# Retrieve and Display Student Details Using Roll Number (SQLite)

## Java Code - MainActivity.java

package com.example.studentdatabase;  
  
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;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
 EditText etRollNumber;  
 Button btnRetrieve;  
 TextView tvResult;  
 DatabaseHelper dbHelper;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
  
 etRollNumber = findViewById(R.id.et\_roll\_number);  
 btnRetrieve = findViewById(R.id.btn\_retrieve);  
 tvResult = findViewById(R.id.tv\_result);  
 dbHelper = new DatabaseHelper(this);  
  
 btnRetrieve.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 String rollNumber = etRollNumber.getText().toString();  
 if (!rollNumber.isEmpty()) {  
 retrieveStudentDetails(rollNumber);  
 } else {  
 Toast.makeText(MainActivity.this, "Enter Roll Number", Toast.LENGTH\_SHORT).show();  
 }  
 }  
 });  
 }  
  
 private void retrieveStudentDetails(String rollNumber) {  
 SQLiteDatabase db = dbHelper.getReadableDatabase();  
 Cursor cursor = db.rawQuery("SELECT \* FROM students WHERE id=?", new String[]{rollNumber});  
  
 if (cursor.moveToFirst()) {  
 String name = cursor.getString(1);  
 int age = cursor.getInt(2);  
 String department = cursor.getString(3);  
  
 tvResult.setText("Name: " + name + "\nAge: " + age + "\nDepartment: " + department);  
 } else {  
 tvResult.setText("No student found with Roll Number: " + rollNumber);  
 }  
 cursor.close();  
 db.close();  
 }  
}

## Java Code - DatabaseHelper.java

package com.example.studentdatabase;  
  
import android.content.Context;  
import android.database.sqlite.SQLiteDatabase;  
import android.database.sqlite.SQLiteOpenHelper;  
  
public class DatabaseHelper extends SQLiteOpenHelper {  
 private static final String DATABASE\_NAME = "students.db";  
 private static final int DATABASE\_VERSION = 1;  
  
 public DatabaseHelper(Context context) {  
 super(context, DATABASE\_NAME, null, DATABASE\_VERSION);  
 }  
  
 @Override  
 public void onCreate(SQLiteDatabase db) {  
 String CREATE\_TABLE = "CREATE TABLE students (id INTEGER PRIMARY KEY AUTOINCREMENT, " +  
 "name TEXT, age INTEGER, department TEXT)";  
 db.execSQL(CREATE\_TABLE);  
 }  
  
 @Override  
 public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {  
 db.execSQL("DROP TABLE IF EXISTS students");  
 onCreate(db);  
 }  
}

## XML Layout - activity\_main.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="20dp">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Retrieve Student Details"  
 android:textSize="20sp"  
 android:textStyle="bold"/>  
  
 <EditText  
 android:id="@+id/et\_roll\_number"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter Roll Number"  
 android:inputType="number"/>  
  
 <Button  
 android:id="@+id/btn\_retrieve"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Retrieve Data"/>  
  
 <TextView  
 android:id="@+id/tv\_result"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:textSize="18sp"  
 android:padding="10dp"/>  
</LinearLayout>