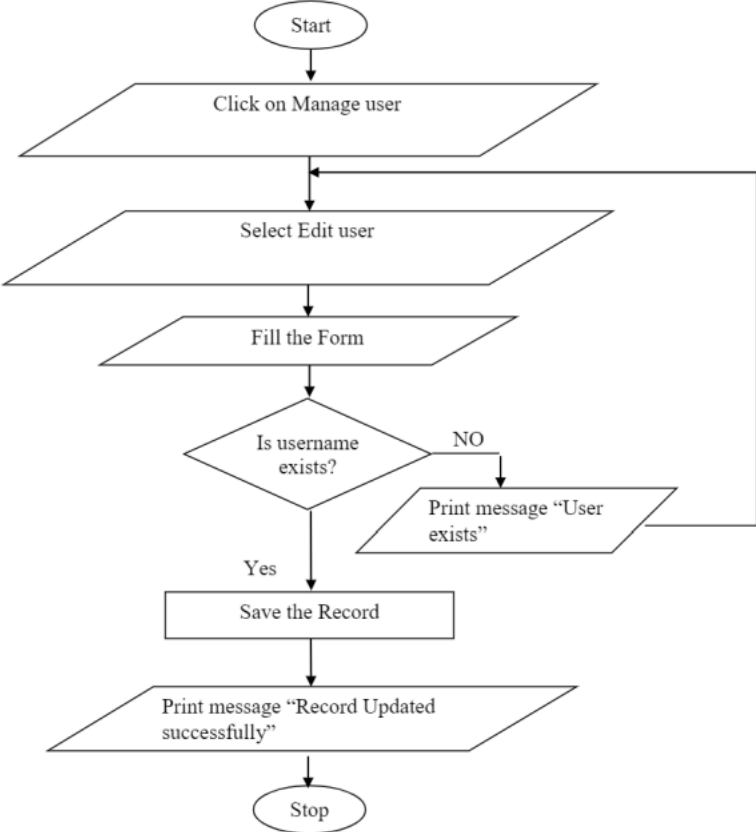
Flowchart for saving information



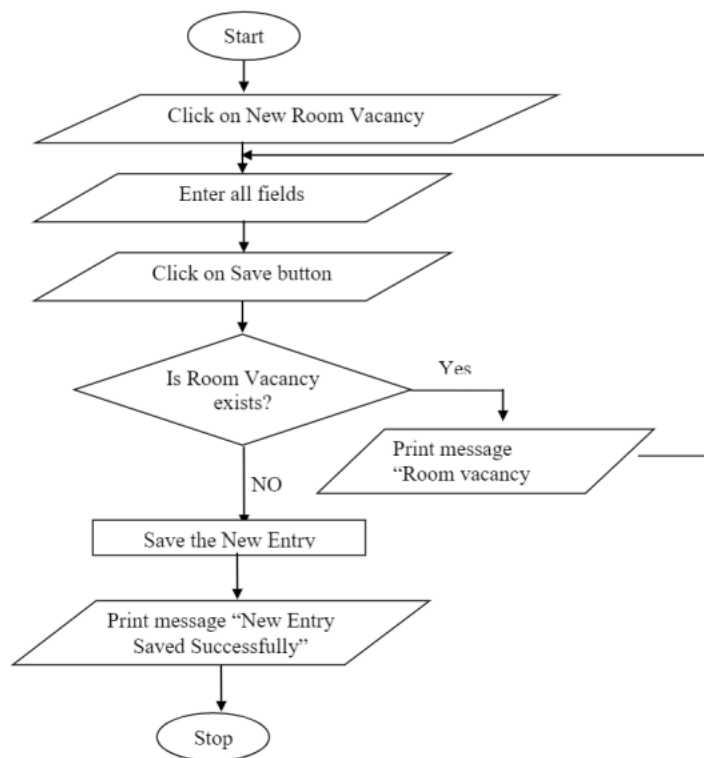
Flowchart for adding new user



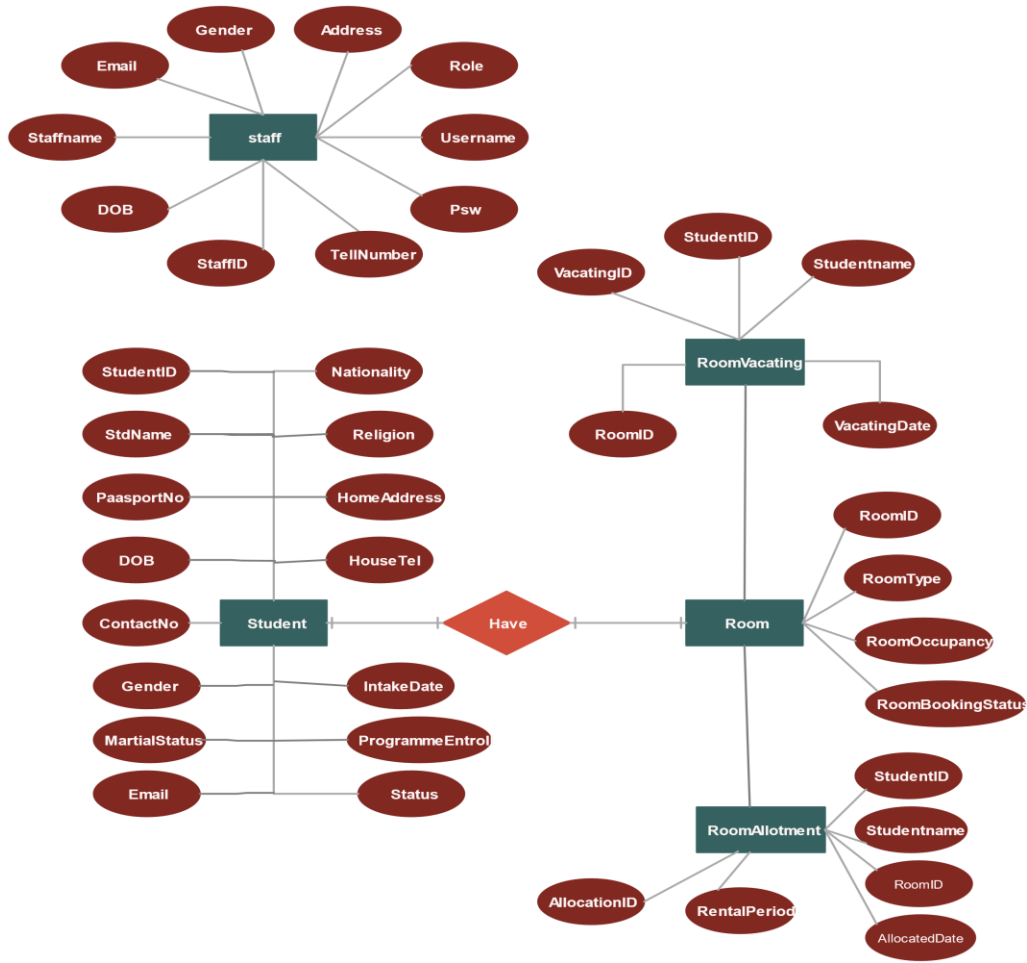
Flowchart for edit user



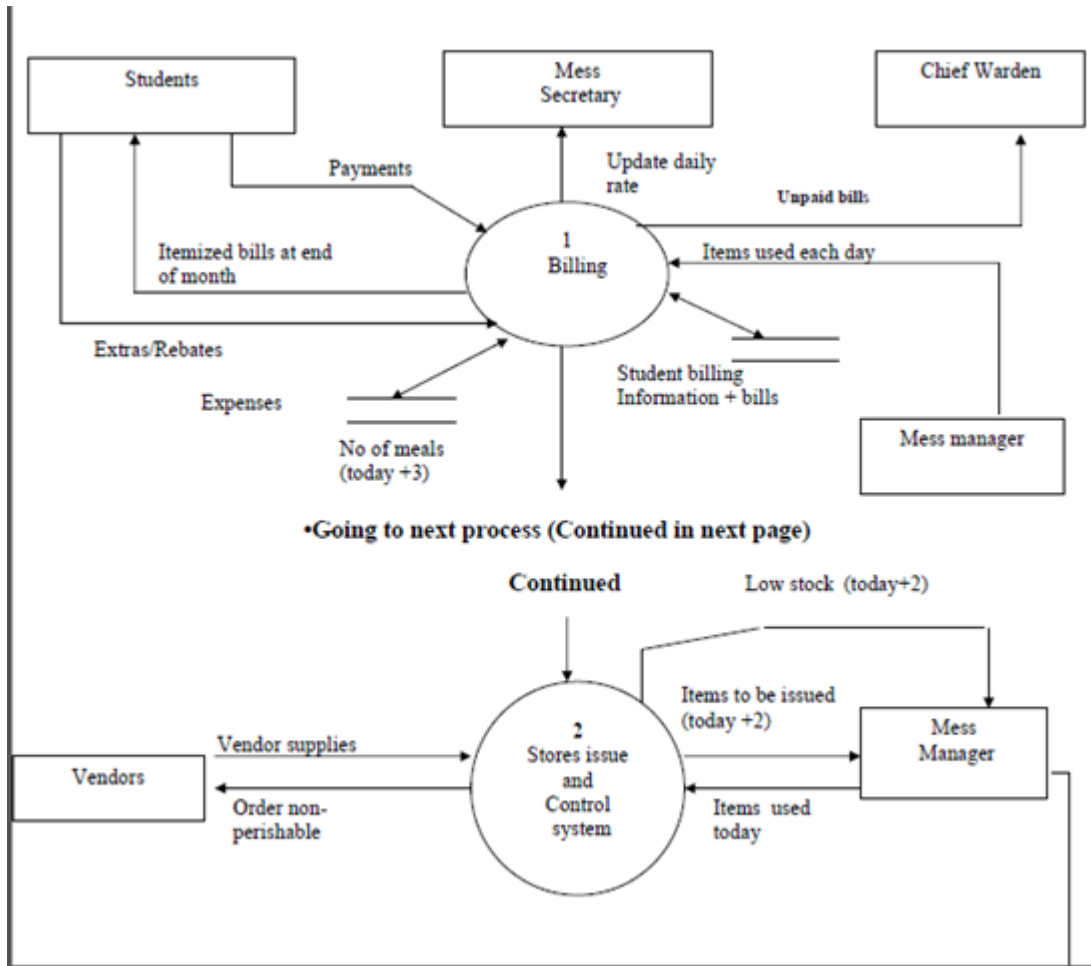
Flow Chart for room vacancy



ER Diagram



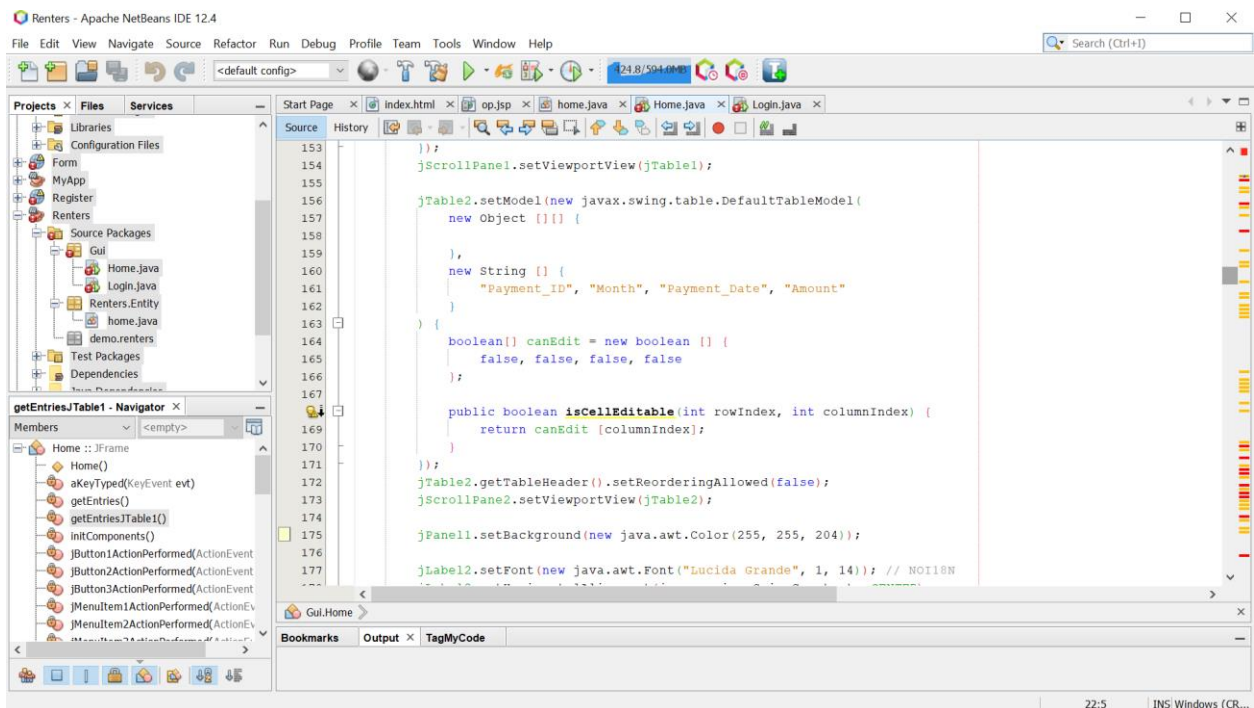
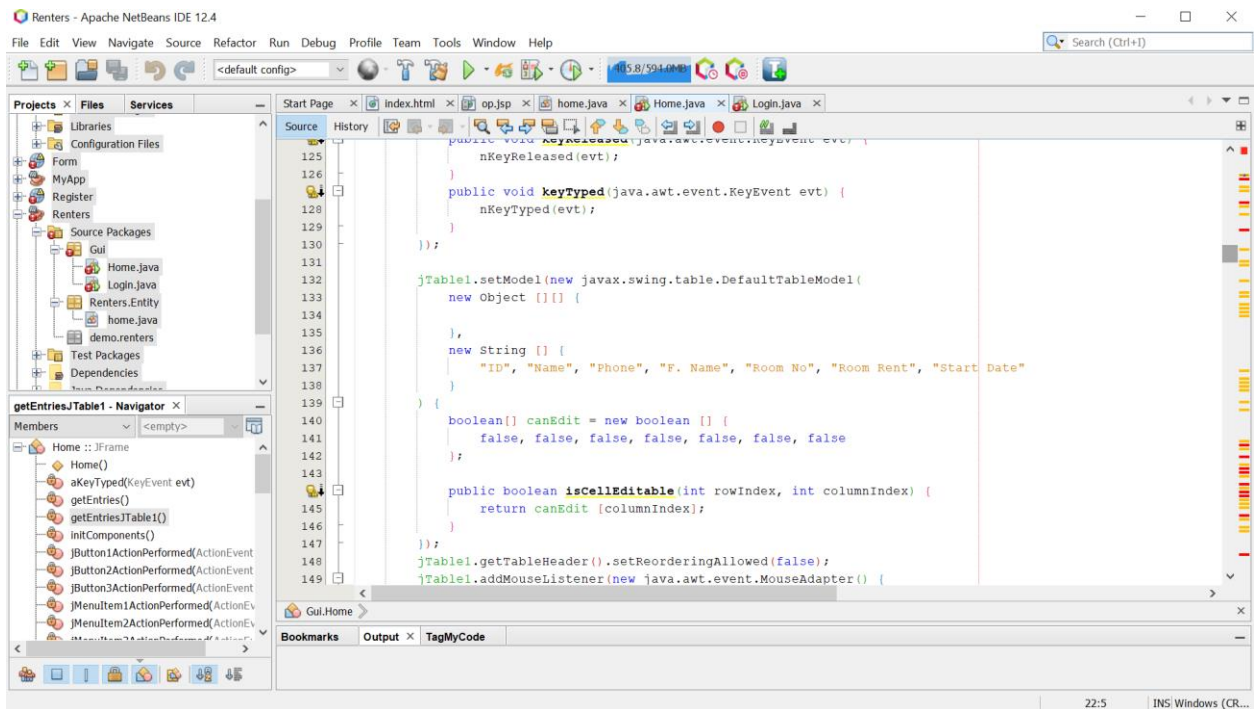
Context Diagram

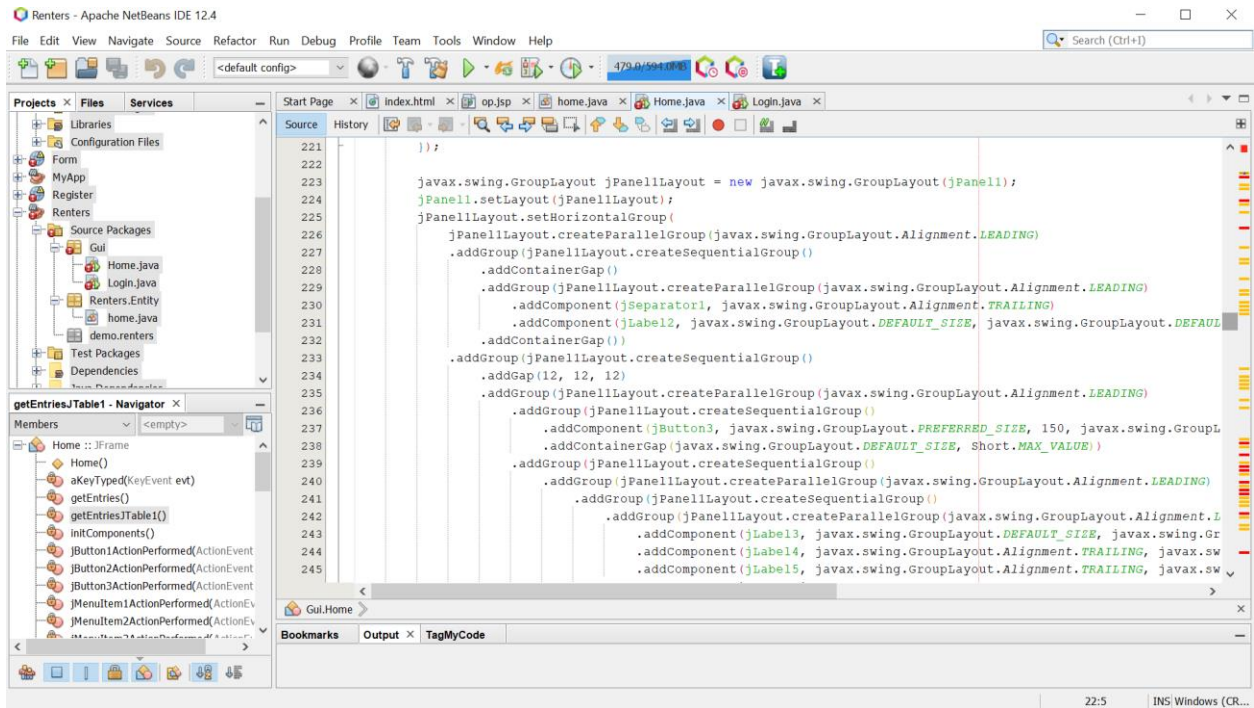
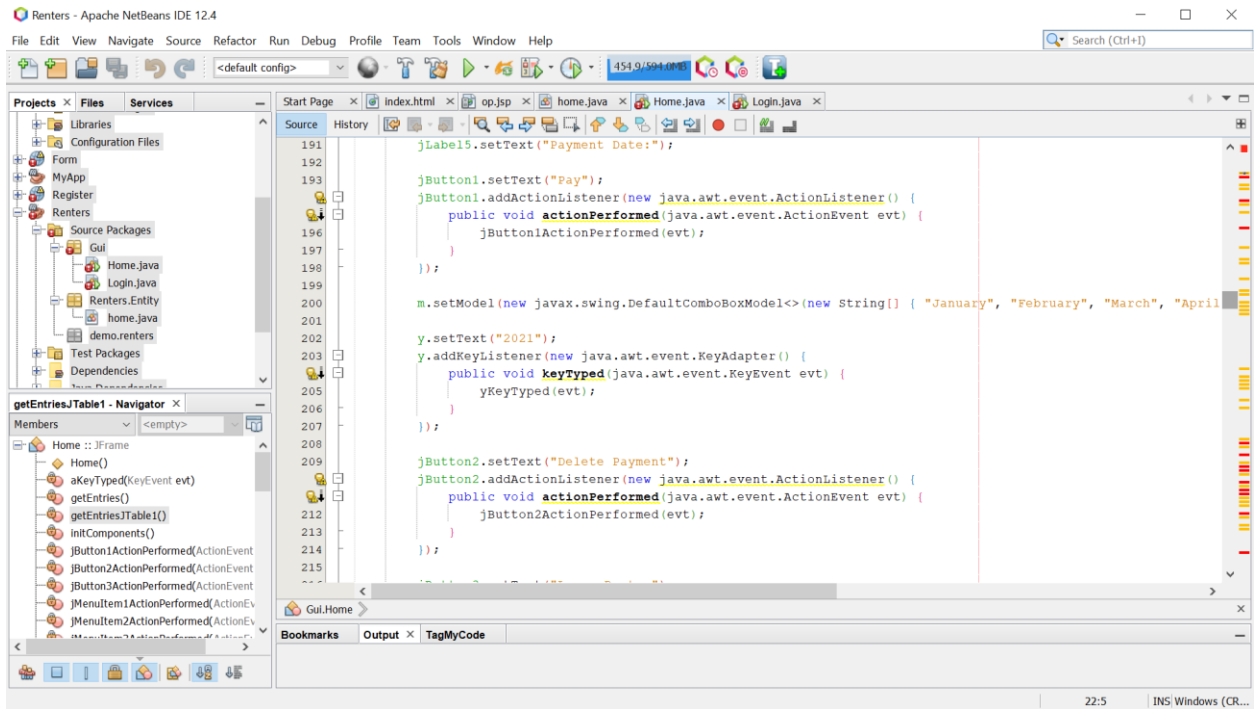


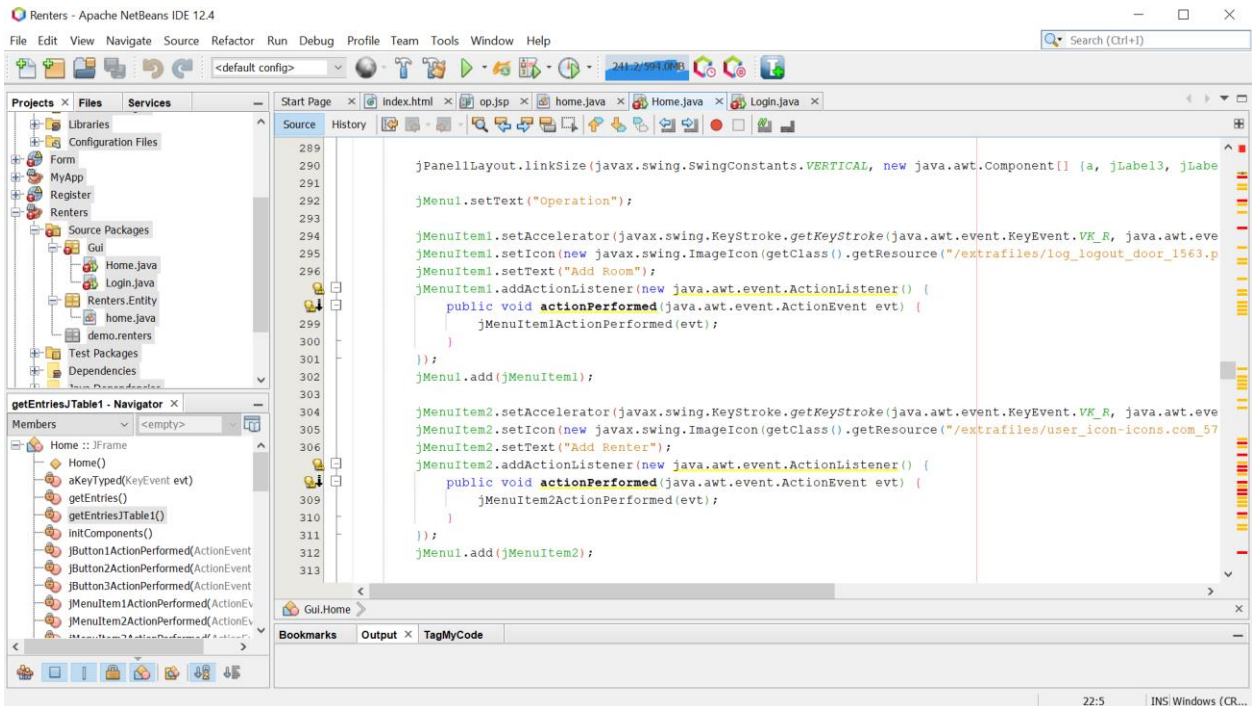
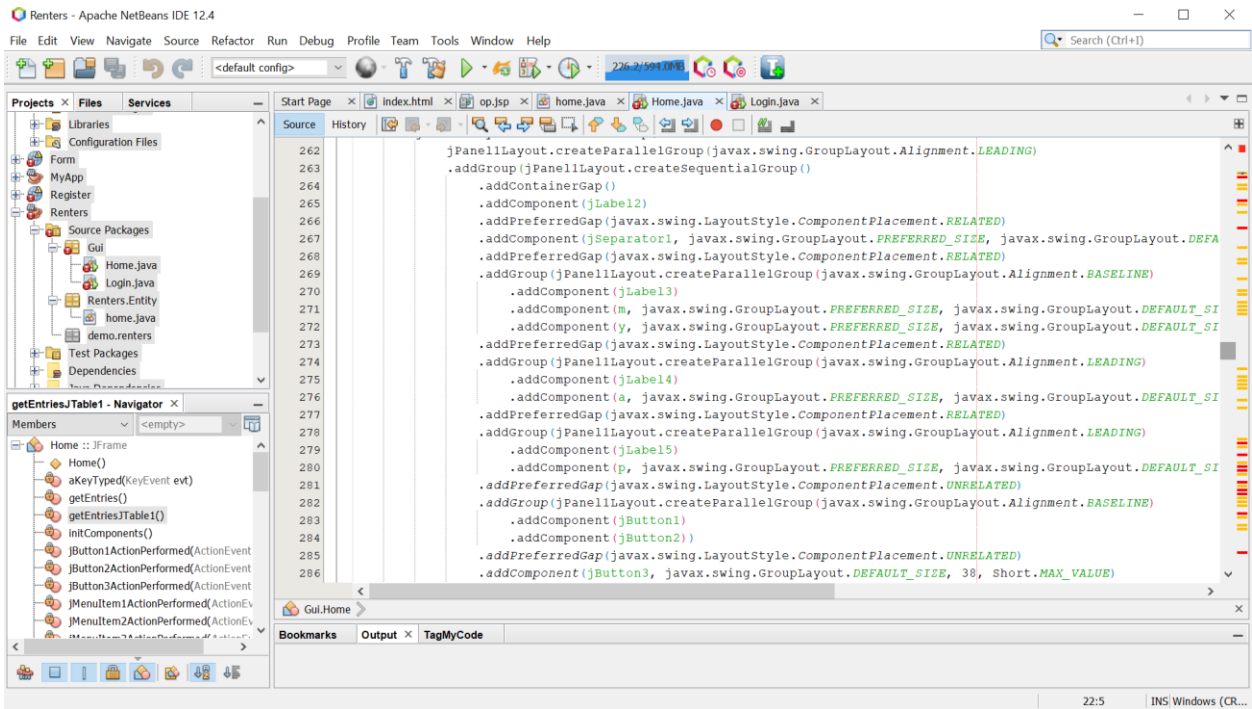
Codes

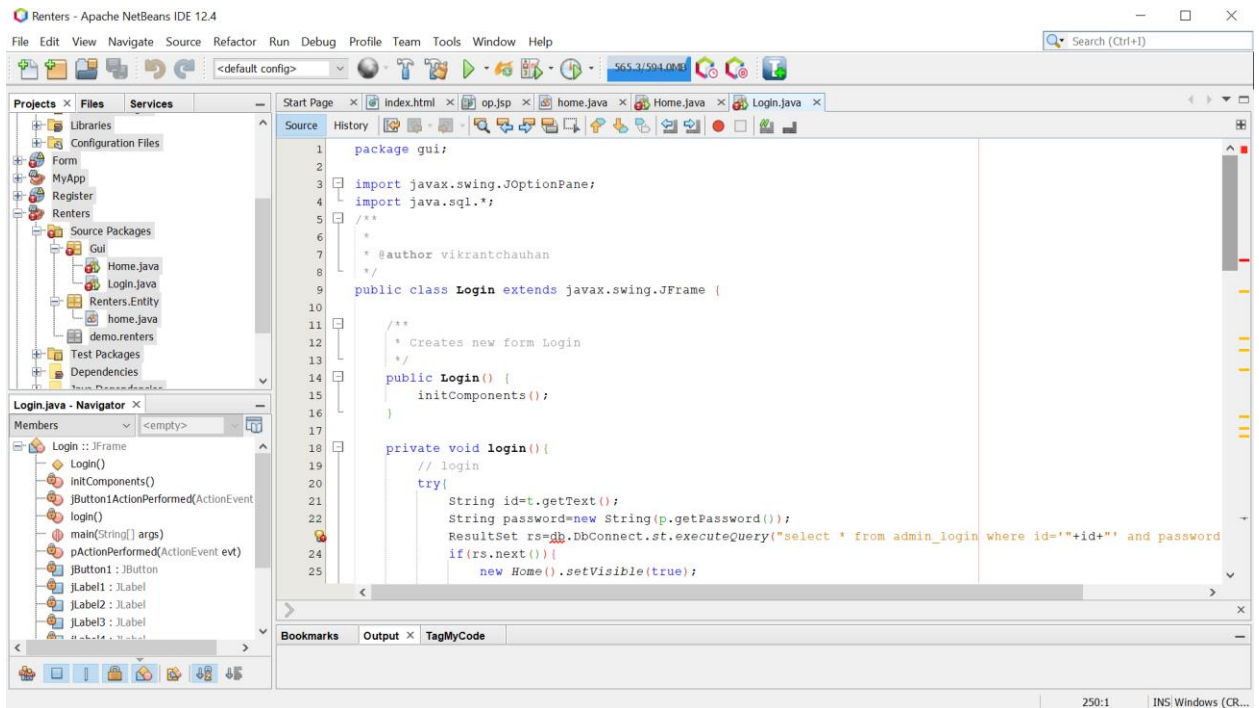
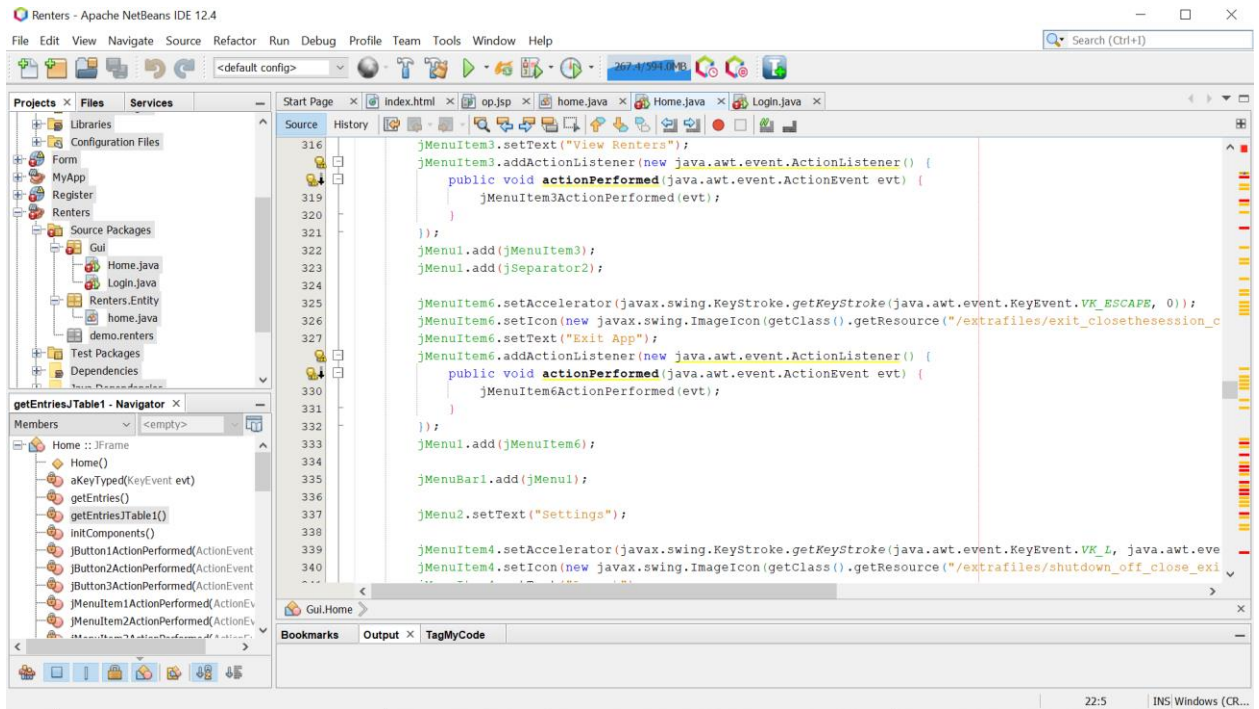
```
1 package Gui;
2
3 import javax.swing.JFrame;
4 import javax.swing.JOptionPane;
5 import java.sql.*;
6
7 /**
8  *
9  * @author vikrantchauhan
10 */
11 public class Home extends javax.swing.JFrame {
12
13     /**
14      * Creates new form Home
15      */
16     public Home() {
17         initComponents();
18
19         p.setDate(new java.util.Date());
20         setExtendedState(JFrame.MAXIMIZED_BOTH);
21     }
22
23     private void getEntriesJTable1() {
24         try {
25             String name = n.getText();
```

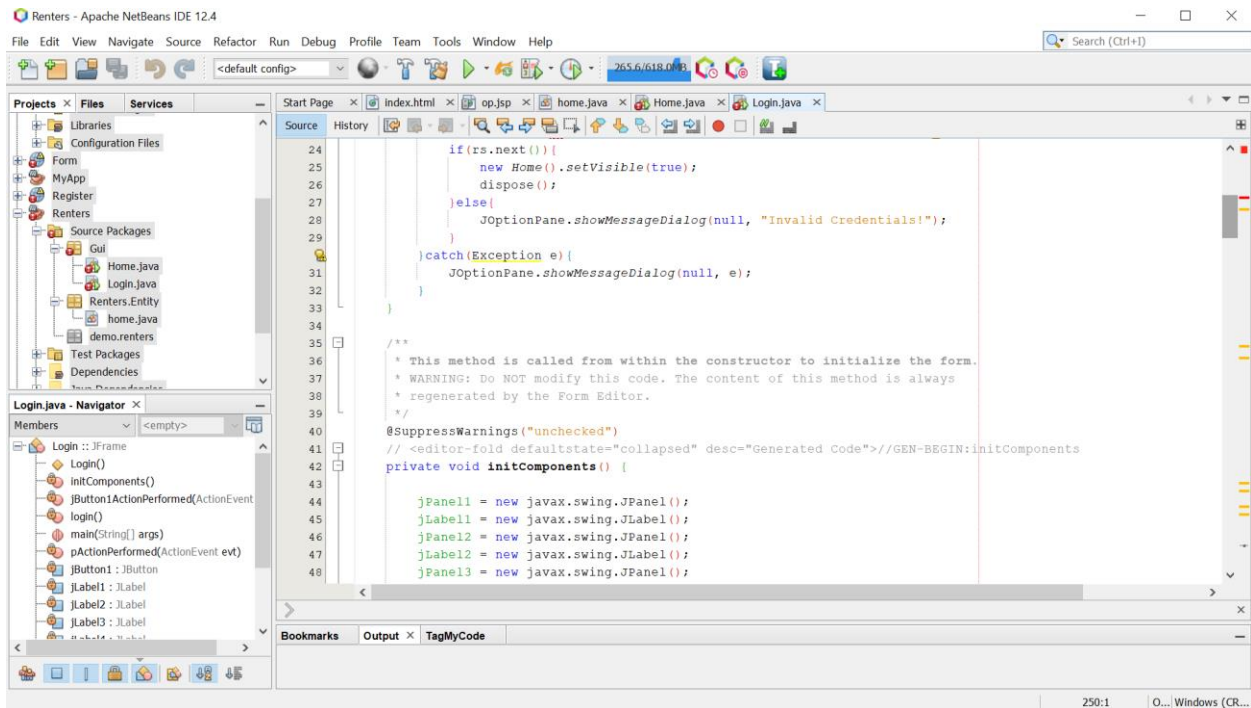
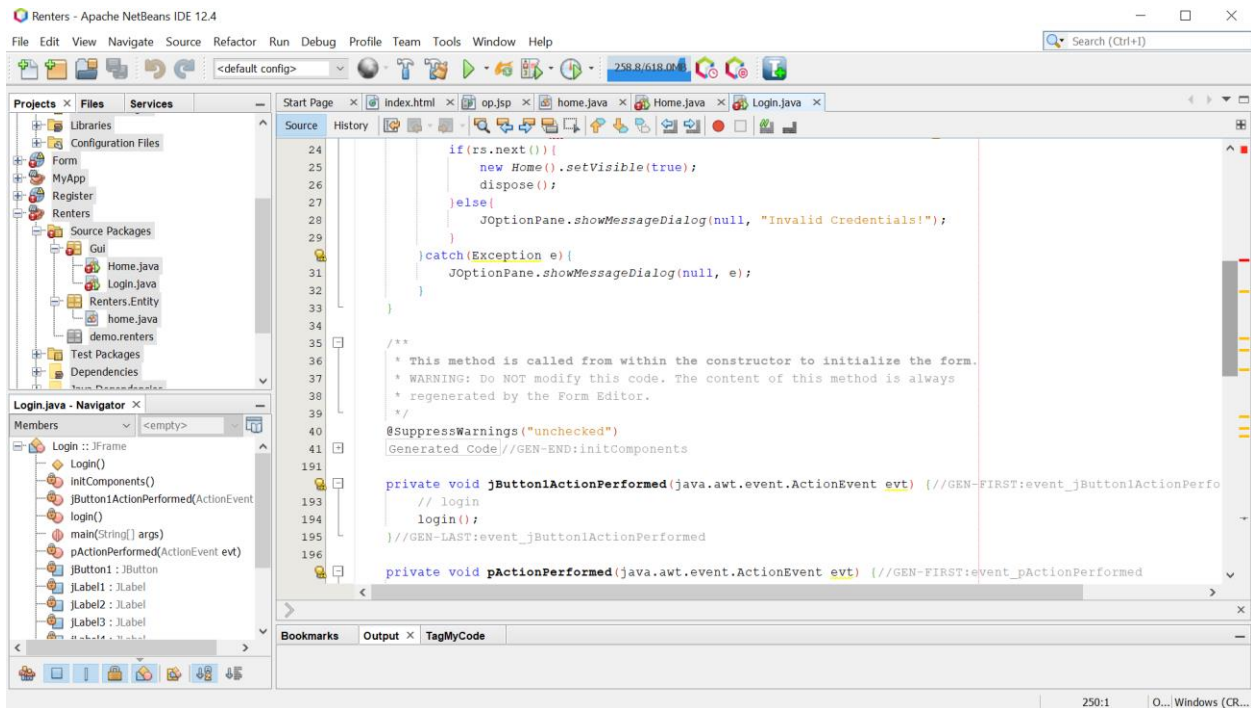
```
21
22
23     private void getEntriesJTable1() {
24         try {
25             String name = n.getText();
26             ResultSet rs = db.DbConnect.st.executeQuery("select * from renters where name like '%" + name + "%'");
27             javax.swing.table.DefaultTableModel dtm = (javax.swing.table.DefaultTableModel) jTable1.getModel();
28             //to removes rows in table
29             int rc = dtm.getRowCount();
30             while (rc-- != 0) {
31                 dtm.removeRow(0);
32             }
33             //to add row in table
34             while (rs.next()) {
35                 java.util.Vector row = new java.util.Vector();
36                 row.add(rs.getInt("renter_id"));
37                 row.add(rs.getString("name"));
38                 row.add(rs.getString("phone"));
39                 row.add(rs.getString("fname"));
40                 row.add(rs.getString("room_no"));
41                 row.add(rs.getInt("rent"));
42                 row.add(rs.getDate("start_date"));
43                 dtm.addRow(row);
44             }
45         } catch (Exception e) {
46             JOptionPane.showMessageDialog(null, e);
```

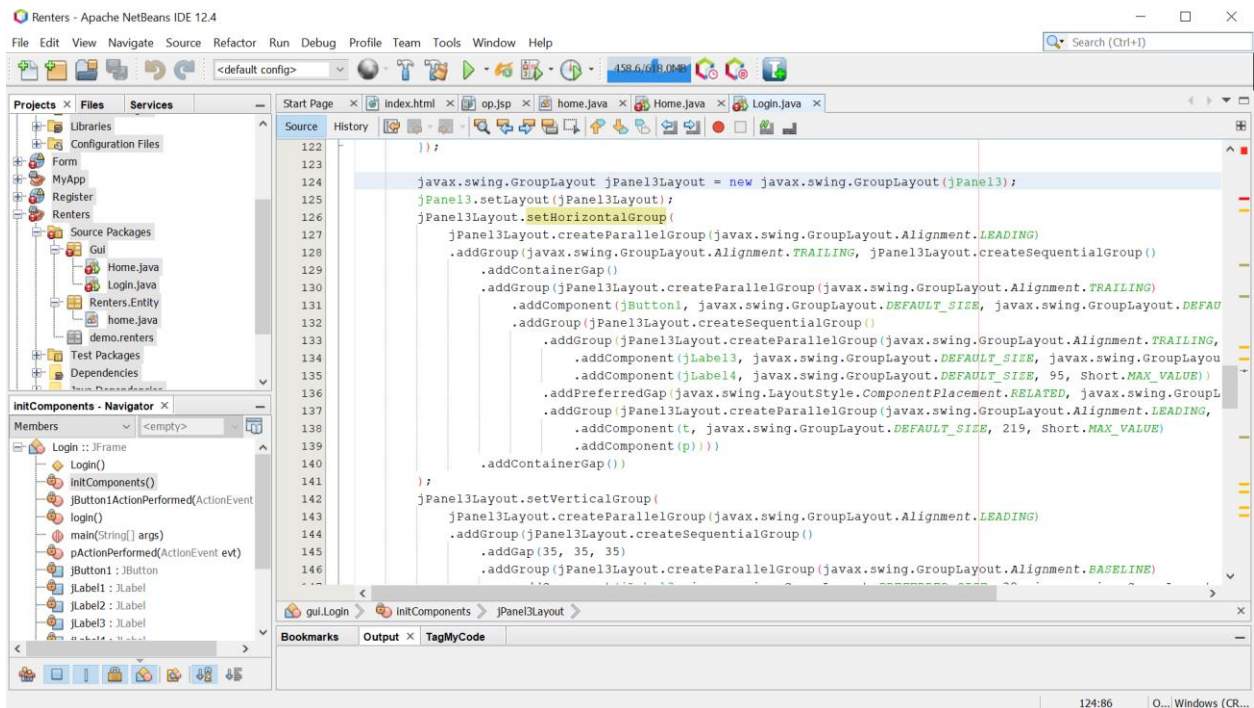
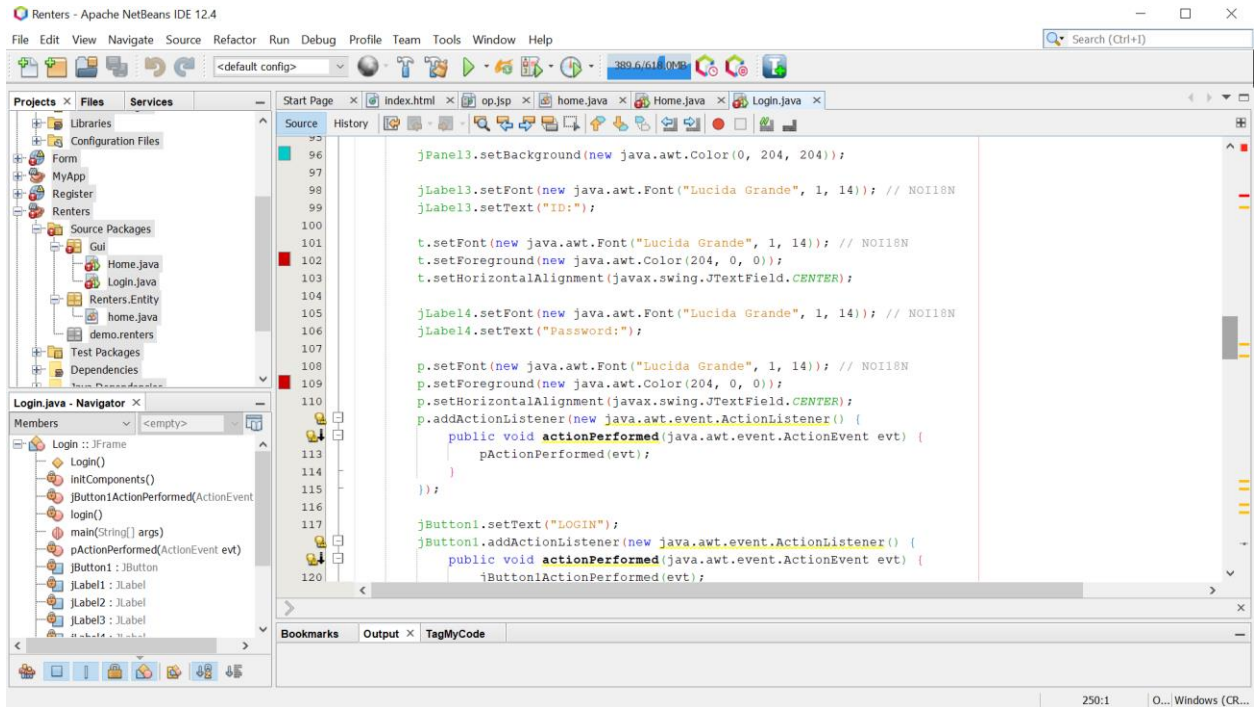













NetBeans IDE 12.4 interface showing a Java Swing application. The main window displays the source code for `JPanel3Layout` in the `gui.Login` package. The code defines a `setLayout` method that configures a `GroupLayout` with various components and constraints.

```
146 .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
147     .addComponent(jLabel13, javax.swing.GroupLayout.PREFERRED_SIZE, 32, javax.swing.GroupLayout.
148     .addComponent(t, javax.swing.GroupLayout.PREFERRED_SIZE, 46, javax.swing.GroupLayout.PREFE
149     .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
150     .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
151     .addComponent(jLabel14, javax.swing.GroupLayout.PREFERRED_SIZE, 32, javax.swing.GroupLayout.
152     .addComponent(p, javax.swing.GroupLayout.PREFERRED_SIZE, 44, javax.swing.GroupLayout.PREFE
153     .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
154     .addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 46, javax.swing.GroupLayout.PRE
155     .addContainerGap())
156 );
157
158 jPanel3Layout.linkSize(javax.swing.SwingConstants.VERTICAL, new java.awt.Component[] {jLabel13, t});
159
160 jPanel3Layout.linkSize(javax.swing.SwingConstants.VERTICAL, new java.awt.Component[] {jLabel14, p});
161
162 javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
163 getContentPane().setLayout(layout);
164 layout.setHorizontalGroup(
165     layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
166     .addGroup(layout.createSequentialGroup()
167     .addContainerGap()
168     .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_
169     .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
170     .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
171     .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_
```

The `initComponents` method in `gui.Login` calls `setHorizontalGroup` on the `layout` object.

```
165     layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
166     .addGroup(layout.createSequentialGroup()
167     .addContainerGap()
168     .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_
169     .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
170     .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
171     .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_
```

Result

A desktop application as Hostel Management System was developed using Java and SQL Database that would store the details of students staying in the hostel and also the details of the staff members working at the Hostel. The admin could access all the details of students and staff members and alter it as required.

In terms of hostel administration software, the following specific characteristics may be noticed for entrance into the hostel. They include automated room assignment and the storage of convicts' personal information for future use.

Financial management, mess management, and all other amenities anticipated by convicts are available at any time. This programme can manage inquiry details, student details, faculty member details, payment details, and so on. Administration panel, information panel, hostel account panel, student panel, hostel mess, food panel, and other functions are included in this programme. The program is capable of easily administering an educational institution's whole dormitory amenities. The administration can save money on employees and paper by using this software to keep track of the students and other inmates of the hostel's room assignments, meal arrangements, room transfers, providing necessary amenities in the rooms, maintaining discipline, keeping track of visitors, and other important features.

Students can use hostel management software to keep track of their own hostel accounts, decide on the number of occupants in each room, maintain a waiting list, and issue receipts for payments earned, among other things.

Conclusion / Future Scope

To conclude the description about the project: The project, developed using Java and MySQL is based on the requirement specification of the user and the analysis of the existing system, with flexibility for future enhancement.

The expanded functionality of today's software requires an appropriate approach towards software development. This hostel management software is designed for people who want to manage various activities in the hostel. For the past few years, the number of educational institutions is increasing rapidly.

Thereby the number of hostels is also increasing for the accommodation of the students studying in this institution. And hence there is a lot of strain on the person who are running the hostel and software's are not usually used in this context. This particular project deals with the problems on managing a hostel and avoids the problems which occur when carried manually.

Identification of the drawbacks of the existing system leads to the designing of computerized system that will be compatible to the existing system with the system which is more user friendly and more GUI oriented.

The Future of this scope is Immense as we will be converting this standalone application into a website so that the students and wardens could also access and the staff members could debit their salary directly from the website and the students could pay the pending fees.

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