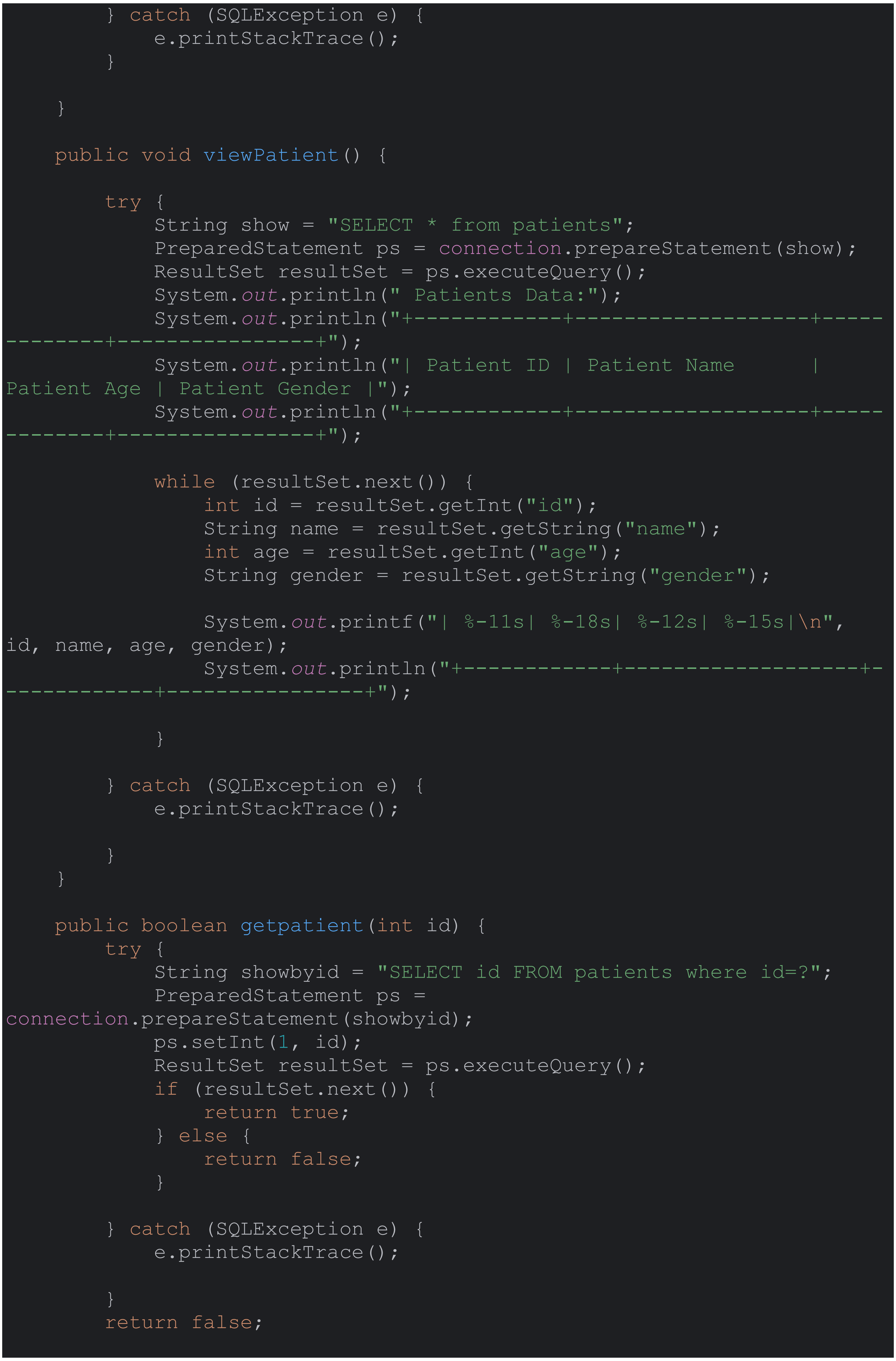
JDBC Project

Hospital Management System

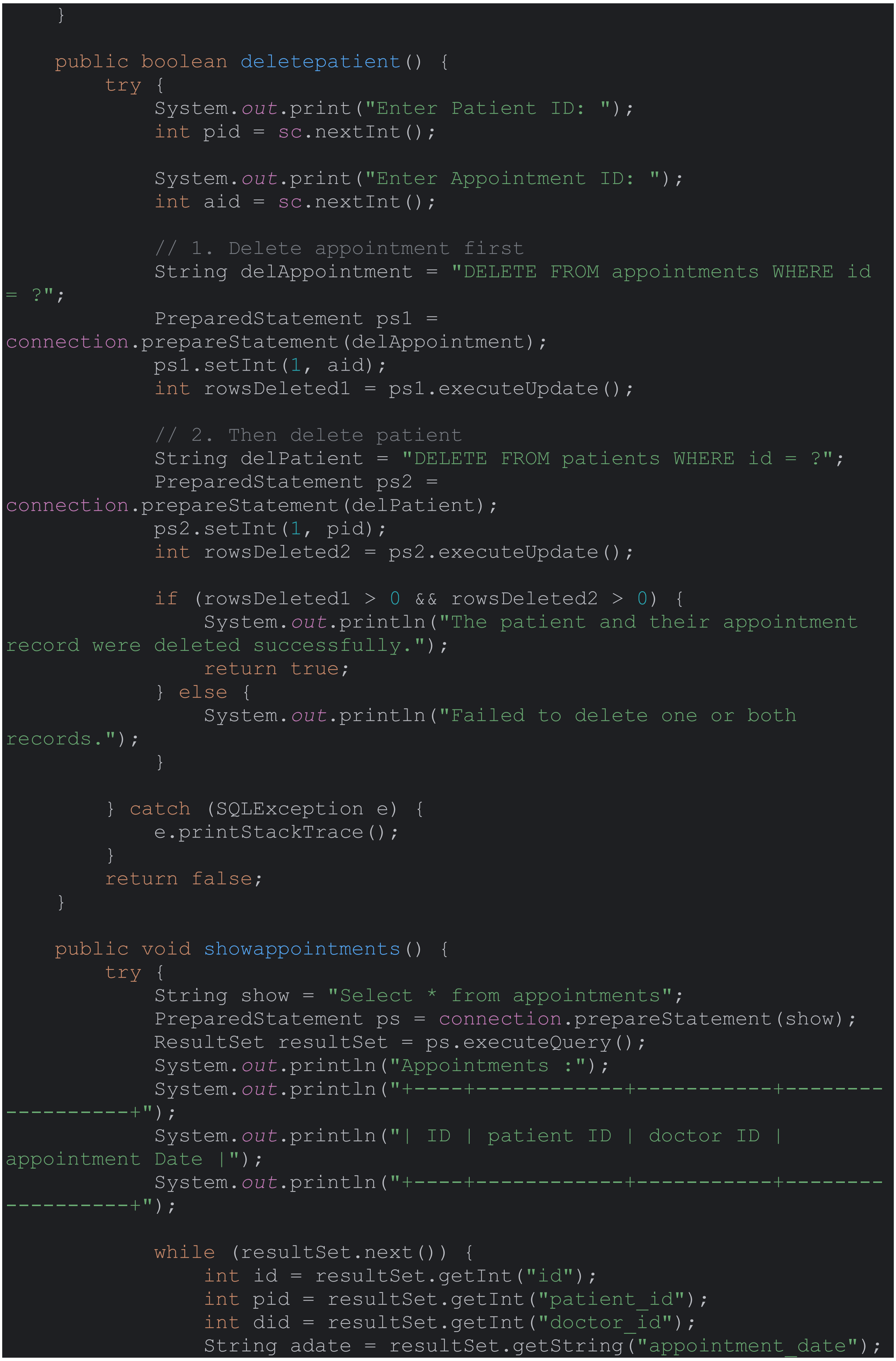
Source Code :

Patient.java

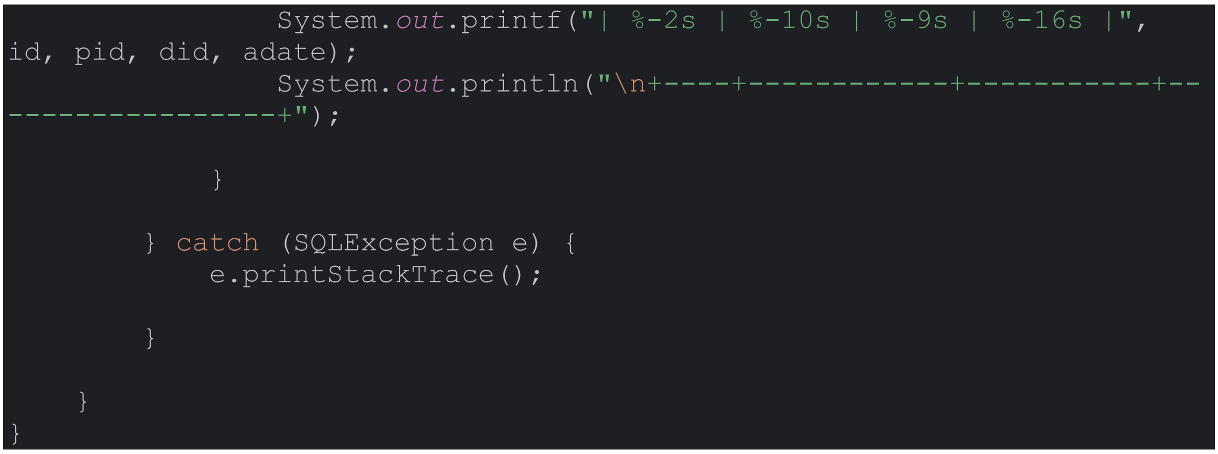
```
package HospitalMangementSystem;

import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.util.Scanner;

public class Patient {

    Connection connection;
    Scanner sc;

    public Patient(Connection connection, Scanner sc) {
        this.connection = connection;
        this.sc = sc;

    }

    public void addPatinet() {
        System.out.print("Enter Patient Name :");
        String name = sc.next();
        System.out.print("Enter Age          :");
        int age = sc.nextInt();
        System.out.print("Enter Gender       :");
        String gender = sc.next();

        try {
            String insertquery = "INSERT INTO patients(name,age,gender)
VALUES(?,?,?)";
            PreparedStatement ps =
connection.prepareStatement(insertquery);
            ps.setString(1, name);
            ps.setInt(2, age);
            ps.setString(3, gender);
            int rowsinserted = ps.executeUpdate();
            if (rowsinserted > 0) {
                System.out.println("\n ...Patient Added Successfully");
            } else {
                System.out.println("\n ...Failed to Add Patient");

            }
```



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

    }

    public void viewPatient() {

        try {
            String show = "SELECT * from patients";
            PreparedStatement ps = connection.prepareStatement(show);
            ResultSet resultSet = ps.executeQuery();
            System.out.println(" Patients Data:");
            System.out.println("+------------+-------------------+-----
--------+----------------+");
            System.out.println("| Patient ID | Patient Name      |
Patient Age | Patient Gender |");
            System.out.println("+------------+-------------------+-----
--------+----------------+");

            while (resultSet.next()) {
                int id = resultSet.getInt("id");
                String name = resultSet.getString("name");
                int age = resultSet.getInt("age");
                String gender = resultSet.getString("gender");

                System.out.printf("| %-11s| %-18s| %-12s| %-15s|\n",
id, name, age, gender);
                System.out.println("+------------+-------------------+-
------------+----------------+");

            }

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

        }
    }

    public boolean getpatient(int id) {
        try {
            String showbyid = "SELECT id FROM patients where id=?";
            PreparedStatement ps =
connection.prepareStatement(showbyid);
            ps.setInt(1, id);
            ResultSet resultSet = ps.executeQuery();
            if (resultSet.next()) {
                return true;
            } else {
                return false;
            }

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

        }
        return false;
```



```
    }

    public boolean deletepatient() {
        try {
            System.out.print("Enter Patient ID: ");
            int pid = sc.nextInt();

            System.out.print("Enter Appointment ID: ");
            int aid = sc.nextInt();

            // 1. Delete appointment first
            String delAppointment = "DELETE FROM appointments WHERE id
= ?";
            PreparedStatement ps1 =
connection.prepareStatement(delAppointment);
            ps1.setInt(1, aid);
            int rowsDeleted1 = ps1.executeUpdate();

            // 2. Then delete patient
            String delPatient = "DELETE FROM patients WHERE id = ?";
            PreparedStatement ps2 =
connection.prepareStatement(delPatient);
            ps2.setInt(1, pid);
            int rowsDeleted2 = ps2.executeUpdate();

            if (rowsDeleted1 > 0 && rowsDeleted2 > 0) {
                System.out.println("The patient and their appointment
record were deleted successfully.");
                return true;
            } else {
                System.out.println("Failed to delete one or both
records.");
            }

        } catch (SQLException e) {
            e.printStackTrace();
        }
        return false;
    }

    public void showappointments() {
        try {
            String show = "Select * from appointments";
            PreparedStatement ps = connection.prepareStatement(show);
            ResultSet resultSet = ps.executeQuery();
            System.out.println("Appointments :");
            System.out.println("+----+------------+-----------+--------
----------+");
            System.out.println("| ID | patient ID | doctor ID |
appointment Date |");
            System.out.println("+----+------------+-----------+--------
----------+");

            while (resultSet.next()) {
                int id = resultSet.getInt("id");
                int pid = resultSet.getInt("patient_id");
                int did = resultSet.getInt("doctor_id");
                String adate = resultSet.getString("appointment_date");
```



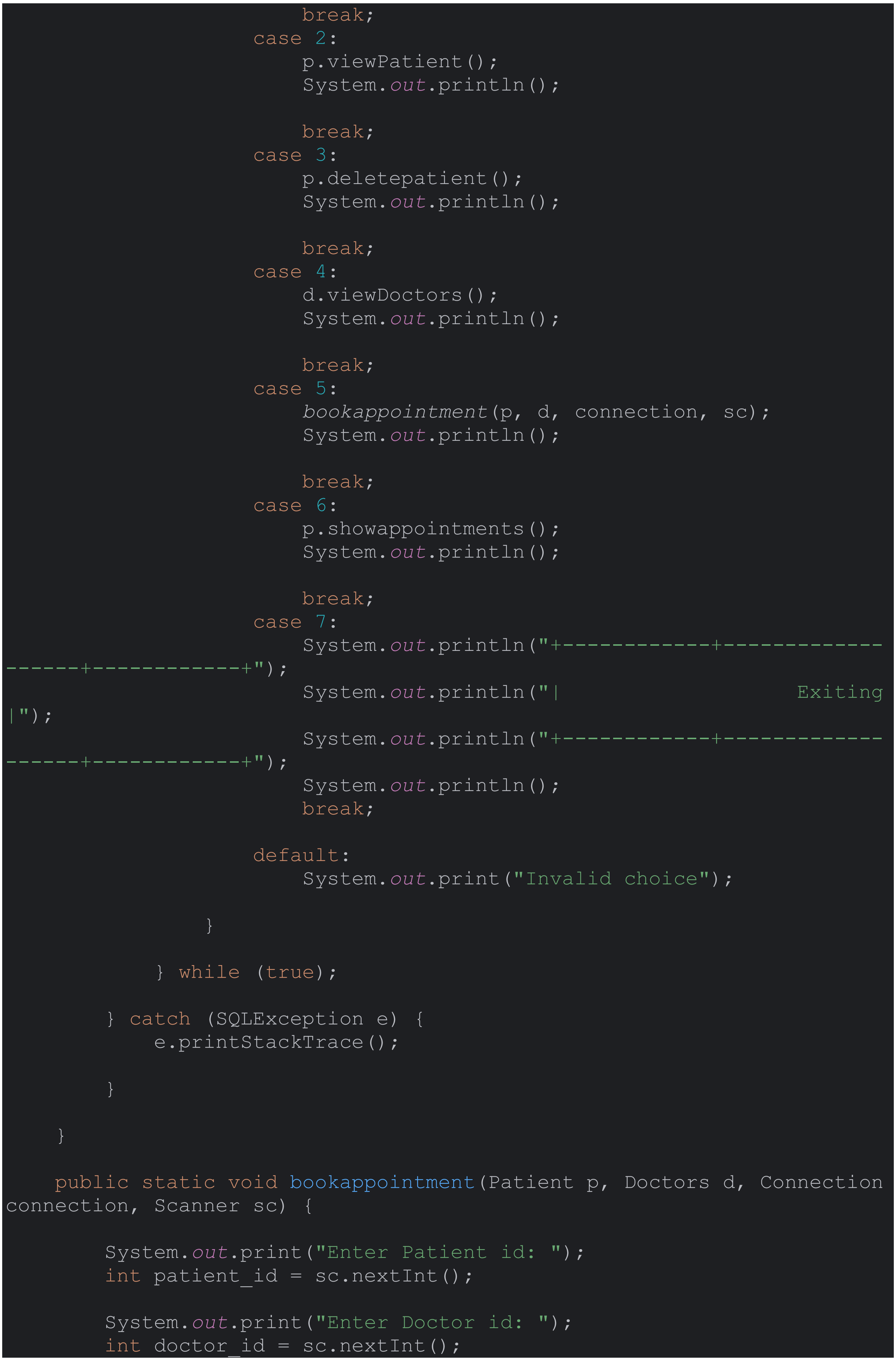
```
                System.out.printf("| %-2s | %-10s | %-9s | %-16s |",
id, pid, did, adate);
                System.out.println("\n+----+------------+-----------+--
----------------+");

            }

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

        }

    }
}
```

Doctors.java

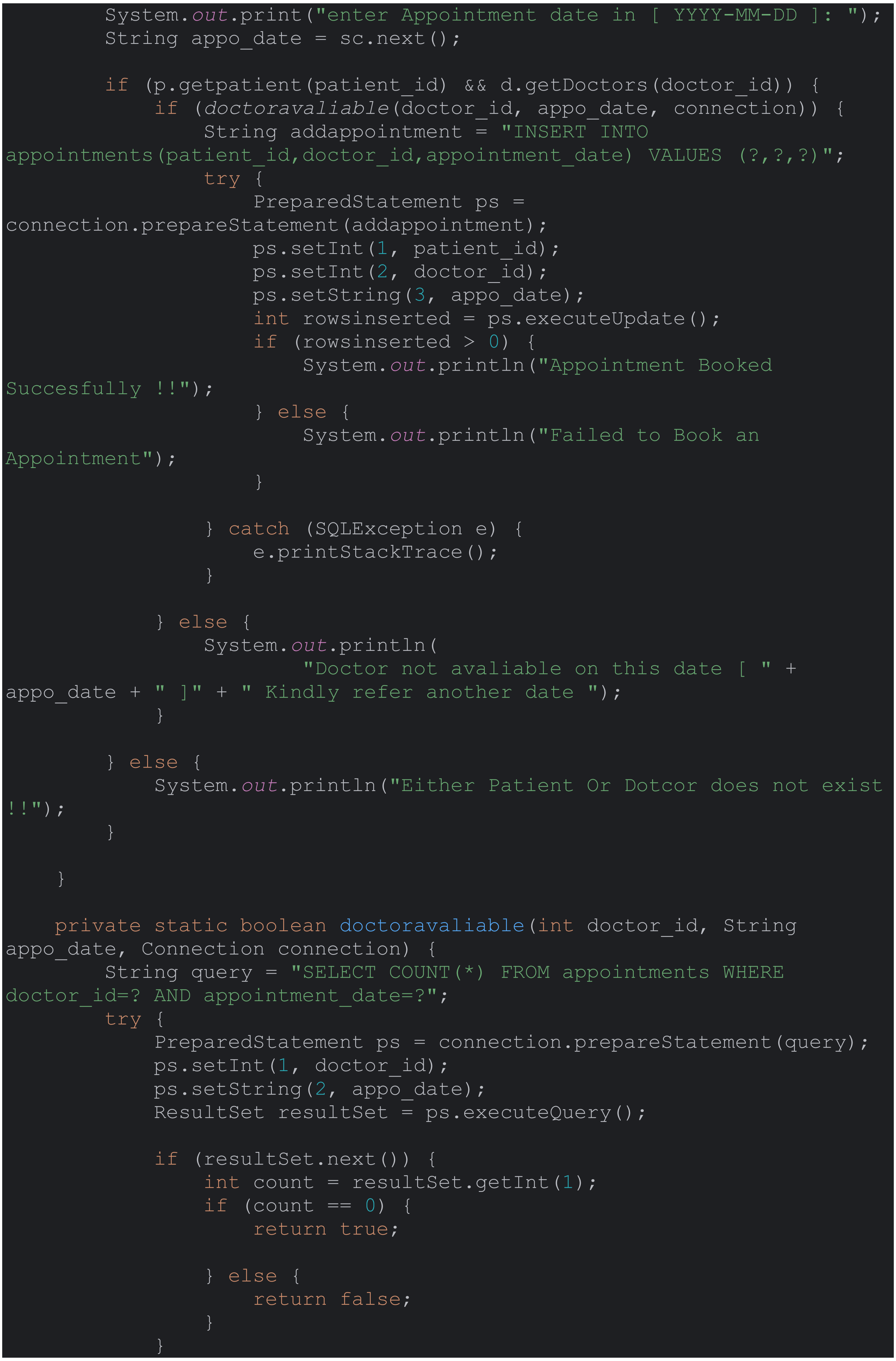
```
package HospitalMangementSystem;

import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;

public class Doctors {

    Connection connection;

    public Doctors(Connection connection) {
        this.connection = connection;
    }

    public void viewDoctors() {

        try {
            String show = "SELECT * from doctors";
            PreparedStatement ps = connection.prepareStatement(show);
            ResultSet resultSet = ps.executeQuery();
            System.out.println("Doctors Data:");
            System.out.println("Note : Only Admins Can Add Doctors");
            System.out.println("+------------+-------------------+-----
-----------------+");
            System.out.println("| Doctors ID | Doctors Name      |
Doctors Specilization|");
            System.out.println("+------------+-------------------+-----
-----------------+");

            while (resultSet.next()) {
                int id = resultSet.getInt("id");
                String name = resultSet.getString("name");
                String department = resultSet.getString("department");

                System.out.printf("| %-11s| %-18s| %-20s |\n", id,
name, department);
                System.out.println("+------------+-------------------+-
---------------------+");

            }

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

        }
    }

    public boolean getDoctors(int id) {
        try {
            String showbyid = "SELECT id FROM doctors where id=?";
            PreparedStatement ps =
connection.prepareStatement(showbyid);
            ps.setInt(1, id);
            ResultSet resultSet = ps.executeQuery();
            if (resultSet.next()) {
                return true;
            } else {
                return false;
            }

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

        }
        return false;

    }

}
```

Hospital.java

```java
package HospitalMangementSystem;

import java.sql.*;
import java.util.Scanner;

public class Hospital {
    private static final String url =
"jdbc:mysql://localhost:3306/hospitalmanagementsystem";
    private static final String password = "Kingstaromega2611";
    private static final String user = "root";

    Connection connection;

    Hospital(Connection connection) {
        this.connection = connection;

    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        try {
            Class.forName("com.mysql.cj.jdbc.Driver");
        } catch (ClassNotFoundException e) {
            e.printStackTrace();
        }

        try {

            Connection connection = DriverManager.getConnection(url,
user, password);
            Patient p = new Patient(connection, sc);
            Doctors d = new Doctors(connection);

            do {
                System.out.println("+------------+-------------------+-
-----------+");
                System.out.println("|           HOSPITAL MANAGEMENT
SYSTEM        |");
                System.out.println("+------------+-------------------+-
-----------+");
                System.out.println("1. Add Patient");
                System.out.println("2. View Patient");
                System.out.println("3. Delete Patient and
Appointment");
                System.out.println("4. Avaliable Doctor");
                System.out.println("5. Book Appointment");
                System.out.println("6. Show Appointment");
                System.out.println("7. Exit");
                System.out.print("\n\nEnter Opration :");
                int ch = sc.nextInt();

                switch (ch) {
                    case 1:
                        p.addPatinet();
                        System.out.println();
```



```
                        break;
                    case 2:
                        p.viewPatient();
                        System.out.println();

                        break;
                    case 3:
                        p.deletepatient();
                        System.out.println();

                        break;
                    case 4:
                        d.viewDoctors();
                        System.out.println();

                        break;
                    case 5:
                        bookappointment(p, d, connection, sc);
                        System.out.println();

                        break;
                    case 6:
                        p.showappointments();
                        System.out.println();

                        break;
                    case 7:
                        System.out.println("+------------+-------------
------+------------+");
                        System.out.println("|                   Exiting
|");
                        System.out.println("+------------+-------------
------+------------+");
                        System.out.println();
                        break;

                    default:
                        System.out.print("Invalid choice");

                }

            } while (true);

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

        }

    }

    public static void bookappointment(Patient p, Doctors d, Connection
connection, Scanner sc) {

        System.out.print("Enter Patient id: ");
        int patient_id = sc.nextInt();

        System.out.print("Enter Doctor id: ");
        int doctor_id = sc.nextInt();
```

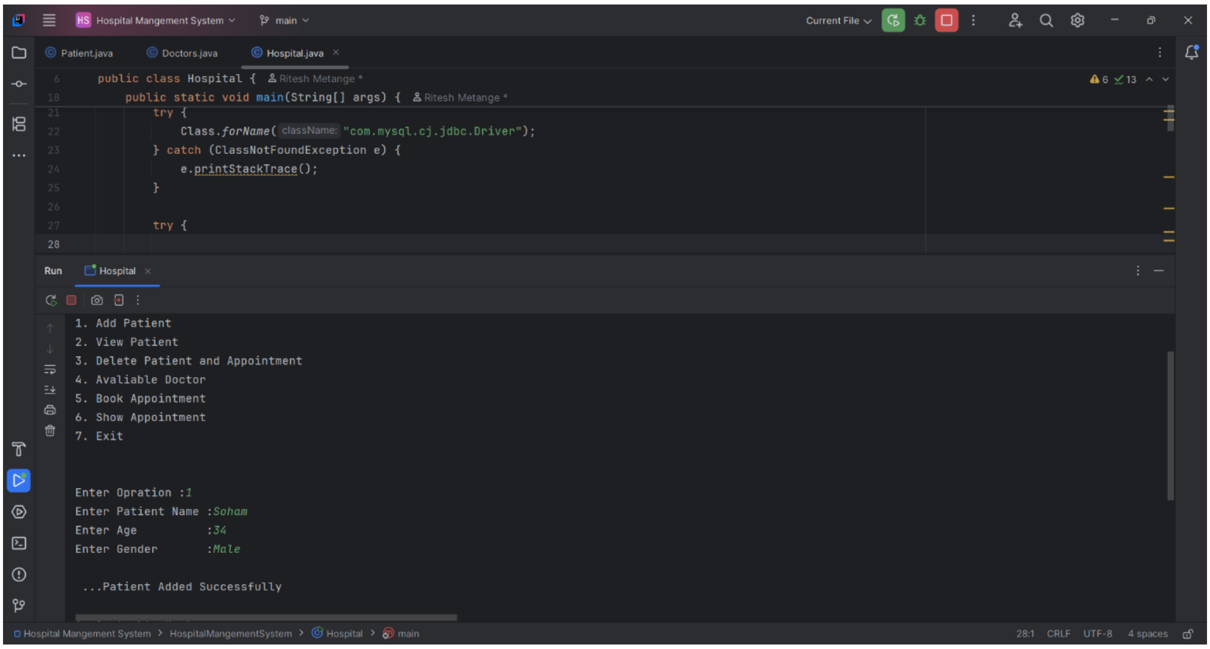


```
        System.out.print("enter Appointment date in [ YYYY-MM-DD ]: ");
        String appo_date = sc.next();

        if (p.getpatient(patient_id) && d.getDoctors(doctor_id)) {
            if (doctoravaliable(doctor_id, appo_date, connection)) {
                String addappointment = "INSERT INTO
appointments(patient_id,doctor_id,appointment_date) VALUES (?,?,?)";
                try {
                    PreparedStatement ps =
connection.prepareStatement(addappointment);
                    ps.setInt(1, patient_id);
                    ps.setInt(2, doctor_id);
                    ps.setString(3, appo_date);
                    int rowsinserted = ps.executeUpdate();
                    if (rowsinserted > 0) {
                        System.out.println("Appointment Booked
Succesfully !!");
                    } else {
                        System.out.println("Failed to Book an
Appointment");
                    }

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

            } else {
                System.out.println(
                        "Doctor not avaliable on this date [ " +
appo_date + " ]" + " Kindly refer another date ");
            }

        } else {
            System.out.println("Either Patient Or Dotcor does not exist
!!");
        }

    }

    private static boolean doctoravaliable(int doctor_id, String
appo_date, Connection connection) {
        String query = "SELECT COUNT(*) FROM appointments WHERE
doctor_id=? AND appointment_date=?";
        try {
            PreparedStatement ps = connection.prepareStatement(query);
            ps.setInt(1, doctor_id);
            ps.setString(2, appo_date);
            ResultSet resultSet = ps.executeQuery();

            if (resultSet.next()) {
                int count = resultSet.getInt(1);
                if (count == 0) {
                    return true;

                } else {
                    return false;
                }
            }
        } catch (SQLException e) {
            e.printStackTrace();
        }

        return false;

    }

}
```

SQL Files :

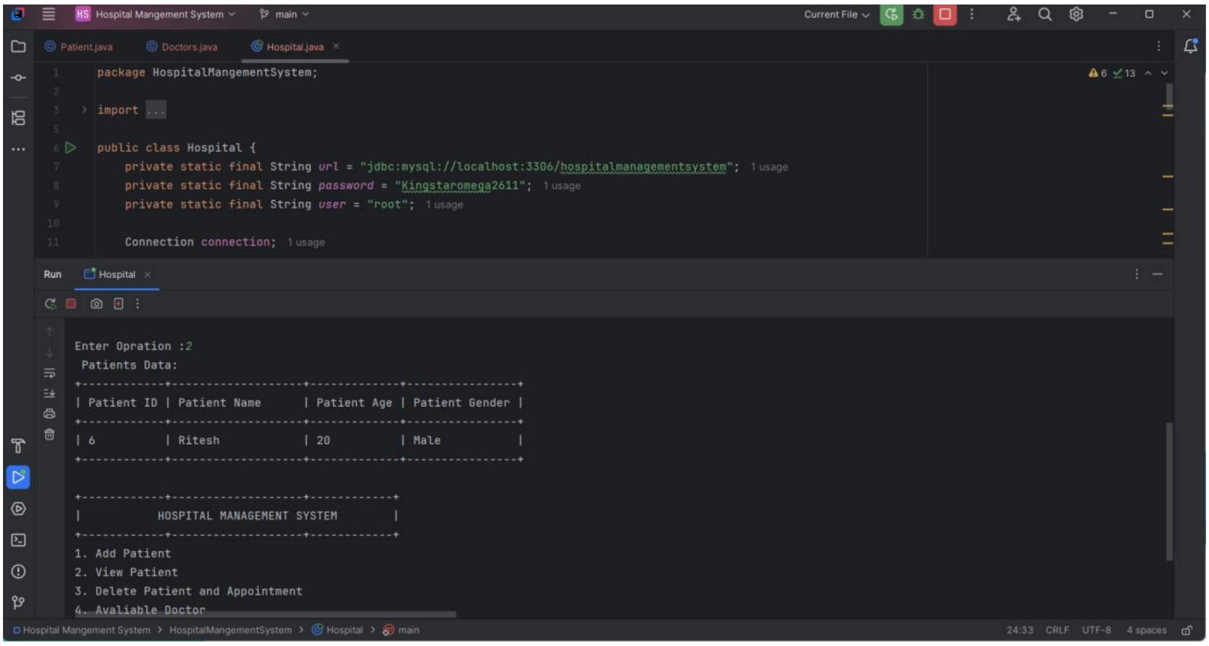
```
CREATE DATABASE IF NOT exists HOSPITALMANAGEMENTSYSTEM;
USE HOSPITALMANAGEMENTSYSTEM;



CREATE TABLE PATIENTS (
id int auto_increment primary key ,
name varchar(255) not null ,
age int not null ,
gender varchar(10) not null
);

CREATE TABLE PATIENTS (
id int auto_increment primary key ,
name varchar(255) not null ,
age int not null ,
gender varchar(10) not null
);

CREATE TABLE appointments (
id int auto_increment primary key ,
patient_id varchar(255) not null ,
doctor_id varchar(10)  not null ,
appointment_date date
);



DESCRIBE DOCTORS;
DESCRIBE PATIENTS;
DESCRIBE appointments;
```

Output :


Hospital Mangement System
main
Current File
Patient.java
Doctors.java
Hospital.java
Run
Hospital
Hospital Mangement System > HospitalMangementSystem > Hospital > main
28:1 CRLF UTF-8 4 spaces

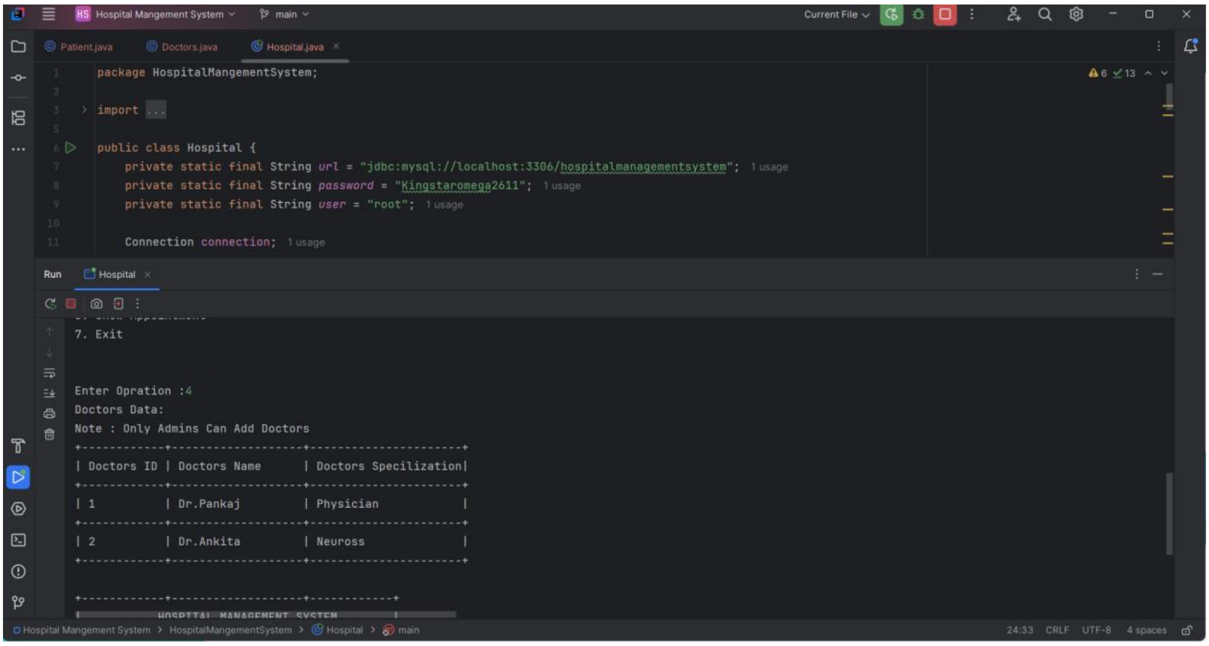
```java
public class Hospital {  Ritesh Metange *
    public static void main(String[] args) {  Ritesh Metange *
        try {
            Class.forName( className: "com.mysql.cj.jdbc.Driver");
        } catch (ClassNotFoundException e) {
            e.printStackTrace();
        }

        try {

```

```
1. Add Patient
2. View Patient
3. Delete Patient and Appointment
4. Avaliable Doctor
5. Book Appointment
6. Show Appointment
7. Exit


Enter Opration :1
Enter Patient Name :Soham
Enter Age          :34
Enter Gender       :Male

 ...Patient Added Successfully
```


Hospital Mangement System
main
Current File
Patient.java
Doctors.java
Hospital.java
Run
Hospital
Hospital Mangement System > HospitalMangementSystem > Hospital > main
24:33 CRLF UTF-8 4 spaces

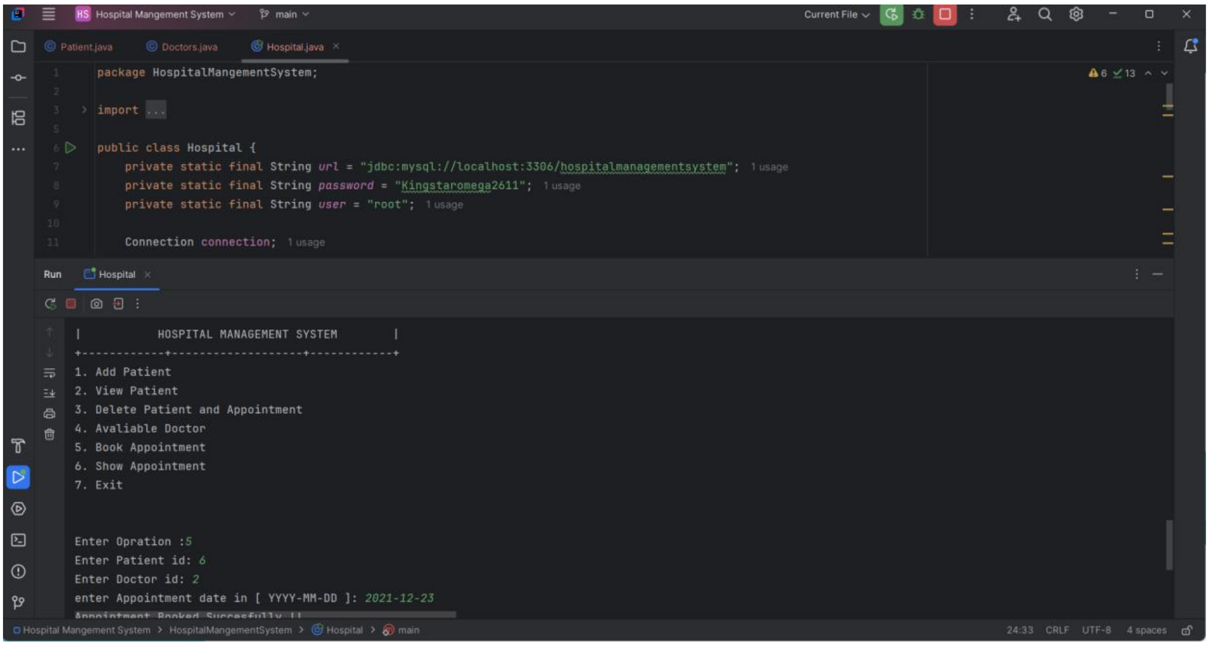
```java
package HospitalMangementSystem;

import ...

public class Hospital {
    private static final String url = "jdbc:mysql://localhost:3306/hospitalmanagementsystem";  1 usage
    private static final String password = "Kingstaromega2611";  1 usage
    private static final String user = "root";  1 usage

    Connection connection;  1 usage
```

```

Enter Opration :2
 Patients Data:
+------------+------------------+------------+---------------+
| Patient ID | Patient Name     | Patient Age | Patient Gender |
+------------+------------------+------------+---------------+
| 6          | Ritesh           | 20         | Male          |
+------------+------------------+------------+---------------+

+------------+------------------+-----------+
|          HOSPITAL MANAGEMENT SYSTEM       |
+------------+------------------+-----------+
1. Add Patient
2. View Patient
3. Delete Patient and Appointment
4. Avaliable Doctor
```



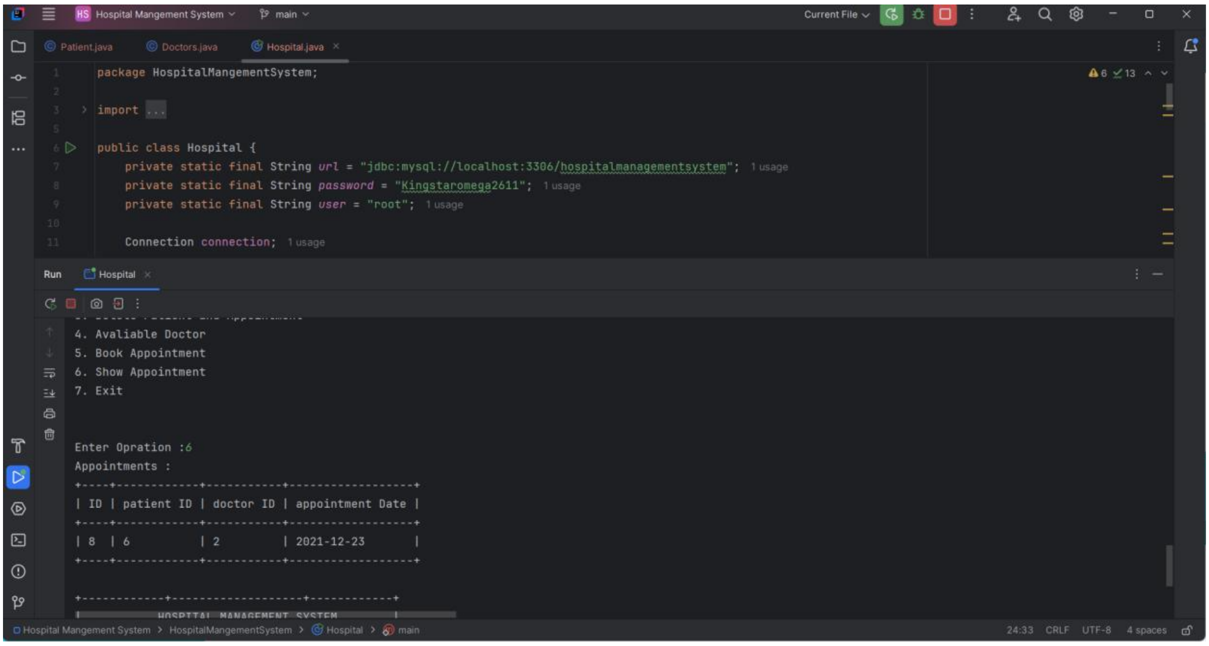
```java
package HospitalMangementSystem;

import ...

public class Hospital {
    private static final String url = "jdbc:mysql://localhost:3306/hospitalmanagementsystem";
    private static final String password = "Kingstaromega2611";
    private static final String user = "root";

    Connection connection;
```

```
7. Exit


Enter Opration :4
Doctors Data:
Note : Only Admins Can Add Doctors
+------------+-------------------+----------------------+
| Doctors ID | Doctors Name      | Doctors Specilization|
+------------+-------------------+----------------------+
| 1          | Dr.Pankaj         | Physician            |
+------------+-------------------+----------------------+
| 2          | Dr.Ankita         | Neuross              |
+------------+-------------------+----------------------+

+------------+-------------------+------------+
|           HOSPITAL MANAGEMENT SYSTEM        |
```



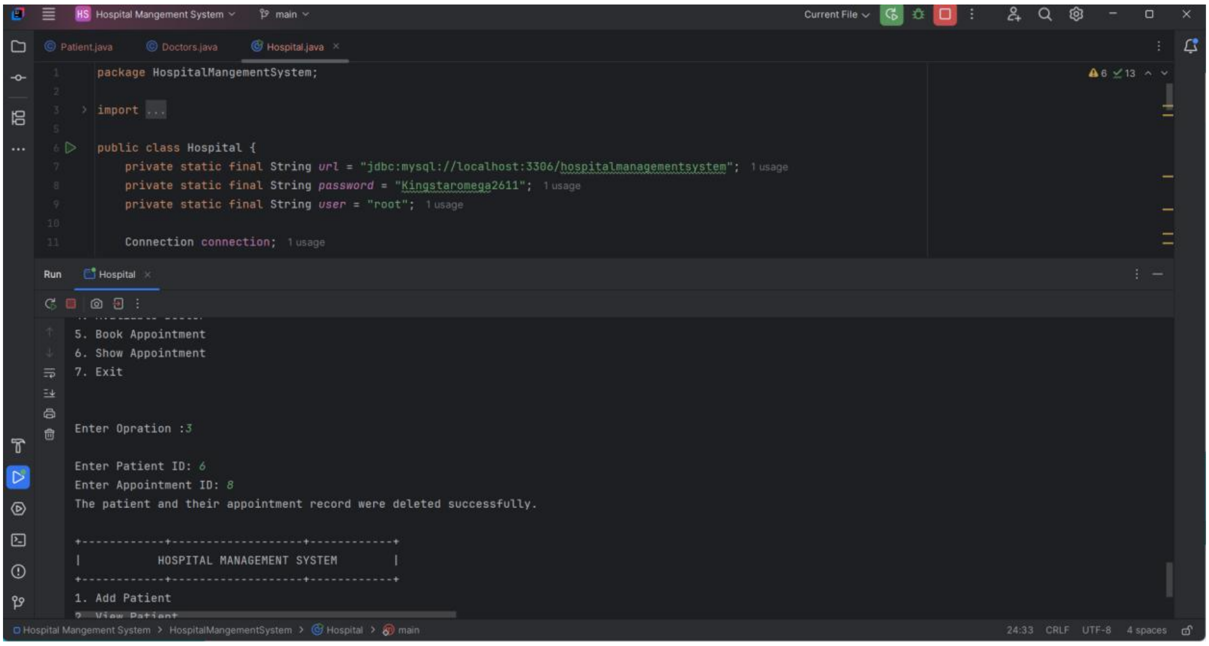
```java
package HospitalMangementSystem;

import ...

public class Hospital {
    private static final String url = "jdbc:mysql://localhost:3306/hospitalmanagementsystem";
    private static final String password = "Kingstaromega2611";
    private static final String user = "root";

    Connection connection;
```

```
|           HOSPITAL MANAGEMENT SYSTEM        |
+------------+-------------------+------------+
1. Add Patient
2. View Patient
3. Delete Patient and Appointment
4. Avaliable Doctor
5. Book Appointment
6. Show Appointment
7. Exit


Enter Opration :5
Enter Patient id: 6
Enter Doctor id: 2
enter Appointment date in [ YYYY-MM-DD ]: 2021-12-23
Appointment Booked Succesfully !!
```


Hospital Mangement System
main
Current File
Patient.java
Doctors.java
Hospital.java
Run
Hospital
Hospital Mangement System > HospitalMangementSystem > Hospital > main
24:33 CRLF UTF-8 4 spaces

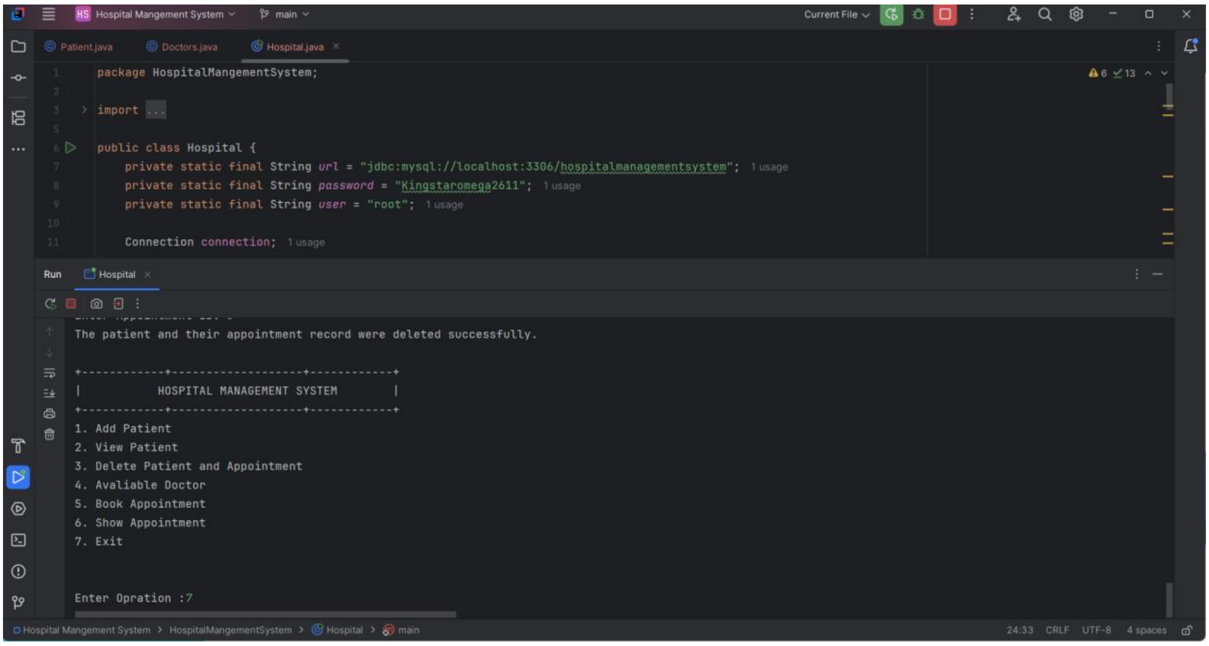
```java
package HospitalMangementSystem;

import ...

public class Hospital {
    private static final String url = "jdbc:mysql://localhost:3306/hospitalmanagementsystem";   1 usage
    private static final String password = "Kingstaromega2611";   1 usage
    private static final String user = "root";   1 usage

    Connection connection;   1 usage
```

```
4. Avaliable Doctor
5. Book Appointment
6. Show Appointment
7. Exit


Enter Opration :6
Appointments :
+----+------------+-----------+------------------+
| ID | patient ID | doctor ID | appointment Date |
+----+------------+-----------+------------------+
| 8  | 6          | 2         | 2021-12-23       |
+----+------------+-----------+------------------+

+------------+-------------------+------------+
|          HOSPITAL MANAGEMENT SYSTEM         |
```


Hospital Mangement System
main
Current File
Patient.java
Doctors.java
Hospital.java
Run
Hospital
Hospital Mangement System > HospitalMangementSystem > Hospital > main
24:33 CRLF UTF-8 4 spaces

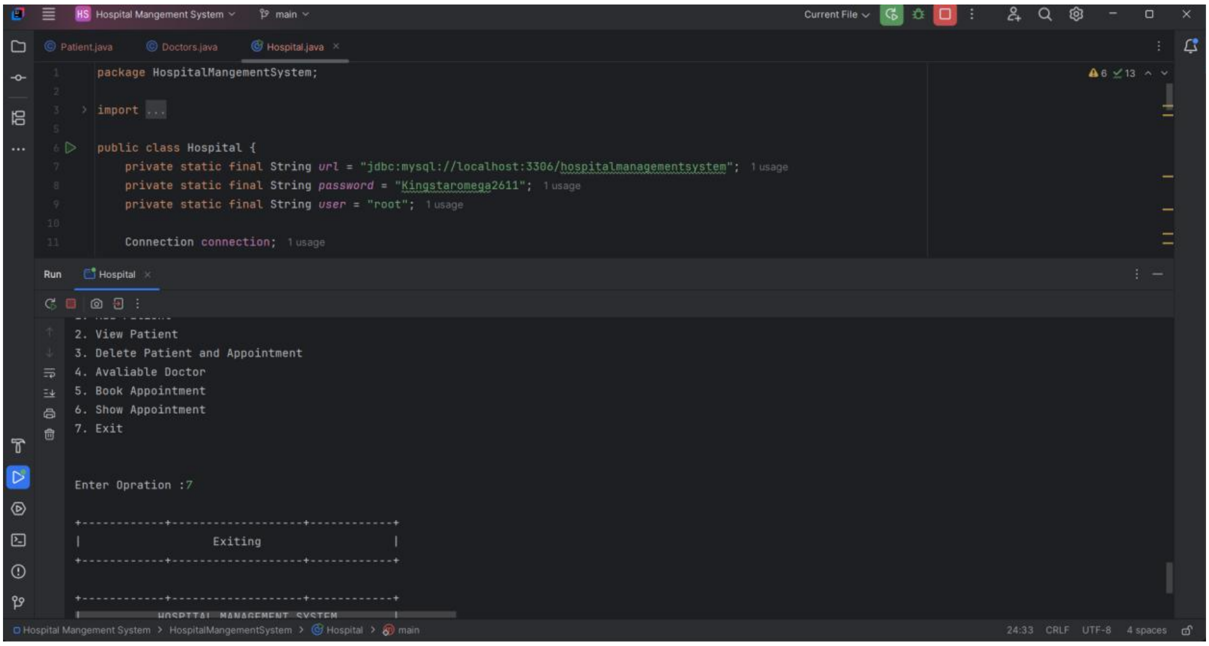
```java
package HospitalMangementSystem;

import ...

public class Hospital {
    private static final String url = "jdbc:mysql://localhost:3306/hospitalmanagementsystem";   1 usage
    private static final String password = "Kingstaromega2611";   1 usage
    private static final String user = "root";   1 usage

    Connection connection;   1 usage
```

```
5. Book Appointment
6. Show Appointment
7. Exit


Enter Opration :3

Enter Patient ID: 6
Enter Appointment ID: 8
The patient and their appointment record were deleted successfully.

+------------+-------------------+------------+
|          HOSPITAL MANAGEMENT SYSTEM         |
+------------+-------------------+------------+
1. Add Patient
2. View Patient
```


Hospital Mangement System
main
Current File
Patient.java
Doctors.java
Hospital.java
Run
Hospital
Hospital Mangement System > HospitalMangementSystem > Hospital > main
24:33 CRLF UTF-8 4 spaces

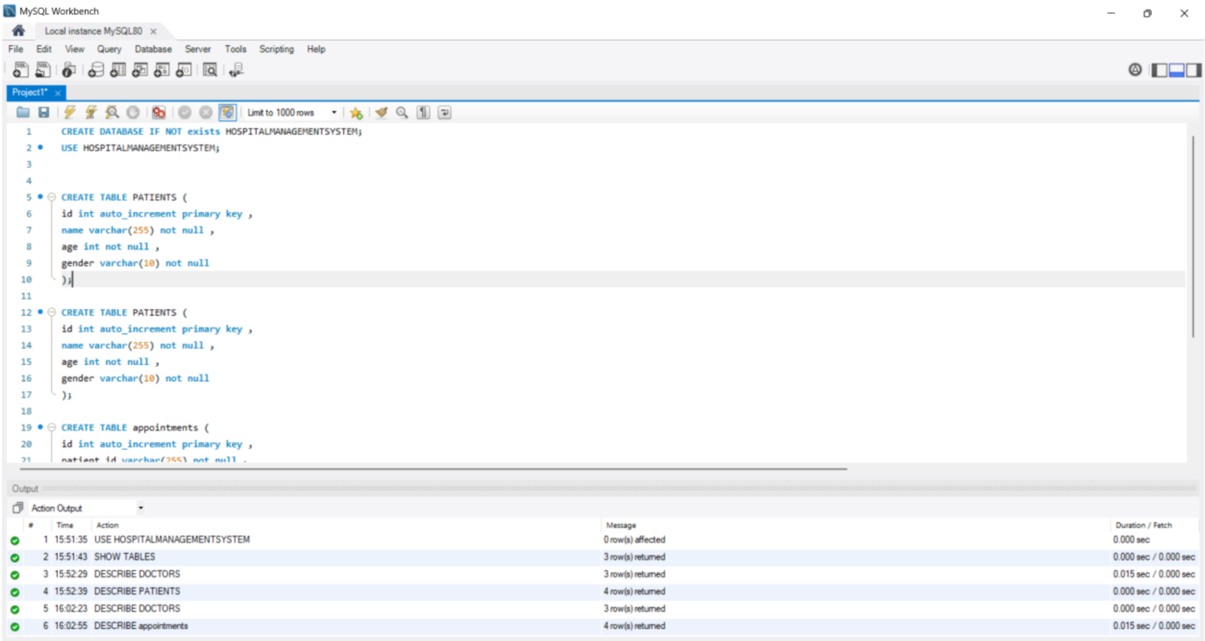
```java
package HospitalMangementSystem;

import ...

public class Hospital {
    private static final String url = "jdbc:mysql://localhost:3306/hospitalmanagementsystem";  1 usage
    private static final String password = "Kingstaromega2611";  1 usage
    private static final String user = "root";  1 usage

    Connection connection;  1 usage
```

```
The patient and their appointment record were deleted successfully.

+------------+------------------+------------+
|          HOSPITAL MANAGEMENT SYSTEM        |
+------------+------------------+------------+
1. Add Patient
2. View Patient
3. Delete Patient and Appointment
4. Avaliable Doctor
5. Book Appointment
6. Show Appointment
7. Exit


Enter Opration :7
```


Hospital Mangement System
main
Current File
Patient.java
Doctors.java
Hospital.java
Run
Hospital
Hospital Mangement System > HospitalMangementSystem > Hospital > main
24:33 CRLF UTF-8 4 spaces

```java
package HospitalMangementSystem;

import ...

public class Hospital {
    private static final String url = "jdbc:mysql://localhost:3306/hospitalmanagementsystem";  1 usage
    private static final String password = "Kingstaromega2611";  1 usage
    private static final String user = "root";  1 usage

    Connection connection;  1 usage
```

```
2. View Patient
3. Delete Patient and Appointment
4. Avaliable Doctor
5. Book Appointment
6. Show Appointment
7. Exit


Enter Opration :7

+------------+------------------+------------+
|                  Exiting                   |
+------------+------------------+------------+

+------------+------------------+------------+
|          HOSPITAL MANAGEMENT SYSTEM        |
```



```sql
CREATE DATABASE IF NOT exists HOSPITALMANAGEMENTSYSTEM;
USE HOSPITALMANAGEMENTSYSTEM;


CREATE TABLE PATIENTS (
id int auto_increment primary key ,
name varchar(255) not null ,
age int not null ,
gender varchar(10) not null
);

CREATE TABLE PATIENTS (
id int auto_increment primary key ,
name varchar(255) not null ,
age int not null ,
gender varchar(10) not null
);

CREATE TABLE appointments (
id int auto_increment primary key ,
patient_id varchar(255) not null ,
```

#	Time	Action	Message	Duration / Fetch
1	15:51:35	USE HOSPITALMANAGEMENTSYSTEM	0 row(s) affected	0.000 sec
2	15:51:43	SHOW TABLES	3 row(s) returned	0.000 sec / 0.000 sec
3	15:52:29	DESCRIBE DOCTORS	3 row(s) returned	0.015 sec / 0.000 sec
4	15:52:39	DESCRIBE PATIENTS	4 row(s) returned	0.000 sec / 0.000 sec
5	16:02:23	DESCRIBE DOCTORS	3 row(s) returned	0.000 sec / 0.000 sec
6	16:02:55	DESCRIBE appointments	4 row(s) returned	0.015 sec / 0.000 sec