CRUDE(PGM-15)

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity"  
 android:orientation="vertical">  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Student Details"  
 android:layout\_x="50dp"  
 android:layout\_y="20dp"  
 android:textSize="30sp" />  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Enter roll no"  
 android:layout\_x="20dp"  
 android:layout\_y="110dp"  
 android:textSize="20sp" />  
 <EditText  
 android:id="@+id/Rollno"  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:inputType="number"  
 android:layout\_x="175dp"  
  
  
 android:layout\_y="100dp"  
 android:textSize="20sp" />  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Enter name"  
 android:layout\_x="20dp"  
 android:layout\_y="160dp"  
 android:textSize="20sp" />  
 <EditText  
 android:id="@+id/Name"  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:inputType="text"  
 android:layout\_x="175dp"  
 android:layout\_y="100dp"  
 android:textSize="20sp" />  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Enter mark"  
 android:layout\_x="20dp"  
 android:layout\_y="210dp"  
 android:textSize="20sp" />  
 <EditText  
 android:id="@+id/Marks"  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:inputType="number"  
 android:layout\_x="175dp"  
 android:layout\_y="200dp"  
 android:textSize="20sp" />  
 <Button  
 android:id="@+id/Insert"  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:text="Insert"  
 android:layout\_x="25dp"  
 android:layout\_y="300dp"  
 android:textSize="30sp" />  
 <Button  
 android:id="@+id/Delete"  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:text="Delete"  
 android:layout\_x="200dp"  
 android:layout\_y="300dp"  
  
 android:textSize="30sp" />  
 <Button  
 android:id="@+id/Update"  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:text="Update"  
 android:layout\_x="25dp"  
 android:layout\_y="400dp"  
 android:textSize="30sp" />  
 <Button  
 android:id="@+id/View"  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:text="View"  
 android:layout\_x="200dp"  
 android:layout\_y="400dp"  
 android:textSize="30sp" />  
 <Button  
 android:id="@+id/ViewAll"  
 android:layout\_width="200dp"  
 android:layout\_height="wrap\_content"  
 android:text="View All"  
 android:layout\_x="100dp"  
 android:layout\_y="500dp"  
 android:textSize="30sp" />  
</LinearLayout>

MainActivity

package com.example.crud;  
  
import androidx.appcompat.app.AlertDialog;  
import androidx.appcompat.app.AppCompatActivity;  
import android.content.Context;  
import android.database.Cursor;  
import android.database.sqlite.SQLiteDatabase;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
  
public class MainActivity extends AppCompatActivity implements View.OnClickListener {  
  
 EditText Rollno, Name, Marks;  
 Button Insert, Delete, Update, View, ViewAll;  
 SQLiteDatabase db;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 Rollno = findViewById(R.id.*Rollno*);  
 Name = findViewById(R.id.*Name*);  
 Marks = findViewById(R.id.*Marks*);  
 Insert = findViewById(R.id.*Insert*);  
 Delete = findViewById(R.id.*Delete*);  
 Update = findViewById(R.id.*Update*);  
 View = findViewById(R.id.*View*);  
 ViewAll = findViewById(R.id.*ViewAll*);  
  
 Insert.setOnClickListener(this);  
 Delete.setOnClickListener(this);  
 Update.setOnClickListener(this);  
 View.setOnClickListener(this);  
 ViewAll.setOnClickListener(this);  
  
 db = openOrCreateDatabase("StudentDB", Context.*MODE\_PRIVATE*, null);  
 db.execSQL("CREATE TABLE IF NOT EXISTS student(rollno VARCHAR, name VARCHAR, marks VARCHAR);");  
 }  
  
 @Override  
 public void onClick(View view) {  
 if (view == Insert) {  
 if (Rollno.getText().toString().trim().isEmpty() ||  
 Name.getText().toString().trim().isEmpty() ||  
 Marks.getText().toString().trim().isEmpty()) {  
 showMessage("Error", "Please enter all values");  
 return;  
 }  
  
 db.execSQL("INSERT INTO student VALUES('" + Rollno.getText() + "','" +  
 Name.getText() + "','" + Marks.getText() + "');");  
 showMessage("Success", "Record added");  
 clearText();  
 }  
  
 if (view == Delete) {  
 if (Rollno.getText().toString().trim().isEmpty()) {  
 showMessage("Error", "Please enter rollno");  
 return;  
 }  
 Cursor c = db.rawQuery("SELECT \* FROM student WHERE rollno='" + Rollno.getText() + "'", null);  
 if (c.moveToFirst()) {  
 db.execSQL("DELETE FROM student WHERE rollno='" + Rollno.getText() + "'");  
 showMessage("Success", "Record deleted");  
 } else {  
 showMessage("Error", "Invalid rollno");  
 }  
 clearText();  
 }  
  
 if (view == Update) {  
 if (Rollno.getText().toString().trim().isEmpty()) {  
 showMessage("Error", "Please enter rollno");  
 return;  
 }  
 Cursor c = db.rawQuery("SELECT \* FROM student WHERE rollno='" + Rollno.getText() + "'", null);  
 if (c.moveToFirst()) {  
 db.execSQL("UPDATE student SET name='" + Name.getText() + "', marks='" +  
 Marks.getText() + "' WHERE rollno='" + Rollno.getText() + "'");  
 showMessage("Success", "Record Modified");  
 } else {  
 showMessage("Error", "Invalid rollno");  
 }  
 clearText();  
 }  
  
 if (view == View) {  
 if (Rollno.getText().toString().trim().isEmpty()) {  
 showMessage("Error", "Please enter rollno");  
 return;  
 }  
 Cursor c = db.rawQuery("SELECT \* FROM student WHERE rollno='" + Rollno.getText() + "'", null);  
 if (c.moveToFirst()) {  
 Name.setText(c.getString(1));  
 Marks.setText(c.getString(2));  
 } else {  
 showMessage("Error", "Invalid rollno");  
 clearText();  
 }  
 }  
  
 if (view == ViewAll) {  
 Cursor cursor = db.rawQuery("SELECT \* FROM student", null);  
 if (cursor.getCount() == 0) {  
 showMessage("Error", "No records found");  
 return;  
 }  
 StringBuilder buffer = new StringBuilder();  
 while (cursor.moveToNext()) {  
 buffer.append("Rollno: ").append(cursor.getString(0)).append("\n");  
 buffer.append("Name: ").append(cursor.getString(1)).append("\n");  
 buffer.append("Marks: ").append(cursor.getString(2)).append("\n\n");  
 }  
 showMessage("Student Details", buffer.toString());  
 }  
 }  
  
 private void clearText() {  
 Rollno.setText("");  
 Name.setText("");  
 Marks.setText("");  
 Rollno.requestFocus();  
 }  
  
 private void showMessage(String title, String message) {  
 AlertDialog.Builder builder = new AlertDialog.Builder(this);  
 builder.setCancelable(true);  
 builder.setTitle(title);  
 builder.setMessage(message);  
 builder.show();  
 }  
}