“HOSPITAL MANAGEMENT SYSTEM”

BATCH: 02

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Branch -Computer Science & Engineering

6th Semester

UNDER THE SUPERVISION OF:

MR. VISHNU REDDY

ACKNOWLEDGMENT

We extend our heartfelt gratitude to everyone who has contributed to the successful completion of our **Hospital Management System (HMS)** project. Their guidance, support, and encouragement have been invaluable throughout this journey.
First and foremost, we express our sincere appreciation to **Mr. VISHNU REDDY**, our esteemed project supervisor, for his expert guidance, constructive feedback, and unwavering support. His insights have been instrumental in shaping the project's direction and ensuring its successful execution.
We would also like to acknowledge the collaborative efforts of our team members:

- **ABHAY THAKUR**
- **SUSHANT GUPTA**

Their dedication, teamwork, and commitment have played a crucial role in developing and refining this project.
Furthermore, we are grateful to **Cranes Training Organization**, which provided us with this valuable project opportunity, and to **CV Raman Global University** for organizing this initiative. Their support in facilitating this training program and equipping us with the necessary resources has greatly contributed to our learning and project development.
Lastly, we extend our thanks to our peers, friends, and family members for their motivation and encouragement, which have been a source of inspiration throughout this journey.
Thank you all for your invaluable contributions!

DECLARATION

We, the undersigned, hereby declare that the **Hospital Management System (HMS) Project** has been successfully completed under the guidance and instructions of **Mr. Vishnu Reddy**

We affirm that all submitted work is original, and due acknowledgments have been given to external sources where applicable. This project has not been previously submitted for any other course or assignment.

The project has been completed to the best of our knowledge and ability, ensuring accuracy, relevance, and adherence to the required academic standards. We have made every effort to develop a functional and efficient system while maintaining clarity and correctness in documentation.

Furthermore, we confirm that this work has been carried out with honesty, integrity, and transparency, following ethical academic practices. All sources used in the report are properly referenced and cited.

We also acknowledge the **Cranes Training Organization** for providing this valuable project opportunity and **CV Raman Global University** for organizing this initiative and supporting us throughout the process.

Submitted by:

- **Abhay Thakur**
- **Sushant Gupta**

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ABSTRACT

The Hospital Management System (HMS) is a digital solution designed to streamline hospital operations, improve patient care, and enhance administrative efficiency. Traditional hospital management processes often involve excessive paperwork, manual record-keeping, and inefficient data handling, leading to delays and errors. To address these challenges, this project introduces a Java and MySQL-based HMS that automates key hospital functions such as patient registration, appointment scheduling, doctor and staff management, billing, and medical record maintenance.

The system ensures secure storage and quick retrieval of patient records, optimizes resource allocation, and enhances communication between hospital departments. Key features include room and department management, ambulance services, discharge management, and real-time search capabilities. The system is designed to be user-friendly, scalable, and adaptable to meet the growing demands of healthcare institutions.

By integrating modern technology, HMS reduces paperwork, minimizes errors, and improves overall hospital workflow. Future enhancements, such as telemedicine integration, AI-powered diagnostics, and cloud-based access, will further strengthen the system's capabilities. This project demonstrates the potential of digital transformation in healthcare, making hospital operations more efficient, secure, and patient-centric.

INTRODUCTION

The healthcare industry is constantly evolving, requiring hospitals to manage an increasing number of patients, staff, and medical resources efficiently. Traditional hospital management methods, which rely on manual paperwork and record-keeping, often result in delays, data loss, and inefficiencies in patient care. To address these challenges, a Hospital Management System (HMS) is developed to automate and streamline hospital operations, ensuring better coordination, accuracy, and efficiency.

The HMS serves as a centralized digital platform that integrates various hospital functions, including patient registration, appointment scheduling, doctor and staff management, billing, medical record maintenance, and emergency services. By automating these critical operations, the system reduces administrative burdens, minimizes errors, and enhances overall hospital workflow.

Additionally, an HMS ensures secure storage and quick retrieval of patient data, making it easier for doctors and healthcare professionals to access medical histories and make informed decisions. The system also facilitates room and department management, ambulance services, and discharge procedures, ensuring a seamless patient experience.

This project focuses on designing an efficient, user-friendly, and scalable Hospital Management System using Java and MySQL to meet the increasing demands of modern healthcare institutions. By implementing this system, hospitals can improve their service quality, data security, and overall operational efficiency, ultimately enhancing patient care and hospital management.

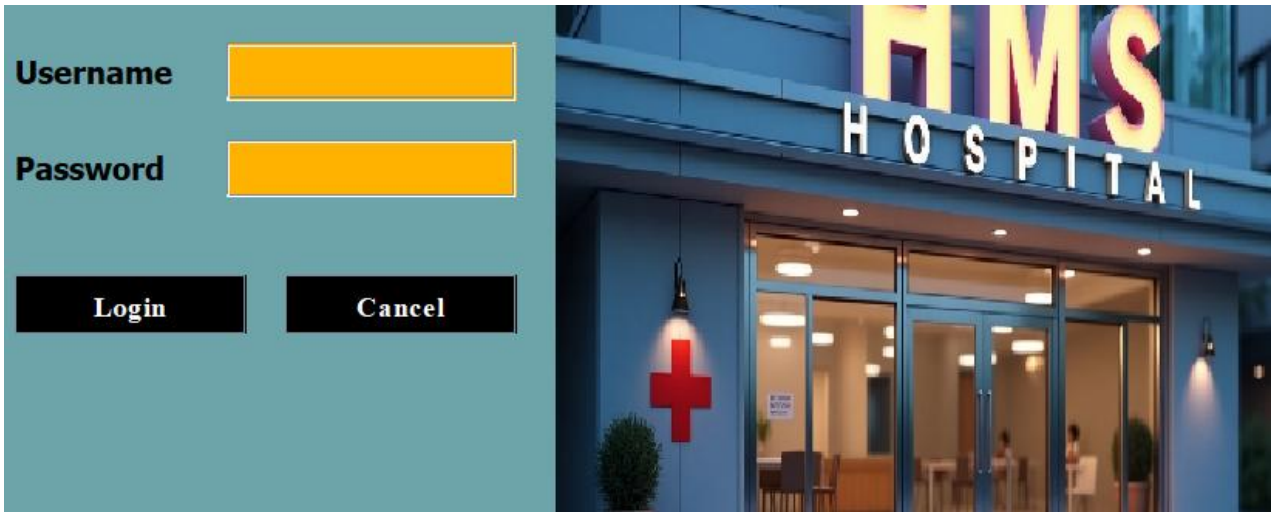
CODE:
LOGIN PAGE

```java
package hospital.management.system;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.ResultSet;

public class Login extends JFrame implements ActionListener {

    JTextField textField;
    JPasswordField jPasswordField;
    JButton b1,b2;

    Login(){

        JLabel namelabel = new JLabel("Username");
        namelabel.setBounds(40,20,100,30);
        namelabel.setFont(new Font("Tahoma",Font.BOLD,16));
        namelabel.setForeground(Color.BLACK);
        add(namelabel);

        JLabel password = new JLabel("Password");
        password.setBounds(40,70,100,30);
        password.setFont(new Font("Tahoma",Font.BOLD,16));
        password.setForeground(Color.BLACK);
        add(password);

        textField = new JTextField();
        textField.setBounds(150,20,150,30);
        textField.setFont(new Font("Tahoma",Font.PLAIN,15));
        textField.setBackground(new Color(255,179,0));
        add(textField);

        jPasswordField = new JPasswordField();
        jPasswordField.setBounds(150,70, 150,30);
        jPasswordField.setFont(new Font("Tahoma",Font.PLAIN,15));
        jPasswordField.setBackground(new Color(255,179,0));
        add(jPasswordField);

        ImageIcon imageIcon = new ImageIcon(ClassLoader.getSystemResource("icon/login.png"));
        Image i1 = imageIcon.getImage().getScaledInstance(370,320,Image.SCALE_DEFAULT);
        ImageIcon imageIcon1 = new ImageIcon(i1);
        JLabel label = new JLabel(imageIcon1);
        label.setBounds(320,-30,400,300);
        add(label);

        b1 = new JButt
```

```java
b1 = new JButton("Login");
        b1.setBounds(40,140,120,30);
        b1.setFont(new Font("serif",Font.BOLD,15));
        b1.setBackground(Color.BLACK);
        b1.setForeground(Color.white);
        b1.addActionListener(this);
        add(b1);


        b2 = new JButton("Cancel");
        b2.setBounds(180,140,120,30);
        b2.setFont(new Font("serif",Font.BOLD,15));
        b2.setBackground(Color.BLACK);
        b2.setForeground(Color.white);
        b2.addActionListener(this);
        add(b2);

        getContentPane().setBackground(new Color(109,164,170));
        setSize(750,300);
        setLocation(400,270);
        setLayout(null);
        setVisible(true);

    }
    @Override
    public void actionPerformed(ActionEvent e) {
        if (e.getSource() == b1){
            try{
                conn c = new conn();
                String user = textField.getText();
                String Pass = jPasswordField.getText();

                String q = "select * from login where ID = '"+user+"' and  PW = '"+Pass+"'";
                ResultSet resultSet = c.statement.executeQuery(q);

                if (resultSet.next()){
                    new Reception();
                    setVisible(false);
                }else {
                    JOptionPane.showMessageDialog(null,"Invalid");
                }

            }catch (Exception E){
                E.printStackTrace();
            }

        }else {
            System.exit(10);
        }

    }
```

```
1       public static void main(String[] args) {
2           new Login();
3       }
4
5
6   }
```

OUTPUT:



RECEPTION

```java
package hospital.management.system;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class Reception extends JFrame {

    Reception(){

        JPanel panel = new JPanel();
        panel.setLayout(null);
        panel.setBounds(5,160,1525,670);
        panel.setBackground(new Color(109,164,170));
        add(panel);

        JPanel panel1 = new JPanel();
        panel1.setLayout(null);
        panel1.setBounds(5,5,1525,150);
        panel1.setBackground(new Color(109,164,170));
        add(panel1);

        ImageIcon i1 = new ImageIcon(ClassLoader.getSystemResource("icon/dr.png"));
        Image image = i1.getImage().getScaledInstance(250,250,Image.SCALE_DEFAULT);
        ImageIcon i2 = new ImageIcon(image);
        JLabel label = new JLabel(i2);
        label.setBounds(1300,0,250,250);
        panel1.add(label);

        ImageIcon i11 = new ImageIcon(ClassLoader.getSystemResource("icon/amb.png"));
        Image image1 = i11.getImage().getScaledInstance(300,90,Image.SCALE_DEFAULT);
        ImageIcon i22 = new ImageIcon(image1);
        JLabel label1 = new JLabel(i22);
        label1.setBounds(1000,50,300,100);
        panel1.add(label1);

        JButton btn1 = new JButton("Add New Patient");
        btn1.setBounds(30,15,200,30);
        btn1.setBackground(new Color(246,215,118));
        panel1.add(btn1);
        btn1.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                new NEW_PATIENT();
            }
        });

        JButton btn2 = new JButton("Room");
        btn2.setBounds(30,58,200,30);
        btn2.setBackground(new Color(246,215,118));
        panel1.add(btn2);
        btn2.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                new Room();
            }
        });

        JButton btn3
```

```
JButton btn3 = new JButton("Department");
  btn3.setBounds(30,100,200,30);
  btn3.setBackground(new Color(246,215,118));
  panel1.add(btn3);
  btn3.addActionListener(new ActionListener() {
      @Override
      public void actionPerformed(ActionEvent e) {
          new Department();
      }
  });

  JButton btn4 = new JButton("All Employee Info");
  btn4.setBounds(270,15,200,30);
  btn4.setBackground(new Color(246,215,118));
  panel1.add(btn4);
  btn4.addActionListener(new ActionListener() {
      @Override
      public void actionPerformed(ActionEvent e) {
          new Employee_info();
      }
  });

  JButton btn5 = new JButton("Patient Info");
  btn5.setBounds(270,58,200,30);
  btn5.setBackground(new Color(246,215,118));
  panel1.add(btn5);
  btn5.addActionListener(new ActionListener() {
      @Override
      public void actionPerformed(ActionEvent e) {
          new ALL_Patient_Info();
      }
  });

  JButton btn6= new JButton("Patient Discharge");
  btn6.setBounds(270,100,200,30);
  btn6.setBackground(new Color(246,215,118));
  panel1.add(btn6);
  btn6.addActionListener(new ActionListener() {
      @Override
      public void actionPerformed(ActionEvent e) {
          new patient_discharge();
      }
  });

  JButton btn7= new JButton("Update Patient Details");
  btn7.setBounds(510,15,200,30);
  btn7.setBackground(new Color(246,215,118));
  panel1.add(btn7);
  btn7.addActionListener(new ActionListener() {
      @Override
      public void actionPerformed(ActionEvent e) {
          new update_patient_details();
      }
  });
```

```
        JButton btn8= new JButton("Hospital Ambulance");
         btn8.setBounds(510,58,200,30);
         btn8.setBackground(new Color(246,215,118));
         panel1.add(btn8);
         btn8.addActionListener(new ActionListener() {
             @Override
             public void actionPerformed(ActionEvent e) {
                 new Ambulance();
             }
         });

         JButton btn9= new JButton("Search Room");
         btn9.setBounds(510,100,200,30);
         btn9.setBackground(new Color(246,215,118));
         panel1.add(btn9);
         btn9.addActionListener(new ActionListener() {
             @Override
             public void actionPerformed(ActionEvent e) {
                 new SearchRoom();
             }
         });

         JButton btn10= new JButton("Logout");
         btn10.setBounds(750,15,200,30);
         btn10.setBackground(new Color(246,215,118));
         panel1.add(btn10);
         btn10.addActionListener(new ActionListener() {
             @Override
             public void actionPerformed(ActionEvent e) {
                 setVisible(false);
                 new Login();
             }
         });


         setSize(1950,1090);
         getContentPane().setBackground(Color.WHITE);
         setLayout(null);
         setVisible(true);
     }

     public static void main(String[] args) {
         new Reception();
     }
}

```

OUTPUT:


Add New Patient
All Employee Info
Update Patient Details
Logout
Room
Patient Info
Hospital Ambulance
Department
Patient Discharge
Search Room

ADD NEW PATIENT

CODE:

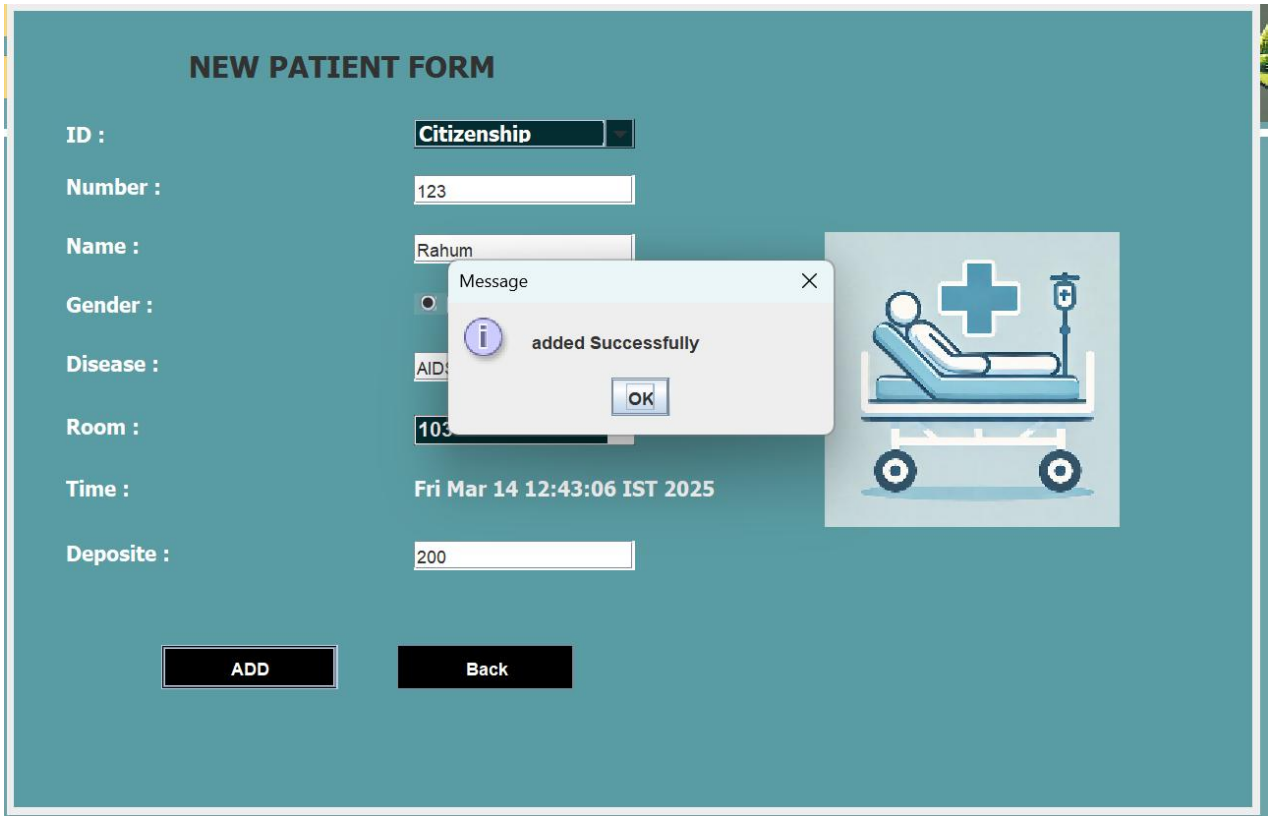
```java
package hospital.management.system;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.ResultSet;
import java.util.Date;

public class NEW_PATIENT extends JFrame implements ActionListener {
    JComboBox comboBox;
    JTextField textFieldNumber, textName, textFieldDisease, textFieldDeposite;
    JRadioButton r1, r2;
    Choice c1;
    JLabel date;
    JButton b1 ,b2;

    NEW_PATIENT(){

        JPanel panel = new JPanel();
        panel.setBounds(5,5,840,540);
        panel.setBackground(new Color(90, 156, 163));
        panel.setLayout(null);
        add(panel);

        ImageIcon imageIcon = new ImageIcon(ClassLoader.getSystemResource("icon/patient.png"));
        Image image = imageIcon.getImage().getScaledInstance(200,200,Image.SCALE_DEFAULT);
        ImageIcon imageIcon1 = new ImageIcon(image);
        JLabel label = new JLabel(imageIcon1);
        label.setBounds(550,150,200,200);
        panel.add(label);

        JLabel labelName = new JLabel("NEW PATIENT FORM");
        labelName.setBounds(118,11,260,53);
        labelName.setFont(new Font("Tahoma",Font.BOLD,20));
        panel.add(labelName);

        JLabel labelID = new JLabel("ID :");
        labelID.setBounds(35,76,200,14);
        labelID.setFont(new Font("Tahoma",Font.BOLD,14));
        labelID.setForeground(Color.white);
        panel.add(labelID);

        comboBox = new JComboBox(new String[] {"National ID","Citizenship","Aadhar Card","Voter Id","Passport","Driving License"});
        comboBox.setBounds(271,73,150,20);
        comboBox.setBackground(new Color(3,45,48));
        comboBox.setForeground(Color.white);
        comboBox.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(comboBox);

        JLabel labelNumber = new JLabel("Number :");
        labelNumber.setBounds(35,111,200,14);
        labelNumber.setFont(new Font("Tahoma",Font.BOLD,14));
        labelNumber.setForeground(Color.white);
        panel.add(labelNumber);

```

```
textFieldNumber = new JTextField();
  textFieldNumber.setBounds(271,111,150,20);
  panel.add(textFieldNumber);

  JLabel labelName1 = new JLabel("Name :");
  labelName1.setBounds(35,151,200,14);
  labelName1.setFont(new Font("Tahoma",Font.BOLD,14));
  labelName1.setForeground(Color.white);
  panel.add(labelName1);

  textName = new JTextField();
  textName.setBounds(271,151,150,20);
  panel.add(textName);

  JLabel labelGender = new JLabel("Gender :");
  labelGender.setBounds(35,191,200,14);
  labelGender.setFont(new Font("Tahoma",Font.BOLD,14));
  labelGender.setForeground(Color.white);
  panel.add(labelGender);

  r1 = new JRadioButton("Male");
  r1.setFont(new Font("Tahoma",Font.BOLD,14));
  r1.setForeground(Color.white);
  r1.setBackground(new Color(109, 164, 170));
  r1.setBounds(271,191,80,15);
  panel.add(r1);

  r2 = new JRadioButton("Female");
  r2.setFont(new Font("Tahoma",Font.BOLD,14));
  r2.setForeground(Color.white);
  r2.setBackground(new Color(109, 164, 170));
  r2.setBounds(350,191,80,15);
  panel.add(r2);

  JLabel labelDisease = new JLabel("Disease :");
  labelDisease.setBounds(35,231,200,14);
  labelDisease.setFont(new Font("Tahoma",Font.BOLD,14));
  labelDisease.setForeground(Color.white);
  panel.add(labelDisease);

  textFieldDisease = new JTextField();
  textFieldDisease.setBounds(271,231,150,20);
  panel.add(textFieldDisease);

  JLabel labelRoom = new JLabel("Room :");
  labelRoom.setBounds(35,274,200,14);
  labelRoom.setFont(new Font("Tahoma",Font.BOLD,14));
  labelRoom.set
```

```
    JLabel labelDate = new JLabel("Time :");
     labelDate.setBounds(35,316,200,14);
     labelDate.setFont(new Font("Tahoma",Font.BOLD,14));
     labelDate.setForeground(Color.white);
     panel.add(labelDate);

     Date date1 = new Date();

     date = new JLabel(""+date1);
     date.setBounds(271,316,250,14);
     date.setForeground(Color.white);
     date.setFont(new Font("Tahoma",Font.BOLD,14));
     panel.add(date);

     JLabel labelDeposite = new JLabel("Deposite :");
     labelDeposite.setBounds(35,359,200,17);
     labelDeposite.setFont(new Font("Tahoma",Font.BOLD,14));
     labelDeposite.setForeground(Color.white);
     panel.add(labelDeposite);

     textFieldDeposite = new JTextField();
     textFieldDeposite.setBounds(271,359,150,20);
     panel.add(textFieldDeposite);

     b1 = new JButton("ADD");
     b1.setBounds(100,430,120,30);
     b1.setForeground(Color.WHITE);
     b1.setBackground(Color.black);
     b1.addActionListener(this);
     panel.add(b1);

     b2 = new JButton("Back");
     b2.setBounds(260,430,120,30);
     b2.setForeground(Color.WHITE);
     b2.setBackground(Color.black);
     b2.addActionListener(this);
     panel.add(b2);

     setUndecorated(true);
     setSize(850,550);
     setLayout(null);
     setLocation(210,100);
     setVisible(true);

}

@Override
public void actionPerformed(ActionEvent e) {
    if (e.getSource() == b1){
        conn c = new conn();
        String radioBTN = null;
        if (r1.isSelected()){
            radioBTN = "Male";
        }else if (r2.isSelected()){
            radioBTN = "Female";
        }
        String s1 = (String)comboBox.getSelectedItem();
        String s2 =  textFieldNumber.getText();
        String s3 =  textName.getText();
        String s4 =  radioBTN;
        String s5 =  textFieldDisease.getText();
        String s6 =  c1.getSelectedItem();
        String s7 =  date.getText();
        String s8 = textFieldDeposite.getText();

        try {
```

```
            try {

                String q ="insert into Patient_Info2 values ('"+s1+"', '"+s2+"','"+s3+"','"+s4+"', '"+s5+"', '"+s6+"', '"+s7+"', '"+s8+"')";
                String q1 = "update room set Availability = 'Occupied' where room_no = "+s6;
                c.statement.executeUpdate(q);
                c.statement.executeUpdate(q1);
                JOptionPane.showMessageDialog(null, "added Successfully");
                setVisible(false);

            }catch (Exception E) {
                E.printStackTrace();
            }
        }else {
            setVisible(false);
        }


    }

    public static void main(String[] args) {
        new NEW_PATIENT();
    }


}

```

OUTPUT:



ROOM

CODE:

```java
package hospital.management.system;

import net.proteanit.sql.DbUtils; // Required for resultSetToTableModel()

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.ResultSet;

public class Room extends JFrame {

    JTable table;

    Room(){

        JPanel panel = new JPanel();
        panel.setBounds(5,5,890,590);
        panel.setBackground(new Color(90, 156, 163));
        panel.setLayout(null);
        add(panel);

        ImageIcon imageIcon = new ImageIcon(ClassLoader.getSystemResource("icon/room.png"));
        Image image = imageIcon.getImage().getScaledInstance(200,200,Image.SCALE_DEFAULT);
        ImageIcon imageIcon1 = new ImageIcon(image);
        JLabel label = new JLabel(imageIcon1);
        label.setBounds(600,200,200,200);
        panel.add(label);

        table = new JTable();
        table.setBounds(10,40,500,400);
        table.setBackground(new Color(90, 156, 163));
        panel.add(table);

        try{

            conn c = new conn();
            String q = "select * from room";
            ResultSet resultSet = c.statement.executeQuery(q);
            table.setModel(DbUtils.resultSetToTableModel(resultSet));
        }catch (Exception e){
            e.printStackTrace();
        }

        JLabel label1 = new JLabel("Room No");
        label1.setBounds(12,15,80,15);
        label1.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label1);

```

```
        JLabel label2 = new JLabel("Availability");
        label2.setBounds(140,15,80,15);
        label2.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label2);

        JLabel label3 = new JLabel("Price");
        label3.setBounds(290,15,80,15);
        label3.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label3);

        JLabel label4 = new JLabel("Bed Type");
        label4.setBounds(400,15,80,15);
        label4.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label4);

        JButton back = new JButton("Back");
        back.setBounds(200,500,120,30);
        back.setBackground(Color.BLACK);
        back.setForeground(Color.white);
        panel.add(back);
        back.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                setVisible(false);
            }
        });


        setUndecorated(true);
        setSize(900,600);
        setLayout(null);
        setLocation(210,100);
        setVisible(true);
    }
    public static void main(String[] args) {
        new Room();
    }
}

```

OUTPUT:

Room No	Availability	Price	Bed Type
100	Available	500	G Bed 1
101	Availabil	500	G Bed 2
102	Available	500	G Bed 3
103	Occupied	500	G Bed 4
200	Available	1500	Private Room
201	Availabil	1500	Private Room
202	Availabil	1500	Private Room
203	Availabil	1500	Private Room
300	Available	3500	ICU Bed 1
301	Availabil	3500	ICU Bed 2
302	Occupied	3500	ICU Bed 3
303	Available	3500	ICU Bed 4
304	Availabil	3500	ICU Bed 5
305	Availabil	3500	ICU Bed 6

Back

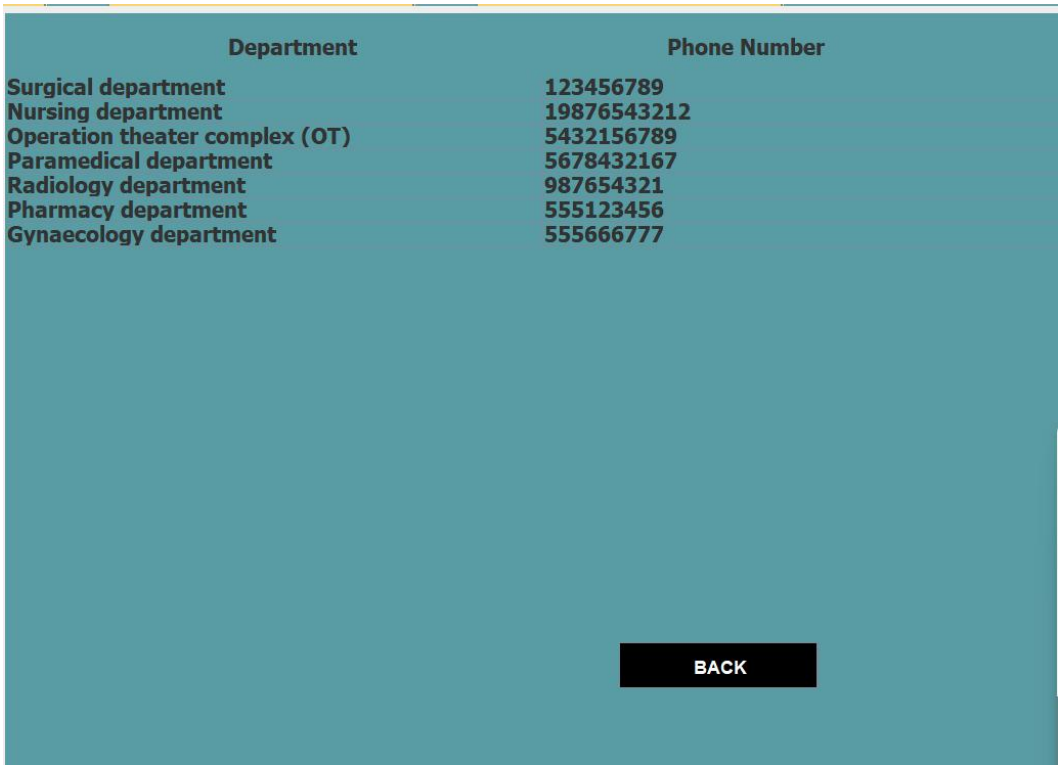
DEPARTMENT

CODE:

```java
package hospital.management.system;

import net.proteanit.sql.DbUtils;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.ResultSet;

public class Department extends JFrame {
    Department(){

        JPanel panel = new JPanel();
        panel.setBounds(5,5,690,490);
        panel.setLayout(null);
        panel.setBackground(new Color(90, 156, 163));
        add(panel);

        JTable table = new JTable();
        table.setBounds(0,40,700,350);
        table.setBackground(new Color(90, 156, 163));
        table.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(table);

        try{
            conn c = new conn();
            String q = "select * FROM department";
            ResultSet resultSet = c.statement.executeQuery(q);
            table.setModel(DbUtils.resultSetToTableModel(resultSet));
        }catch (Exception e){
            e.printStackTrace();
        }

        JLabel label1 = new JLabel("Department");
        label1.setBounds(145,11,105,20);
        label1.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label1);

        JLabel label2 = new JLabel("Phone Number");
        label2.setBounds(431,11,150,20);
        label2.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label2);

        JButton b1 = new JButton("BACK");
        b1.setBounds(400,410,130,30);
        b1.setBackground(Color.black);
        b1.setForeground(Color.white);
        panel.add(b1);
        b1.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                setVisible(false);
            }
        });
```

```
        setUndecorated(true);
        setSize(700,500);
        setLayout(null);
        setLocation(210,100);
        setVisible(true);

    }

    public static void main(String[] args) {
         new Department();
    }
}

```

OUTPUT:



ALL EMPLOYEE INFO:

CODE:

```java
package hospital.management.system;

import net.proteanit.sql.DbUtils;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.ResultSet;

public class Employee_info extends JFrame {
    Employee_info(){
        JPanel panel = new JPanel();
        panel.setBounds(5,5,990,590);
        panel.setBackground(new Color(109, 164, 170));
        panel.setLayout(null);
        add(panel);

        JTable table = new JTable();
        table.setBounds(10,34,980,450);
        table.setBackground(new Color(109, 164, 170));
        table.setFont(new Font("Tahoma",Font.BOLD,12));
        panel.add(table);

        try{
            conn c = new conn();
            String q = "select * from EMP_INFO";
            ResultSet resultSet = c.statement.executeQuery(q);
            table.setModel(DbUtils.resultSetToTableModel(resultSet));
        }catch (Exception e){
            e.printStackTrace();
        }

        JLabel label1 = new JLabel("Name");
        label1.setBounds(41,9,70,20);
        label1.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label1);

        JLabel label2 = new JLabel("Age");
        label2.setBounds(180,9,70,20);
        label2.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label2);

        JLabel label3 = new JLabel("Phone Number");
        label3.setBounds(350,9,150,20);
        label3.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label3);

        JLabel label4 = new JLabel("Salary");
        label4.setBounds(550,9,150,20);
        label4.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.
```

```
        JLabel label5 = new JLabel("Gmail");
           label5.setBounds(730,9,150,20);
           label5.setFont(new Font("Tahoma",Font.BOLD,14));
           panel.add(label5);

           JLabel label6 = new JLabel("Aadhar Number");
           label6.setBounds(830,9,150,20);
           label6.setFont(new Font("Tahoma",Font.BOLD,14));
           panel.add(label6);

           JButton button = new JButton("BACK");
           button.setBounds(350,500,120,30);
           button.setBackground(Color.BLACK);
           button.setForeground(Color.white);
           panel.add(button);
           button.addActionListener(new ActionListener() {
               @Override
               public void actionPerformed(ActionEvent e) {
                   setVisible(false);
               }
           });

           setUndecorated(true);
           setSize(1000,600);
           setLocation(210,100);
           setLayout(null);
           setVisible(true);

       }
       public static void main(String[] args) {
           new Employee_info();
       }
   }

```

OUTPUT:

Name	Age	Phone Number	Salary	Gmail	Aadhar Number
Doctors	30	123456789	50000	gr@gmail.com	123456789101
Doctors	30	123456789	50000	mg@gmail.com	123456789101
Nurses	25	987654321	35000	nurse@gmail.com	987654321012
Lab Tech	28	555123456	40000	lab@gmail.com	555123456789
Receptionist	22	112233445	25000	reception@gmail.com	112233445566
Surgeon	35	444555666	70000	surgeon@gmail.com	444555666777
Pharmacist	27	777888999	38000	pharma@gmail.com	777888999000
Worker 1	25	123123123	28000	worker1@gmail.com	123123123456
Worker 2	30	456456456	32000	worker2@gmail.com	456456456789
Worker 3	28	789789789	26000	worker3@gmail.com	789789789012
Worker 4	22	111222333	24000	worker4@gmail.com	111222333444
Worker 5	35	444333222	30000	worker5@gmail.com	444333222111

BACK

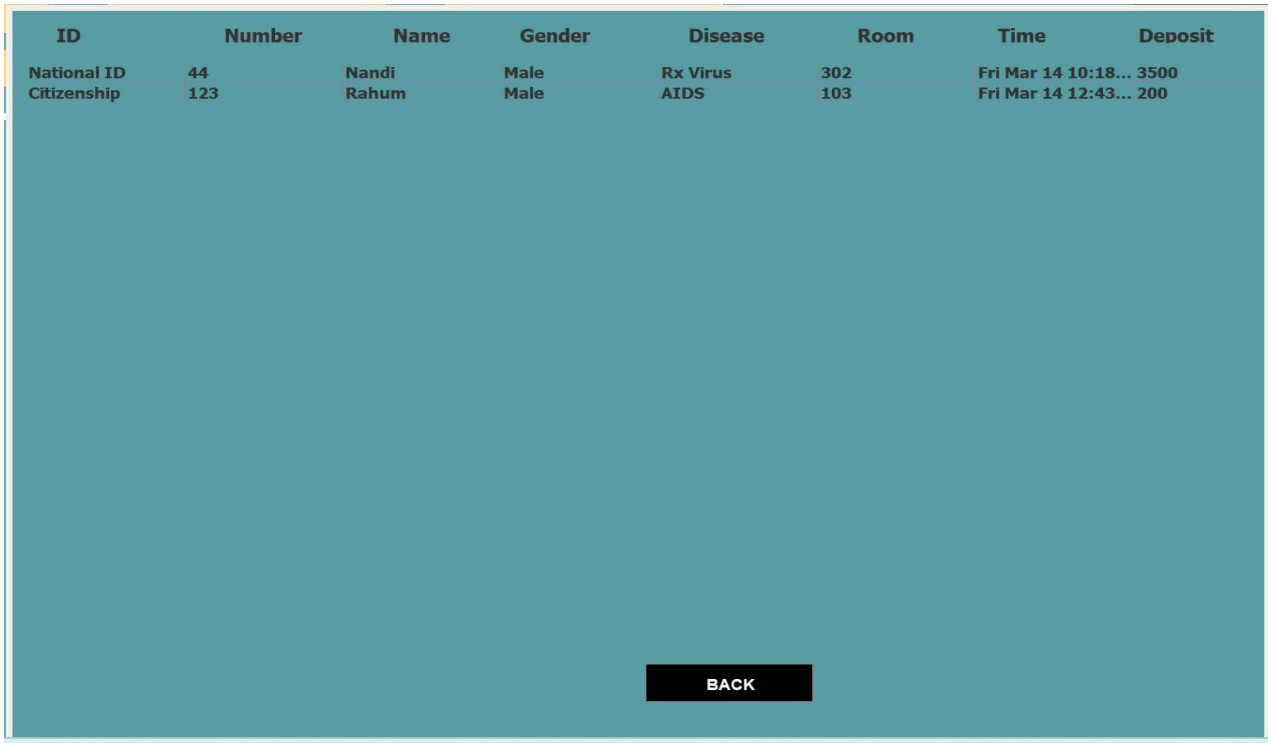
PATIENT INFO

CODE:

```java
package hospital.management.system;

import net.proteanit.sql.DbUtils;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.ResultSet;

public class ALL_Patient_Info extends JFrame {
    ALL_Patient_Info(){
        JPanel panel = new JPanel();
        panel.setBounds(5,5,890,590);
        panel.setBackground(new Color(90, 156, 163));
        panel.setLayout(null);
        add(panel);

        JTable table = new JTable();
        table.setBounds(10,40,900,450);
        table.setBackground(new Color(90, 156, 163));
        table.setFont(new Font("Tahoma",Font.BOLD,12));
        panel.add(table);

        try{
            conn c = new conn();
            String q = "select * from Patient_Info2";
            ResultSet resultSet = c.statement.executeQuery(q);
            table.setModel(DbUtils.resultSetToTableModel(resultSet));

        }catch (Exception e){
            e.printStackTrace();
        }

        JLabel label1 = new JLabel("ID");
        label1.setBounds(31,11,100,14);
        label1.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label1);

        JLabel label2 = new JLabel("Number");
        label2.setBounds(150,11,100,14);
        label2.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label2);

        JLabel label3 = new JLabel("Name");
        label3.setBounds(270,11,100,14);
        label3.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label3);

```

```
        JLabel label4 = new JLabel("Gender");
         label4.setBounds(360,11,100,14);
         label4.setFont(new Font("Tahoma",Font.BOLD,14));
         panel.add(label4);

         JLabel label5 = new JLabel("Disease");
         label5.setBounds(480,11,100,14);
         label5.setFont(new Font("Tahoma",Font.BOLD,14));
         panel.add(label5);

         JLabel label6 = new JLabel("Room");
         label6.setBounds(600,11,100,14);
         label6.setFont(new Font("Tahoma",Font.BOLD,14));
         panel.add(label6);

         JLabel label7 = new JLabel("Time");
         label7.setBounds(700,11,100,14);
         label7.setFont(new Font("Tahoma",Font.BOLD,14));
         panel.add(label7);

         JLabel label8 = new JLabel("Deposit");
         label8.setBounds(800,11,100,14);
         label8.setFont(new Font("Tahoma",Font.BOLD,14));
         panel.add(label8);

         JButton button = new JButton("BACK");
         button.setBounds(450,510,120,30);
         button.setBackground(Color.black);
         button.setForeground(Color.white);
         panel.add(button);
         button.addActionListener(new ActionListener() {
             @Override
             public void actionPerformed(ActionEvent e) {
                 setVisible(false);
             }
         });

         setUndecorated(true);
         setSize(900,600);
         setLayout(null);
         setLocation(210,100);
         setVisible(true);

     }
     public static void main(String[] args) {
         new ALL_Patient_Info();
     }
}

```

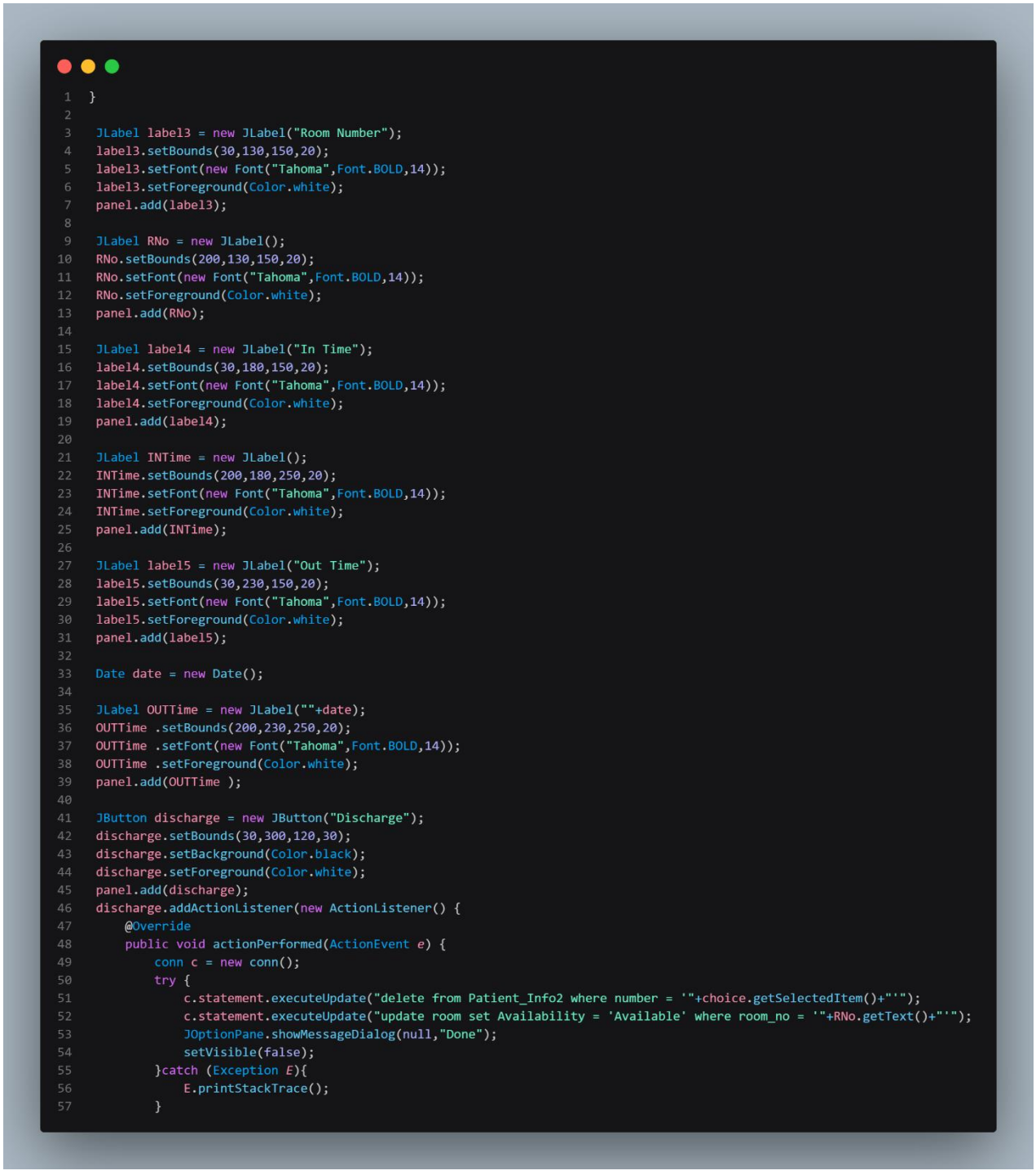
OUTPUT:


ID
Number
Name
Gender
Disease
Room
Time
Deposit
National ID 44 Nandi Male Rx Virus 302 Fri Mar 14 10:18... 3500
Citizenship 123 Rahum Male AIDS 103 Fri Mar 14 12:43... 200
BACK

PATIENTS DISCHARGE

CODE:

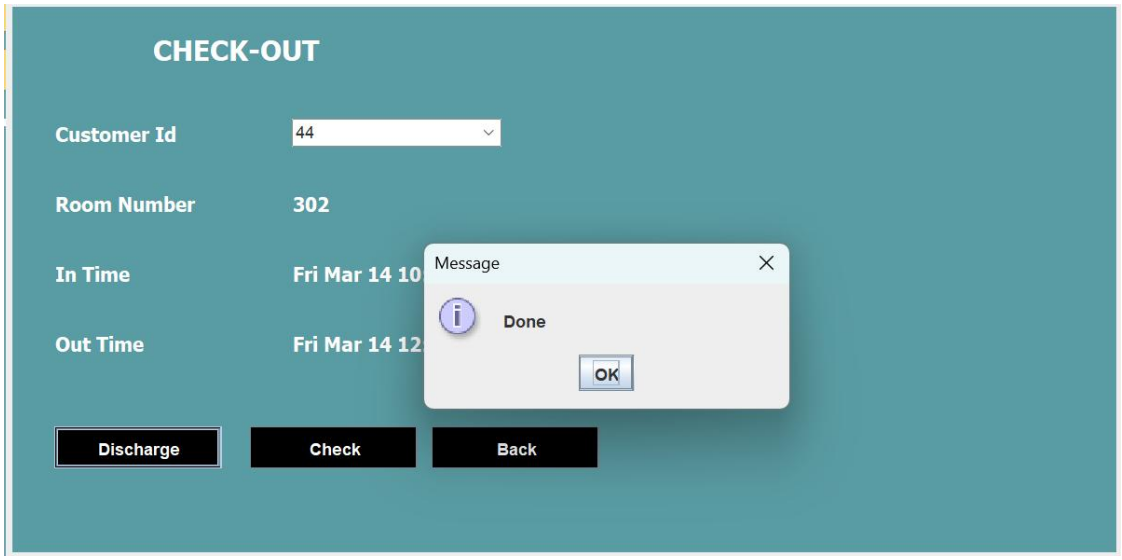
```java
package hospital.management.system;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.ResultSet;
import java.util.Date;

public class patient_discharge extends JFrame {
    patient_discharge(){

        JPanel panel = new JPanel();
        panel.setBounds(5,5,790,390);
        panel.setBackground(new Color(90, 156, 163));
        panel.setLayout(null);
        add(panel);

        JLabel label = new JLabel("CHECK-OUT");
        label.setBounds(100,20,150,20);
        label.setFont(new Font("Tahoma",Font.BOLD,20));
        label.setForeground(Color.white);
        panel.add(label);

        JLabel label2 = new JLabel("Customer Id");
        label2.setBounds(30,80,150,20);
        label2.setFont(new Font("Tahoma",Font.BOLD,14));
        label2.setForeground(Color.white);
        panel.add(label2);

        Choice choice = new Choice();
        choice.setBounds(200,80,150,25);
        panel.add(choice);

        try{
            conn c = new conn();
            ResultSet resultSet = c.statement.executeQuery("select * from Patient_Info2");
            while (resultSet.next()){
                choice.add(resultSet.getString("number"));
            }

        }catch (Exception e){
            e.printStackTrace();
        }
```



```
}

JLabel label3 = new JLabel("Room Number");
label3.setBounds(30,130,150,20);
label3.setFont(new Font("Tahoma",Font.BOLD,14));
label3.setForeground(Color.white);
panel.add(label3);

JLabel RNo = new JLabel();
RNo.setBounds(200,130,150,20);
RNo.setFont(new Font("Tahoma",Font.BOLD,14));
RNo.setForeground(Color.white);
panel.add(RNo);

JLabel label4 = new JLabel("In Time");
label4.setBounds(30,180,150,20);
label4.setFont(new Font("Tahoma",Font.BOLD,14));
label4.setForeground(Color.white);
panel.add(label4);

JLabel INTime = new JLabel();
INTime.setBounds(200,180,250,20);
INTime.setFont(new Font("Tahoma",Font.BOLD,14));
INTime.setForeground(Color.white);
panel.add(INTime);

JLabel label5 = new JLabel("Out Time");
label5.setBounds(30,230,150,20);
label5.setFont(new Font("Tahoma",Font.BOLD,14));
label5.setForeground(Color.white);
panel.add(label5);

Date date = new Date();

JLabel OUTTime = new JLabel(""+date);
OUTTime .setBounds(200,230,250,20);
OUTTime .setFont(new Font("Tahoma",Font.BOLD,14));
OUTTime .setForeground(Color.white);
panel.add(OUTTime );

JButton discharge = new JButton("Discharge");
discharge.setBounds(30,300,120,30);
discharge.setBackground(Color.black);
discharge.setForeground(Color.white);
panel.add(discharge);
discharge.addActionListener(new ActionListener() {
    @Override
    public void actionPerformed(ActionEvent e) {
        conn c = new conn();
        try {
            c.statement.executeUpdate("delete from Patient_Info2 where number = '"+choice.getSelectedItem()+"'");
            c.statement.executeUpdate("update room set Availability = 'Available' where room_no = '"+RNo.getText()+"'");
            JOptionPane.showMessageDialog(null,"Done");
            setVisible(false);
        }catch (Exception E){
            E.printStackTrace();
        }
```

```
            }
        });

        JButton Check = new JButton("Check");
        Check.setBounds(170,300,120,30);
        Check.setBackground(Color.black);
        Check.setForeground(Color.white);
        panel.add(Check);
        Check.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                conn c = new conn();
                try{
                   ResultSet resultSet = c.statement.executeQuery("select * from Patient_Info2 where number = '"+choice.getSelectedItem()+"'");
                   while (resultSet.next()){
                       RNo.setText(resultSet.getString("Room_Number"));
                       INTime.setText(resultSet.getString("Time"));
                   }
                }catch (Exception E){
                    E.printStackTrace();
                }
            }
        });

        JButton Back = new JButton("Back");
        Back.setBounds(300,300,120,30);
        Back.setBackground(Color.black);
        Back.setForeground(Color.white);
        panel.add(Back);
        Back.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                setVisible(false);
            }
        });


        setUndecorated(true);
        setSize(800,400);
        setLayout(null);
        setLocation(210,100);
        setVisible(true);

    }
    public static void main(String[] args) {
        new patient_discharge();
    }
}

```

OUTPUT:



UPDATE PATIENT DETAIL

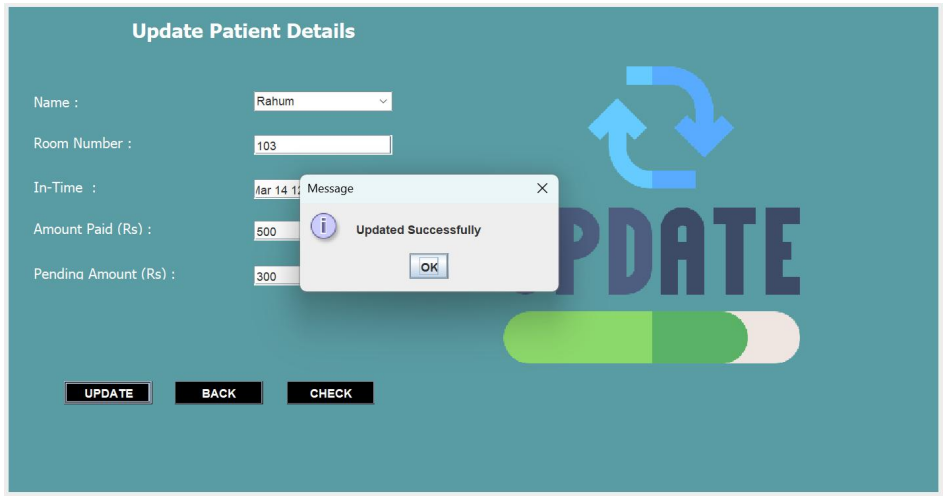
CODE:

```java
package hospital.management.system;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.ResultSet;

public class update_patient_details extends JFrame {

    update_patient_details(){

        JPanel panel = new JPanel();
        panel.setBounds(5,5,940,490);
        panel.setBackground(new Color(90, 156, 163));
        panel.setLayout(null);
        add(panel);

        ImageIcon imageIcon = new ImageIcon(ClassLoader.getSystemResource("icon/updated.png"));
        Image image = imageIcon.getImage().getScaledInstance(300,300,Image.SCALE_DEFAULT);
        ImageIcon imageIcon1 = new ImageIcon(image);
        JLabel label = new JLabel(imageIcon1);
        label.setBounds(500,60,300,300);
        panel.add(label);

        JLabel label1 = new JLabel("Update Patient Details");
        label1.setBounds(124,11,260,25);
        label1.setFont(new Font("Tahoma",Font.BOLD,20));
        label1.setForeground(Color.white);
        panel.add(label1);


        JLabel label2 = new JLabel("Name :");
        label2.setBounds(25,88,100,14);
        label2.setFont(new Font("Tahoma",Font.PLAIN,14));
        label2.setForeground(Color.white);
        panel.add(label2);

        Choice choice = new Choice();
        choice.setBounds(248,85,140,25);
        panel.add(choice);

        try {
            conn c= new conn();
            ResultSet resultSet = c.statement.executeQuery("select * from Patient_Info2");
            while (resultSet.next()){
                choice.add(resultSet.getString("Name"));
            }
```

```
        }catch (Exception e){
            e.printStackTrace();
         }

         JLabel label3 = new JLabel("Room Number :");
         label3.setBounds(25,129,100,14);
         label3.setFont(new Font("Tahoma",Font.PLAIN,14));
         label3.setForeground(Color.white);
         panel.add(label3);

         JTextField textFieldR = new JTextField();
         textFieldR.setBounds(248,129,140,20);
         panel.add(textFieldR);

         JLabel label4 = new JLabel("In-Time  :");
         label4.setBounds(25,174,100,14);
         label4.setFont(new Font("Tahoma",Font.PLAIN,14));
         label4.setForeground(Color.white);
         panel.add(label4);

         JTextField textFieldINTIme = new JTextField();
         textFieldINTIme.setBounds(248,174,140,20);
         panel.add(textFieldINTIme);

         JLabel label5 = new JLabel("Amount Paid (Rs) :");
         label5.setBounds(25,216,150,14);
         label5.setFont(new Font("Tahoma",Font.PLAIN,14));
         label5.setForeground(Color.white);
         panel.add(label5);

         JTextField textFieldAmount = new JTextField();
         textFieldAmount.setBounds(248,216,140,20);
         panel.add(textFieldAmount);

         JLabel label6 = new JLabel("Pending Amount (Rs) :");
         label6.setBounds(25,261,150,14);
         label6.setFont(new Font("Tahoma",Font.PLAIN,14));
         label6.setForeground(Color.white);
         panel.add(label6);

         JTextField textFieldPending = new JTextField();
         textFieldPending.setBounds(248,261,140,20);
         panel.add(textFieldPending);

         JButton check = new JButton("CHECK");
         check.setBounds(281,378,89,23);
         check.setBackground(Color.black);
         check.setForeground(Color.white);
         panel.add(check);
         check.addActionListener(new ActionListener() {
             @Override
             public void actionPerformed(ActionEvent e) {
                 String id = choice.getSelectedItem();
                 String q = "select * from Patient_Info2 where Name = '"+id+"'";
                 try{
                     conn c = new conn();
                     ResultSet resultSet = c.statement.executeQuery(q);
                     while (resultSet.next()){
                         textFieldR.setText(resultSet.getString("Room_Number"));
                         textFieldINTIme.setText(resultSet.getString("Time"));
                         textFieldAmount.setText(resultSet.getString("Deposite"));
                     }

                     ResultSet resultSet1 = c.statement.executeQuery("select* from room where room_no = '"+textFieldR.getText()+"'");

```

```
                while (resultSet1.next()){
                    String price = resultSet1.getString("Price");
                    int amountPaid = Integer.parseInt(price) - Integer.parseInt(textFieldAmount.getText());
                    textFieldPending.setText(""+amountPaid);
                }

            }catch (Exception E){
                E.printStackTrace();
            }
        }
    });

    JButton update = new JButton("UPDATE");
    update.setBounds(56,378,89,23);
    update.setBackground(Color.black);
    update.setForeground(Color.white);
    panel.add(update);
    update.addActionListener(new ActionListener() {
        @Override
        public void actionPerformed(ActionEvent e) {
            try {
                conn c = new conn();
                String q = choice.getSelectedItem();
                String room = textFieldR.getText();
                String time = textFieldINTIme.getText();
                String amount = textFieldAmount.getText();
                c.statement.executeUpdate("update Patient_Info2 set Room_Number = '"+room+"', Time = '"+time+"', Deposite = '"+amount+"' where name = '"+q+"'" );
                JOptionPane.showMessageDialog(null,"Updated Successfully");
                setVisible(false);
            }catch (Exception E){
                E.printStackTrace();
            }
        }
    });

    JButton back = new JButton("BACK");
    back.setBounds(168,378,89,23);
    back.setBackground(Color.black);
    back.setForeground(Color.white);
    panel.add(back);
    back.addActionListener(new ActionListener() {
        @Override
        public void actionPerformed(ActionEvent e) {
            setVisible(false);
        }
    });

    setUndecorated(true);
    setSize(950,500);
    setLayout(null);
    setLocation(210,100);
    setVisible(true);

}
public static void main(String[] args) {
    new update_patient_details();
}
}
```

OUTPUT:



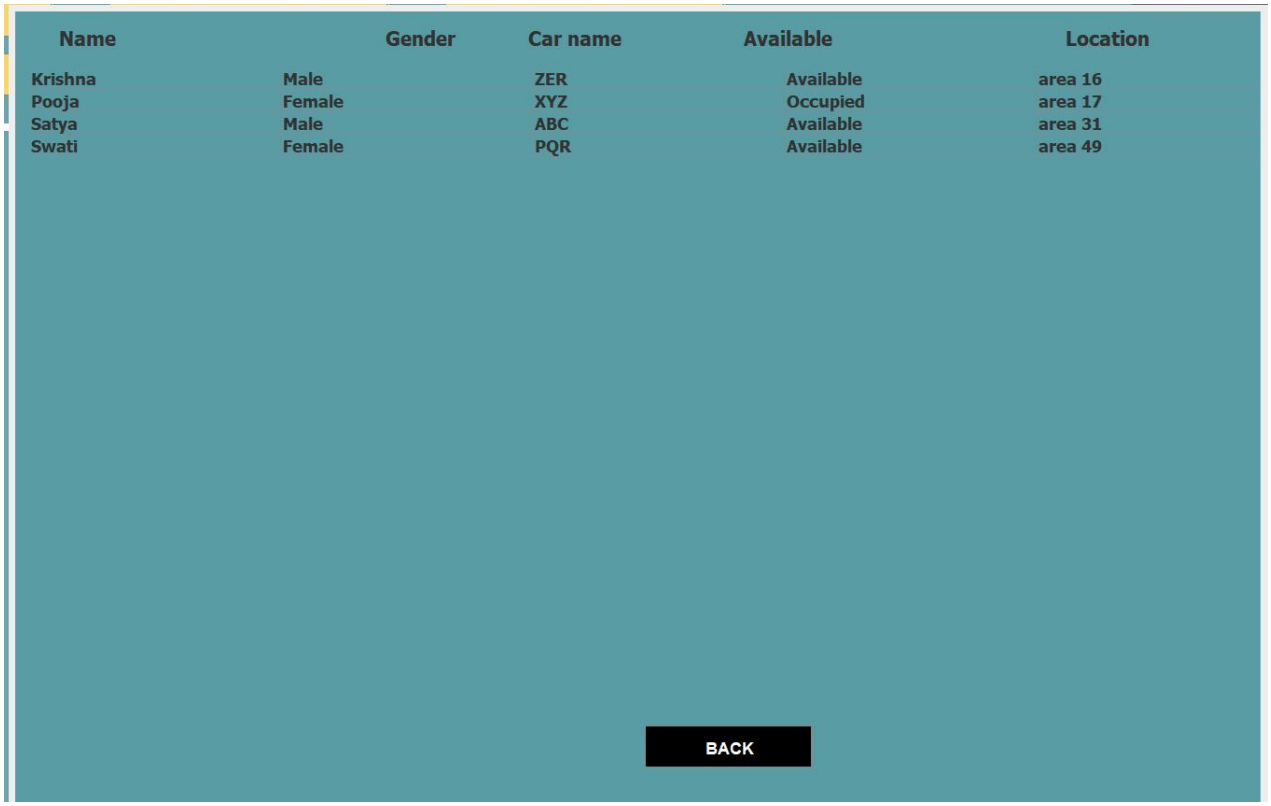
AMBULANCE SERVICE

CODE:

```java
package hospital.management.system;

import net.proteanit.sql.DbUtils;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.ResultSet;

public class Ambulance extends JFrame{
    Ambulance(){
        JPanel panel = new JPanel();
        panel.setBounds(5,5,890,590);
        panel.setBackground(new Color(90, 156, 163));
        panel.setLayout(null);
        add(panel);

        JTable table = new JTable();
        table.setBounds(10,40,900,450);
        table.setBackground(new Color(90, 156, 163));
        table.setFont(new Font("Tahoma",Font.BOLD,12));
        panel.add(table);

        try{
            conn c = new conn();
            String q = "select * from Ambulance";
            ResultSet resultSet = c.statement.executeQuery(q);
            table.setModel(DbUtils.resultSetToTableModel(resultSet));

        }catch (Exception e){
            e.printStackTrace();
        }

        JLabel label1 = new JLabel("Name");
        label1.setBounds(31,11,100,14);
        label1.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label1);

        JLabel label2 = new JLabel("Gender");
        label2.setBounds(264,11,100,14);
        label2.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label2);

        JLabel label3 = new JLabel("Car name");
        label3.setBounds(366,11,100,14);
        label3.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label3);
```

```
        JLabel label4 = new JLabel("Available");
        label4.setBounds(520,11,100,14);
        label4.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label4);

        JLabel label5 = new JLabel("Location");
        label5.setBounds(750,11,100,14);
        label5.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label5);


        JButton button = new JButton("BACK");
        button.setBounds(450,510,120,30);
        button.setBackground(Color.black);
        button.setForeground(Color.white);
        panel.add(button);
        button.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                setVisible(false);
            }
        });

        setUndecorated(true);
        setSize(900,600);
        setLayout(null);
        setLocation(210,100);
        setVisible(true);
    }
    public static void main(String[] args) {
        new Ambulance();
    }
}

```

OUTPUT:


Name
Gender
Car name
Available
Location
Krishna
Male
ZER
Available
area 16
Pooja
Female
XYZ
Occupied
area 17
Satya
Male
ABC
Available
area 31
Swati
Female
PQR
Available
area 49
BACK

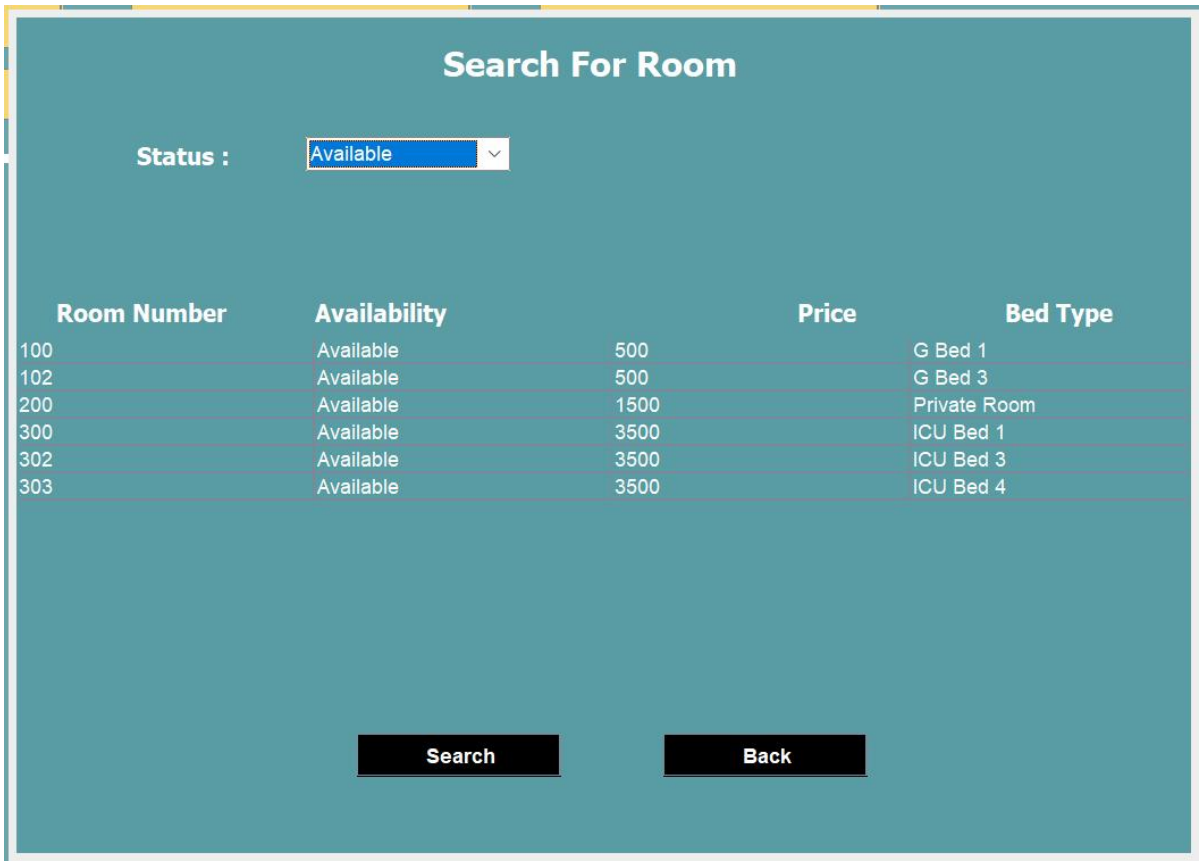
SEARCH ROOM

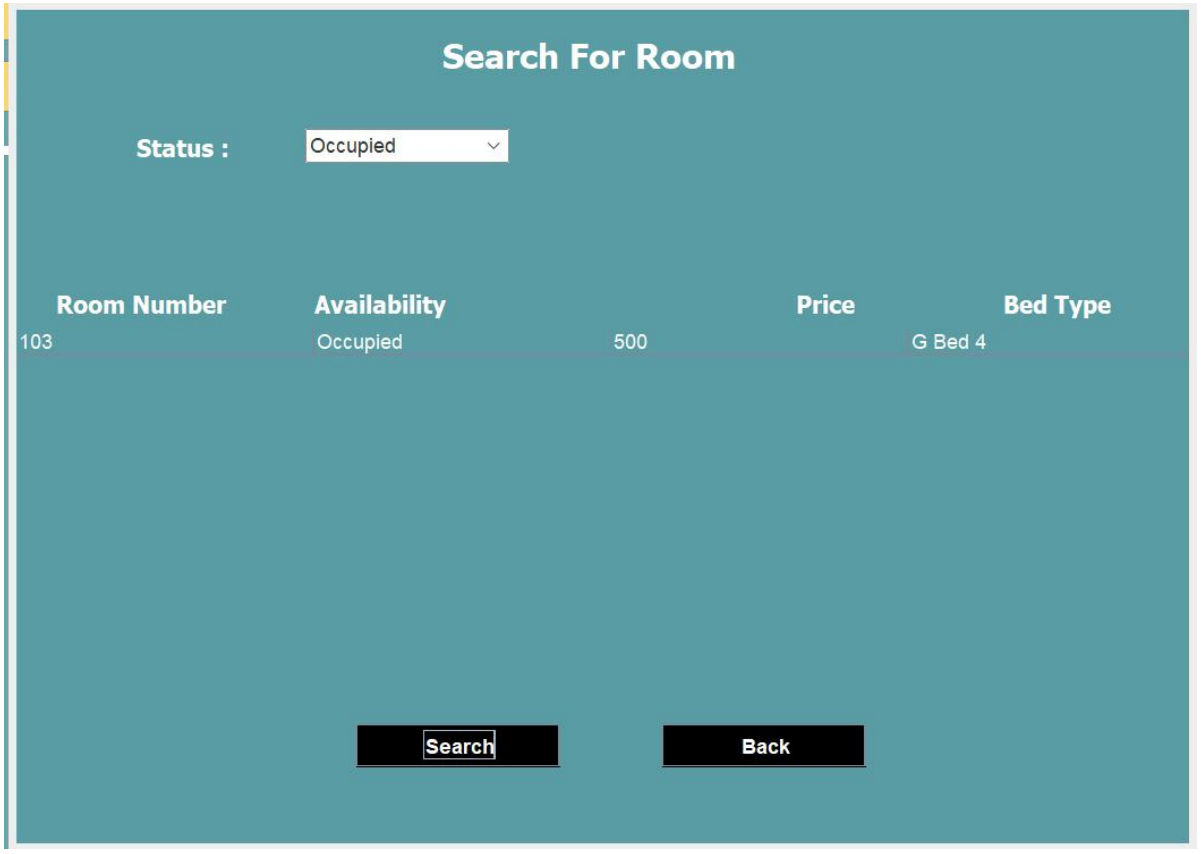
CODE:

```java
package hospital.management.system;

import net.proteanit.sql.DbUtils;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.ResultSet;

public class SearchRoom extends JFrame {

    Choice choice;
    JTable table;
    SearchRoom(){
        JPanel panel = new JPanel();
        panel.setBounds(5,5,690,490);
        panel.setBackground(new Color(90, 156, 163));
        panel.setLayout(null);
        add(panel);

        JLabel For = new JLabel("Search For Room");
        For.setBounds(250,11,186,31);
        For.setForeground(Color.white);
        For.setFont(new Font("Tahoma",Font.BOLD,20));
        panel.add(For);

        JLabel status = new JLabel("Status :");
        status.setBounds(70,70,80,20);
        status.setForeground(Color.white);
        status.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(status);

        choice =new Choice();
        choice.setBounds(170,70,120,20);
        choice.add("Available");
        choice.add("Occupied");
        panel.add(choice);

        table = new JTable();
        table.setBounds(0,187,700,210);
        table.setBackground(new Color(90, 156, 163));
        table.setForeground(Color.white);
        panel.add(table);

        try {
            conn c = new conn();
            String q = "select * from room";
            ResultSet resultSet = c.statement.executeQuery(q);
            table.setModel(DbUtils.resultSetToTableModel(resultSet));

        }catch (Exception e){
            e.printStackTrace();
        }
```

```
        JLabel Roomno = new JLabel("Room Number");
        Roomno.setBounds(23,162,150,20);
        Roomno.setForeground(Color.white);
        Roomno.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(Roomno);

        JLabel available = new JLabel("Availability");
        available.setBounds(175,162,150,20);
        available.setForeground(Color.white);
        available.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(available);

        JLabel price = new JLabel("Price");
        price.setBounds(458,162,150,20);
        price.setForeground(Color.white);
        price.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(price);

        JLabel Bed = new JLabel("Bed Type");
        Bed.setBounds(580,162,150,20);
        Bed.setForeground(Color.white);
        Bed.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(Bed);

        JButton Search = new JButton("Search");
        Search.setBounds(200,420,120,25);
        Search.setBackground(Color.black);
        Search.setForeground(Color.white);
        panel.add(Search);
        Search.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                String q = "select * from Room where Availability = '"+choice.getSelectedItem()+"'";
                try {
                    conn c = new conn();
                    ResultSet resultSet = c.statement.executeQuery(q);
                    table.setModel(DbUtils.resultSetToTableModel(resultSet));
                }catch (Exception E){
                    E.printStackTrace();
                }
            }
        });

        JButton Back = new JButton("Back");
        Back.setBounds(380,420,120,25);
        Back.setBackground(Color.black);
        Back.setForeground(Color.white);
        panel.add(Back);
        Back.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                setVisible(false);
            }
        });


        setUndecorated(true);
        setSize(700,500);
        setLayout(null);
        setLocation(210,100);
        setVisible(true);
    }
    public static void main(String[] args) {
        new SearchRoom();
    }
}

```

OUTPUT:


Search For Room
Status :
Available
Room Number
Availability
Price
Bed Type
100 Available 500 G Bed 1
102 Available 500 G Bed 3
200 Available 1500 Private Room
300 Available 3500 ICU Bed 1
302 Available 3500 ICU Bed 3
303 Available 3500 ICU Bed 4
Search
Back


Search For Room
Status :
Occupied
Room Number
Availability
Price
Bed Type
103 Occupied 500 G Bed 4
Search
Back

ADVANTAGES

1. **Improves Workflow Efficiency** – Automates hospital operations, streamlining processes and enhancing coordination among departments.
2. **Reduces Paperwork and Errors** – Minimizes manual record-keeping, reducing human errors in patient data management.
3. **Provides Secure Access to Patient Data** – Ensures that only authorized personnel can access sensitive medical records, enhancing data security.
4. **Enhances Record-Keeping and Retrieval Speed** – Allows quick and organized access to patient history and hospital records.
5. **Supports Multiple Users and Roles** – Enables doctors, nurses, administrators, and patients to access relevant information based on their roles.
6. **Increases Operational Efficiency** – Integrates all hospital functions, leading to faster decision-making and improved patient care.
7. **Improves Patient Satisfaction** – Ensures better healthcare services through streamlined operations and accurate medical records.

Key Technological Advancements in Hospital Management System (HMS)

1. **Telemedicine –** Enables remote consultations and healthcare services, improving accessibility for patients in remote areas and reducing hospital visits.
2. **AI Diagnostics –** Utilizes artificial intelligence to analyze medical data, assist in early disease detection, and enhance diagnostic accuracy for better patient care.

LIMITATIONS

1. **High Implementation Cost** – Setting up an HMS requires significant investment in software, hardware, and training.
2. **Data Security Risks –** Patient data is vulnerable to cyber threats, requiring strict security measures.
3. **Complexity in Integration –** Integrating HMS with existing hospital infrastructure can be challenging and time-consuming.
4. **Technical Expertise Required –** Proper training and skilled personnel are necessary to operate and maintain the system.
5. **System Downtime Issues –** Technical failures or maintenance can disrupt hospital operations and affect patient care.
6. **Resistance to Change –** Staff and healthcare professionals may be reluctant to adapt to new digital workflows.
7. **Legal and Compliance Challenges –** Hospitals must ensure that the system adheres to healthcare regulations and data privacy laws.

CONCLUSION

The adoption of a **Java-based Hospital Management System (HMS)** marks a significant leap toward digital transformation in healthcare. By automating hospital workflows, reducing paperwork, and ensuring secure patient data management, HMS enhances operational efficiency and patient care. The system not only streamlines record-keeping but also enables **faster decision-making**, improving the overall healthcare experience for both patients and medical staff.

Furthermore, incorporating **AI-driven diagnostics, telemedicine integration, and real-time analytics** can further enhance the HMS, making healthcare more **accessible, data-driven, and patient-centric**. As healthcare continues to evolve, a well-implemented HMS will play a vital role in **reducing medical errors, optimizing resource allocation, and improving healthcare service delivery**.

Investing in a modern HMS today is a step toward a **more efficient, secure, and intelligent** healthcare ecosystem, ensuring better outcomes for both healthcare providers and patients.