Mainactivity.java

**package** com.example.crud;  
  
**import** androidx.appcompat.app.AppCompatActivity;  
**import** android.content.ContentValues;  
**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;  
**import** android.widget.TextView;  
**import** android.widget.Toast;  
  
**public class** MainActivity **extends** AppCompatActivity {  
 TextView **tv1**;  
 EditText **ed1**, **ed2**, **ed3**;  
 Button **b1**, **b2**, **b3**, **b4**;  
 String **rno**;  
 String **name**;  
 String **dept**;  
 SQLiteDatabase **db**;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
 **tv1** = findViewById(R.id.***tv1***);  
 **ed1** = findViewById(R.id.***ed1***);  
 **ed2** = findViewById(R.id.***ed2***);  
 **ed3** = findViewById(R.id.***ed3***);  
 **b1** = findViewById(R.id.***b1***);  
 **b2** = findViewById(R.id.***b2***);  
 **b3** = findViewById(R.id.***b3***);  
 **b4** = findViewById(R.id.***b4***);  
  
 DBHelper dbHelper = **new** DBHelper(**this**);  
 **db** = dbHelper.getWritableDatabase();  
 **db** = dbHelper.getReadableDatabase();  
 }  
  
 **public void** onInsert(View view) {  
 **rno** = **ed1**.getText().toString();  
 **name** = **ed2**.getText().toString();  
 **dept** = **ed3**.getText().toString();  
  
 **if** (**name**.equals(**""**) || **rno**.equals(**""**) || **dept**.equals(**""**)) {  
 Toast.*makeText*(**this**, **"Please enter values"**, Toast.***LENGTH\_SHORT***).show();  
 **return**;  
 } **else** {  
 ContentValues values = **new** ContentValues();  
 values.put(**"rollno"**, **rno**);  
 values.put(**"name"**, **name**);  
 values.put(**"dept"**, **dept**);  
 **db**.insert(**"student"**, **null**, values);  
 Toast.*makeText*(**this**, **"Inserted...!"**, Toast.***LENGTH\_SHORT***).show();  
 }  
 }  
  
 **public void** onUpdate(View view) {  
 **rno** = **ed1**.getText().toString();  
 **name** = **ed2**.getText().toString();  
 **dept** = **ed3**.getText().toString();  
  
 **if** (**rno**.equals(**""**)) {  
 Toast.*makeText*(**this**, **"Please enter Roll No"**, Toast.***LENGTH\_SHORT***).show();  
 **return**;  
 } **else** {  
 ContentValues values = **new** ContentValues();  
 values.put(**"rollno"**, **rno**);  
 values.put(**"name"**, **name**);  
 values.put(**"dept"**, **dept**);  
 **db**.update(**"student"**, values, **"rollno=?"**, **new** String[]{**rno**});  
 Toast.*makeText*(**this**, **"Updated...!"**, Toast.***LENGTH\_SHORT***).show();  
 }  
 }  
  
 **public void** onRead(View view) {  
 StringBuffer buffer = **new** StringBuffer();  
 Cursor c = **db**.rawQuery(**"select \* from student"**, **null**);  
  
 **while** (c.moveToNext()) {  
 buffer.append(**"\nRoll No: "** + c.getString(0));  
 buffer.append(**"\nName: "** + c.getString(1));  
 buffer.append(**"\nDept: "** + c.getString(2));  
 buffer.append(**"\n-----------------------"**);  
 }  
 Toast.*makeText*(**this**, buffer.toString(), Toast.***LENGTH\_LONG***).show();  
 }  
  
 **public void** onDelete(View view) {  
 **rno** = **ed1**.getText().toString();  
  
 **if** (**rno**.equals(**""**)) {  
 Toast.*makeText*(**this**, **"Please enter Roll No"**, Toast.***LENGTH\_SHORT***).show();  
 **return**;  
 } **else** {  
 **db**.delete(**"student"**, **"rollno=?"**, **new** String[]{**rno**});  
 Toast.*makeText*(**this**, **"Deleted...!"**, Toast.***LENGTH\_SHORT***).show();  
 }  
 }  
}

DBHelper.java

**package** com.example.crud;  
  
**import** android.content.Context;  
**import** android.database.sqlite.SQLiteDatabase;  
**import** android.database.sqlite.SQLiteOpenHelper;  
  
**import** androidx.annotation.Nullable;  
  
**public class** DBHelper **extends** SQLiteOpenHelper {  
  
 **public** DBHelper(@Nullable Context context) {  
 **super**(context, **"student.db"**, **null**, 1);  
 }  
  
 @Override  
 **public void** onCreate(SQLiteDatabase sqLiteDatabase) {  
 sqLiteDatabase.execSQL(**"CREATE TABLE student (rollno VARCHAR(20), name VARCHAR(20), dept VARCHAR(20))"**);  
 }  
  
 @Override  
 **public void** onUpgrade(SQLiteDatabase sqLiteDatabase, **int** i, **int** i1) {  
 sqLiteDatabase.execSQL(**"DROP TABLE IF EXISTS student"**);  
 onCreate(sqLiteDatabase);  
 }  
}

activity.xml

<**RelativeLayout  
 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:gravity="center"**>  
  
 <**TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Student Details"  
 android:id="@+id/tv1"  
 android:layout\_centerHorizontal="true"  
 android:textStyle="bold"  
 android:textSize="30sp"  
 android:layout\_marginBottom="20dp"** />  
  
 <**EditText  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter rollno"  
 android:id="@+id/ed1"  
 android:layout\_below="@id/tv1"  
 android:layout\_marginHorizontal="30dp"  
 android:layout\_marginTop="20dp"** />  
  
 <**EditText  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter name"  
 android:id="@+id/ed2"  
 android:layout\_below="@id/ed1"  
 android:layout\_marginHorizontal="30dp"  
 android:layout\_marginTop="20dp"** />  
  
 <**EditText  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter dept"  
 android:id="@+id/ed3"  
 android:layout\_below="@id/ed2"  
 android:layout\_marginHorizontal="30dp"  
 android:layout\_marginTop="20dp"** />  
  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/b1"  
 android:onClick="onInsert"  
 android:layout\_centerHorizontal="true"  
 android:text="Insert"  
 android:layout\_below="@id/ed3"  
 android:layout\_marginTop="20dp"** />  
  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/b2"  
 android:onClick="onUpdate"  
 android:layout\_centerHorizontal="true"  
 android:text="Update"  
 android:layout\_below="@id/b1"  
 android:layout\_marginTop="20dp"** />  
  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/b3"  
 android:onClick="onRead"  
 android:layout\_centerHorizontal="true"  
 android:text="Read"  
 android:layout\_below="@id/b2"  
 android:layout\_marginTop="20dp"** />  
  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/b4"  
 android:onClick="onDelete"  
 android:layout\_centerHorizontal="true"  
 android:text="Delete"  
 android:layout\_below="@id/b3"  
 android:layout\_marginTop="20dp"** />  
  
</**RelativeLayout**>

Dependency

dependencies **{** *// AndroidX dependencies* implementation **'androidx.appcompat:appcompat:1.4.1'** implementation **'com.google.android.material:material:1.5.0'** implementation **'androidx.constraintlayout:constraintlayout:2.1.3'** implementation **'com.google.android.material:material:1.9.0'** *// Unit test dependencies* testImplementation **'junit:junit:4.13.2'** *// Android Instrumentation test dependencies* androidTestImplementation **'androidx.test.ext:junit:1.1.3'** androidTestImplementation **'androidx.test.espresso:espresso-core:3.4.0'  
}**