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Given Question:

a) Pranathi is a Student in KL University, as situations are not good, she does not want to travel, so she wants to stay in Hostel from this year. There are many more students who are facing the same issue, so our KL University Hostel Management Came to a decision to create a table which includes KL ID Number (Primary Key), First Name, Last Name, Year of Study, Gender, Department, Mobile Number, Date of Birth (Must use "Date" data type), Parent Name, Parent Mobile Number, Address, proof (Photo of KL ID Card) and the Payment Receipt (PDF). Help the K L Hostel Management to Manage Database with their requirements.

b) Assume you are a student who opted to stay in Hostel at the time of registrations and fill the details that are required to book a room in a hostel.

Complete code in java:

```
import java.io.FileInputStream;
```

```
import java.sql.*;
```

```
import java.sql.Date;
```

```
import java.util.*;
```

```
class skill2 {
```

```
    public static void main(String[] args) throws Exception {
```

```
        Connection con = getConnection();
```

```
        Scanner sc = new Scanner(System.in);
```

```
        boolean exit = false;
```

```
        create_hostel_table(con);
```

```
        while (!exit) {
```

```
            System.out.println("1. Add students data to hostel database");
```

```
            System.out.println("2. View all data in hostel database");
```

```
            System.out.println("3. Delete student data from hostel database");
```

```
            System.out.println("4. Exit the program");
```

```
int choice = sc.nextInt();

switch (choice) {
    case 1:
        insert_into_hostel_table(con, sc);
        break;

    case 2:
        viewData(con);
        break;

    case 3:
        System.out.println("Enter the id of the student to be deleted");
        int tmp_id = sc.nextInt();
        delete_student_data(con, tmp_id);
        break;

    case 4:
        exit = true;
        break;

    default:
        System.out.println("Please Try Again");
        break;
}

sc.close();
con.close();
}
```

```

public static Connection getConnection() throws ClassNotFoundException, SQLException {

    Class.forName("oracle.jdbc.driver.OracleDriver");

    String dbUserName = "system";

    String dbUserPassword = "nikhil";

    Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:XE", dbUser
Name, dbUserPassword);

    return con;

}

public static void create_hostel_table(Connection con) {

    try {

        String create_hostel_table_query = "CREATE TABLE hostel(id INTEGER PRIMARY KEY, first_na
me VARCHAR(255) NOT NULL, last_name VARCHAR(255) NOT NULL, year_of_study INTEGER NOT NU
LL, gender VARCHAR(8) NOT NULL, department VARCHAR(3) NOT NULL, mobile VARCHAR(10) NOT N
ULL, dob DATE NOT NULL, parent_name VARCHAR(255) NOT NULL, parent_mobile_number VARCHA
R(10) NOT NULL, address VARCHAR(255) NOT NULL, id_card BLOB NOT NULL, payment_receipet BLO
B NOT NULL)";

        Statement stmt = con.createStatement();

        stmt.executeUpdate(create_hostel_table_query);

        System.out.println("Hostel database created successfully");

    } catch (Exception e) {

        System.out.println("Error: " + e);
    }
}

```

```
}  
}
```

```
public static void insert_into_hostel_table(Connection con, Scanner sc) {  
    try {  
        String hostel_insert_query = "INSERT INTO hostel(id, first_name, last_name, year_of_study, gender, department, mobile, dob, parent_name, parent_mobile_number, address, id_card, payment_receipt) VALUES (?,?,?,?,?,?,?,?,?,?,?,?,?)";  
  
        System.out.println("Enter your id number");  
        int id = sc.nextInt();  
        sc.nextLine();  
  
        System.out.println("Enter your first name");  
        String first_name = sc.nextLine();  
  
        System.out.println("Enter your last name");  
        String last_name = sc.nextLine();  
  
        System.out.println("Enter your year of study");  
        int year_of_study = sc.nextInt();  
  
        System.out.println("Enter your gender");  
        String gender = sc.next();  
  
        System.out.println("Enter your Department");  
        String department = sc.next();  
  
        System.out.println("Enter your mobile number");  
        String mobile = sc.next();  
  
        System.out.println("Enter your date of birth in yyyy-mm-dd format");
```

```
String dob_str = sc.next();  
Date dob = Date.valueOf(dob_str);  
sc.nextLine();
```

```
System.out.println("Enter your parent name");  
String parent_name = sc.nextLine();
```

```
System.out.println("Enter your parent's mobile number");  
String parent_mobile = sc.nextLine();
```

```
System.out.println("Enter your address");  
String address = sc.nextLine();
```

```
System.out.println("Enter the location of kl id photo in your file system");  
String id_card = sc.nextLine();
```

```
System.out.println("Enter the location of payment receipt in your file system");  
String payment_receipt = sc.nextLine();
```

```
PreparedStatement pstmt = con.prepareStatement(hostel_insert_query);
```

```
pstmt.setInt(1, id);  
pstmt.setString(2, first_name);  
pstmt.setString(3, last_name);  
pstmt.setInt(4, year_of_study);  
pstmt.setString(5, gender);  
pstmt.setString(6, department);  
pstmt.setString(7, mobile);  
pstmt.setDate(8, dob);  
pstmt.setString(9, parent_name);  
pstmt.setString(10, parent_mobile);
```

```
pstmt.setString(11, address);
```

```
FileInputStream id_fin = new FileInputStream(id_card);
```

```
pstmt.setBinaryStream(12, id_fin, id_fin.available());
```

```
FileInputStream payment_receipt_fin = new FileInputStream(payment_receipt);
```

```
pstmt.setBinaryStream(13, payment_receipt_fin, payment_receipt_fin.available());
```

```
pstmt.executeUpdate();
```

```
System.out.println("Data inserted successfully");
```

```
} catch (Exception e) {
```

```
    System.out.println("Error: " + e);
```

```
}
```

```
}
```

```
public static void viewData(Connection con) {
```

```
    try {
```

```
        String view_students_query = "SELECT id, first_name, last_name FROM hostel";
```

```
        Statement stmt = con.createStatement();
```

```
        ResultSet rs = stmt.executeQuery(view_students_query);
```

```
        if (!rs.isBeforeFirst()) {
```

```
            System.out.println("No data");
```

```
        } else {
```

```
            System.out.println("Id number | First name | Last name");
```

```
            while (rs.next())
```

```
                System.out.println(rs.getInt(1) + " " + rs.getString(2) + " " + rs.getString(3));
```

```
        }
```

```
    } catch (Exception e) {
```

```
        System.out.println("Error: " + e);
```

```

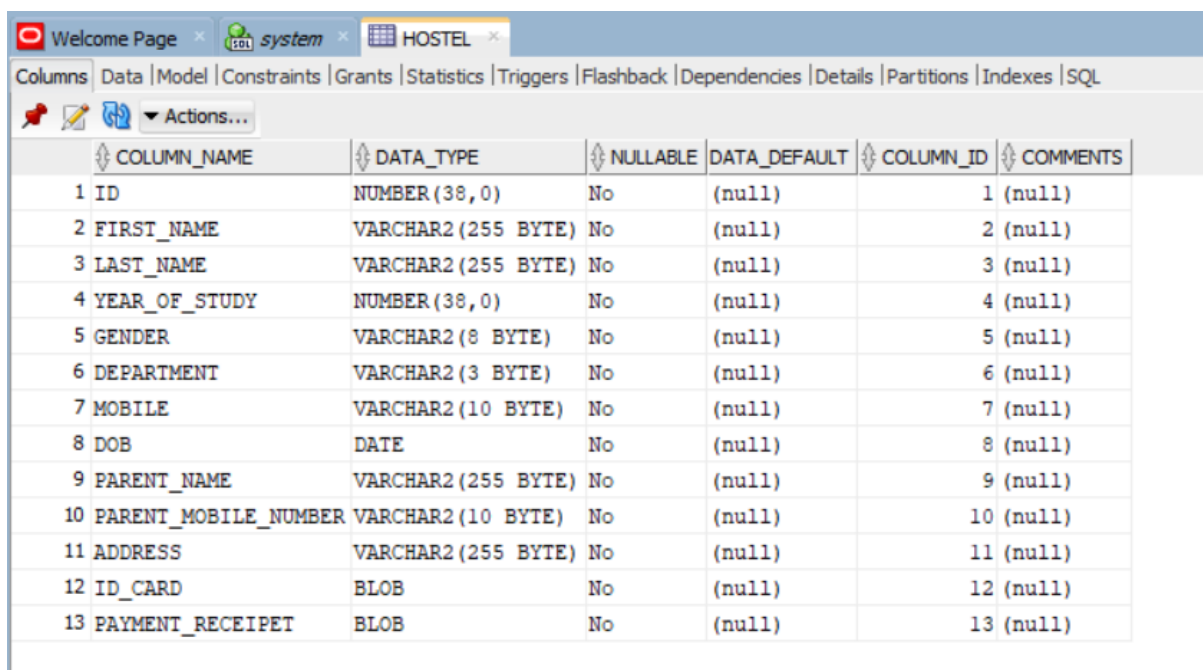
    }
}

public static void delete_student_data(Connection con, int id) {
    try {
        String delete_query = "DELETE FROM hostel WHERE id = ?";
        PreparedStatement pstmt = con.prepareStatement(delete_query);
        pstmt.setInt(1, id);
        pstmt.executeUpdate();
        System.out.println("Deleted student with id " + id + " succesfully");
    } catch (Exception e) {
        System.out.println("Error: " + e);
    }
}
}
}

```

Output screenshots:

Table in database



COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1 ID	NUMBER(38,0)	No	(null)	1	(null)
2 FIRST_NAME	VARCHAR2(255 BYTE)	No	(null)	2	(null)
3 LAST_NAME	VARCHAR2(255 BYTE)	No	(null)	3	(null)
4 YEAR_OF_STUDY	NUMBER(38,0)	No	(null)	4	(null)
5 GENDER	VARCHAR2(8 BYTE)	No	(null)	5	(null)
6 DEPARTMENT	VARCHAR2(3 BYTE)	No	(null)	6	(null)
7 MOBILE	VARCHAR2(10 BYTE)	No	(null)	7	(null)
8 DOB	DATE	No	(null)	8	(null)
9 PARENT_NAME	VARCHAR2(255 BYTE)	No	(null)	9	(null)
10 PARENT_MOBILE_NUMBER	VARCHAR2(10 BYTE)	No	(null)	10	(null)
11 ADDRESS	VARCHAR2(255 BYTE)	No	(null)	11	(null)
12 ID_CARD	BLOB	No	(null)	12	(null)
13 PAYMENT_RECEIPT	BLOB	No	(null)	13	(null)

```
File Edit Selection View Go Run Terminal Help • Java Process Console - skill-2 - Visual Studio Code
skill2.java U create_hostel.sql U Java Process Console
Microsoft Windows [Version 10.0.19043.1110]
(c) Microsoft Corporation. All rights reserved.

C:\study\3-1\jfd_sdp\skill\skill-2> cmd /C "c:\Users\anikh\.vscode\extensions\vscjava.vscode-java-debug-0.35.0\scripts\launcher.bat "C:\Program Files\Java\jdk-15.0.1\bin\java.exe" -XX:+ShowCodeDetailsInExceptionMessages -Dfile.encoding=UTF-8 @C:\Users\anikh\AppData\Local\Temp\cp_arya0u593rdugd616zsqpenx.argfile skill2"
Hostel database created successfully
1. Add students data to hostel database
2. View all data in hostel database
3. Delete student data from hostel database
4. Exit the program
2
No data
1. Add students data to hostel database
2. View all data in hostel database
3. Delete student data from hostel database
4. Exit the program
```

```
File Edit Selection View Go Run Terminal Help • Java Process Console - skill-2 - Visual Studio Code
skill2.java U create_hostel.sql U Java Process Console
1. Add students data to hostel database
2. View all data in hostel database
3. Delete student data from hostel database
4. Exit the program
1
Enter your id number
190031920
Enter your first name
Nikhil Reddy
Enter your last name
Avuthu
Enter your year of study
3
Enter your gender
male
Enter your Department
cse
Enter your mobile number
9876543210
Enter your date of birth in yyyy-mm-dd format
2002-05-27
Enter your parent name
Narendra Reddy
Enter your parent's mobile number
7894561230
Enter your address
Vijayawada
Enter the location of kl id photo in your file system
c:/test/id.png
Enter the location of payment receipt in your file system
c:/test/fee.png
Data inserted successfully
1. Add students data to hostel database
2. View all data in hostel database
3. Delete student data from hostel database
4. Exit the program
```



```

Data inserted successfully
1. Add students data to hostel database
2. View all data in hostel database
3. Delete student data from hostel database
4. Exit the program
2
Id number | First name | Last name
190031920 Nikhil Reddy Avuthu
1. Add students data to hostel database
2. View all data in hostel database
3. Delete student data from hostel database
4. Exit the program
3
Enter the id of the student to be deleted
190031920
Deleted student with id 190031920 succesfully
1. Add students data to hostel database
2. View all data in hostel database
3. Delete student data from hostel database
4. Exit the program
2
No data
1. Add students data to hostel database
2. View all data in hostel database
3. Delete student data from hostel database
4. Exit the program
4

C:\study\3-1\jfsd_sdp\skill\skill-2>

```

Welcome Page system HOSTEL													
Columns Data Model Constraints Grants Statistics Triggers Flashback Dependencies Details Partitions Indexes SQL													
Sort: Filter:													
ID	FIRST_NAME	LAST_NAME	YEAR_OF_STUDY	GENDER	DEPAR...	MOBILE	DOB	PARENT_NAME	PARENT_M...	ADDRESS	ID_CARD	PAYMENT_RECEIPT	
1	190031920	Nikhil Reddy	Avuthu	3 male	cse	9876...	27-05-02	Narendra Reddy	7894561230	Vijayawada	(BLOB)	(BLOB)	