activity_main.xml:

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp"
    android:background="@color/backgroundColor">

    <TextView
        android:id="@+id/title"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Student Management System"
        android:textColor="@color/textColor"
        android:textSize="24sp"
        android:layout_gravity="center"
        android:padding="16dp"/>
    <EditText
        android:id="@+id/editTextName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter Name"
        android:textColor="@color/textColor"
        android:background="@color/primaryColor"
        android:padding="8dp"/>
    <EditText
        android:id="@+id/editTextRollNo"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter Roll No"
        android:textColor="@color/textColor"
        android:background="@color/primaryColor"
        android:padding="8dp"/>
    <EditText
        android:id="@+id/editTextDepartment"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter Department"
        android:textColor="@color/textColor"
        android:background="@color/primaryColor"
        android:padding="8dp"/>
    <EditText
        android:id="@+id/editTextAddress"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter Address"
        android:textColor="@color/textColor"
        android:background="@color/primaryColor"
        android:padding="8dp"/>
```

```xml
<EditText
    android:id="@+id/editTextGPA"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter GPA"
    android:textColor="@color/textColor"
    android:background="@color/primaryColor"
    android:padding="8dp"/>

<Button
    android:id="@+id/buttonInsert"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Insert"
    android:textColor="@color/buttonTextColor"
    android:background="@color/primaryColor"
    android:shape="rectangle"
    android:layout_marginTop="16dp"/>
<Button
    android:id="@+id/buttonUpdate"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Update"
    android:textColor="@color/buttonTextColor"
    android:background="@color/primaryColor"
    android:shape="rectangle"
    android:layout_marginTop="8dp"/>
<Button
    android:id="@+id/buttonDelete"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Delete"
    android:textColor="@color/buttonTextColor"
    android:background="@color/primaryColor"
    android:shape="rectangle"
    android:layout_marginTop="8dp"/>
<Button
    android:id="@+id/buttonViewAll"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="View"
    android:textColor="@color/buttonTextColor"
    android:background="@color/primaryColor"
    android:shape="rectangle"
    android:layout_marginTop="8dp"/>

<TableLayout
    android:id="@+id/tableLayout"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
```

```xml
            android:layout_marginTop="16dp"
            android:stretchColumns="1"
            android:padding="8dp"
            android:background="@color/primaryColor"
            android:divider="@android:color/black"
            android:dividerPadding="2dp">
        </TableLayout>

</LinearLayout>
```

MainActivity.java:

```java
package com.example.studentapp;
import android.annotation.SuppressLint;
import android.database.Cursor;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TableLayout;
import android.widget.TableRow;
import android.widget.TextView;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    DatabaseHelper db;
    EditText editTextName, editTextRollNo, editTextDepartment, editTextAddress, editTextGPA;
    Button buttonInsert, buttonUpdate, buttonDelete, buttonViewAll;
    TableLayout tableLayout;

    @SuppressLint("MissingInflatedId")
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        db = new DatabaseHelper(this);
        editTextName = findViewById(R.id.editTextName);
        editTextRollNo = findViewById(R.id.editTextRollNo);
        editTextDepartment = findViewById(R.id.editTextDepartment);
        editTextAddress = findViewById(R.id.editTextAddress);
        editTextGPA = findViewById(R.id.editTextGPA);

        buttonInsert = findViewById(R.id.buttonInsert);
        buttonUpdate = findViewById(R.id.buttonUpdate);
        buttonDelete = findViewById(R.id.buttonDelete);
        buttonViewAll = findViewById(R.id.buttonViewAll);

        tableLayout = findViewById(R.id.tableLayout);
```

```java
        insertStudent();
        updateStudent();
        deleteStudent();
        viewStudents();
    }
    private void insertStudent() {
        buttonInsert.setOnClickListener(v -> {
            String name = editTextName.getText().toString();
            String department = editTextDepartment.getText().toString();
            String address = editTextAddress.getText().toString();
            float gpa;
            int rollNo;
            try {
                gpa = Float.parseFloat(editTextGPA.getText().toString());
                rollNo = Integer.parseInt(editTextRollNo.getText().toString());
            } catch (NumberFormatException e) {
                Toast.makeText(MainActivity.this, "Invalid input", Toast.LENGTH_SHORT).show();
                return;
            }
            boolean isInserted = db.insertStudent(rollNo, name, department, address, gpa);
            Toast.makeText(MainActivity.this, isInserted ? "Student Inserted" : "Insert Failed",
Toast.LENGTH_SHORT).show();
        });
    private void updateStudent() {
        buttonUpdate.setOnClickListener(v -> {
            int rollNo;
            try {
                rollNo = Integer.parseInt(editTextRollNo.getText().toString());
            } catch (NumberFormatException e) {
                Toast.makeText(MainActivity.this, "Invalid Roll Number", Toast.LENGTH_SHORT).show();
                return;
            }
            if (!db.doesStudentExist(rollNo)) {
                Toast.makeText(MainActivity.this, "Roll Number Not Found", Toast.LENGTH_SHORT).show();
                return;
            }
            String name = editTextName.getText().toString();
            String department = editTextDepartment.getText().toString();
            String address = editTextAddress.getText().toString();
            float gpa;
            try {
                gpa = Float.parseFloat(editTextGPA.getText().toString());
            } catch (NumberFormatException e) {
                Toast.makeText(MainActivity.this, "Invalid GPA", Toast.LENGTH_SHORT).show();
                return;
            }boolean isUpdated = db.updateStudent(rollNo, name, department, address, gpa);
            Toast.makeText(MainActivity.this, isUpdated ? "Student Updated" : "Update Failed",
Toast.LENGTH_SHORT).show();
        });
    }
```

```java
    private void deleteStudent() {
        buttonDelete.setOnClickListener(v -> {
            int rollNo;
            try {
                rollNo = Integer.parseInt(editTextRollNo.getText().toString());
            } catch (NumberFormatException e) {
                Toast.makeText(MainActivity.this, "Invalid Roll Number", Toast.LENGTH_SHORT).show();
                return;
            } if (!db.doesStudentExist(rollNo)) {
                Toast.makeText(MainActivity.this, "Roll Number Not Found", Toast.LENGTH_SHORT).show();
                return;
            } int deletedRows = db.deleteStudent(rollNo);
            Toast.makeText(MainActivity.this, deletedRows > 0 ? "Student Deleted" : "Delete Failed",
Toast.LENGTH_SHORT).show();
        });
    }@SuppressLint("Range")
    private void viewStudents() {
        buttonViewAll.setOnClickListener(v -> {
            tableLayout.removeAllViews();
            Cursor res = db.getAllStudents();
            if (res.getCount() == 0) {
                Toast.makeText(MainActivity.this, "No Data Found", Toast.LENGTH_SHORT).show();
                return;
            }
            TableRow headerRow = new TableRow(this);
            headerRow.addView(createTextView("Roll No"));
            headerRow.addView(createTextView("Name"));
            headerRow.addView(createTextView("Department"));
            headerRow.addView(createTextView("Address"));
            headerRow.addView(createTextView("GPA"));
            tableLayout.addView(headerRow);
            while (res.moveToNext()) {
                String rollNo = res.getString(res.getColumnIndex("roll_no"));
                Log.d("MainActivity", "Displaying Roll No: " + rollNo); // Log roll number
                TableRow row = new TableRow(this);
                row.addView(createTextView(rollNo));
                row.addView(createTextView(res.getString(res.getColumnIndex("Name"))));
                row.addView(createTextView(res.getString(res.getColumnIndex("department"))));
                row.addView(createTextView(res.getString(res.getColumnIndex("address"))));
                row.addView(createTextView(String.valueOf(res.getFloat(res.getColumnIndex("gpa")))));
                tableLayout.addView(row);
            }res.close();
        });
    }
    private TextView createTextView(String text) {
        TextView textView = new TextView(this);
        textView.setText(text);
        textView.setPadding(10, 10, 10, 10);
        return textView;
    }
}
```

Student Management System

Enter Name

Enter Roll No

Enter Department

Enter Address

Enter GPA

INSERT

UPDATE

DELETE

VIEW

Roll No	Name	Dept	Address	GPA
2	Abhirami	AIML	Chennai	8.6
20	Catherine	AIML	Chennai	8.3
29	Dhiya Darshini S	AIML	Avadi, Chennai	8.5
36	Harini G	AIML	Vellore	9.0
45	Hema NL	AIML	Thiruvallur	8.3