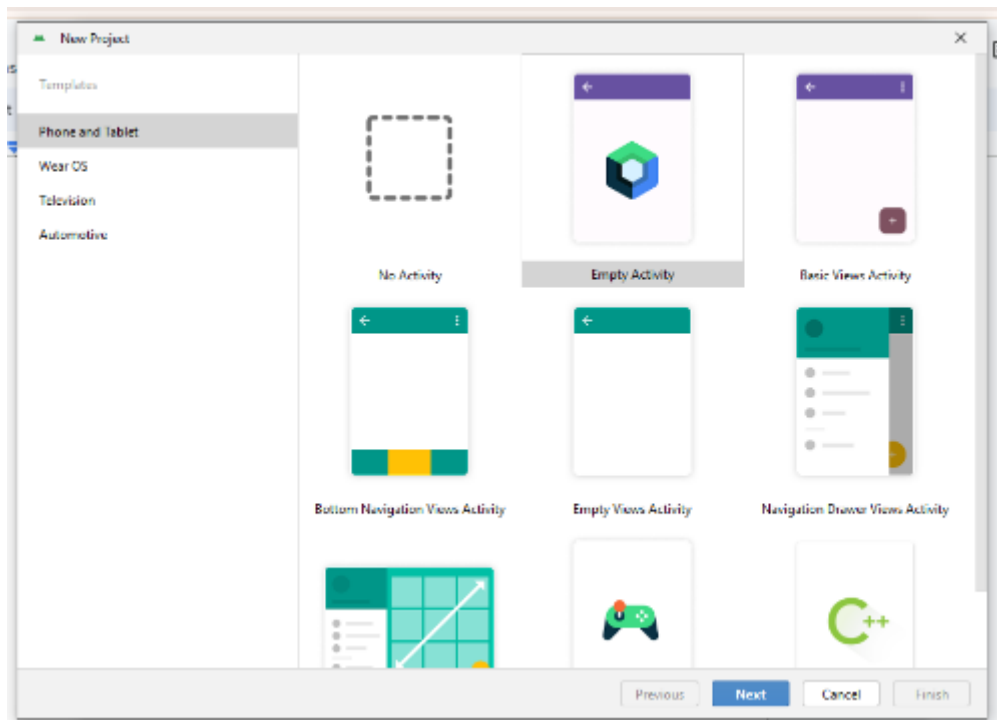


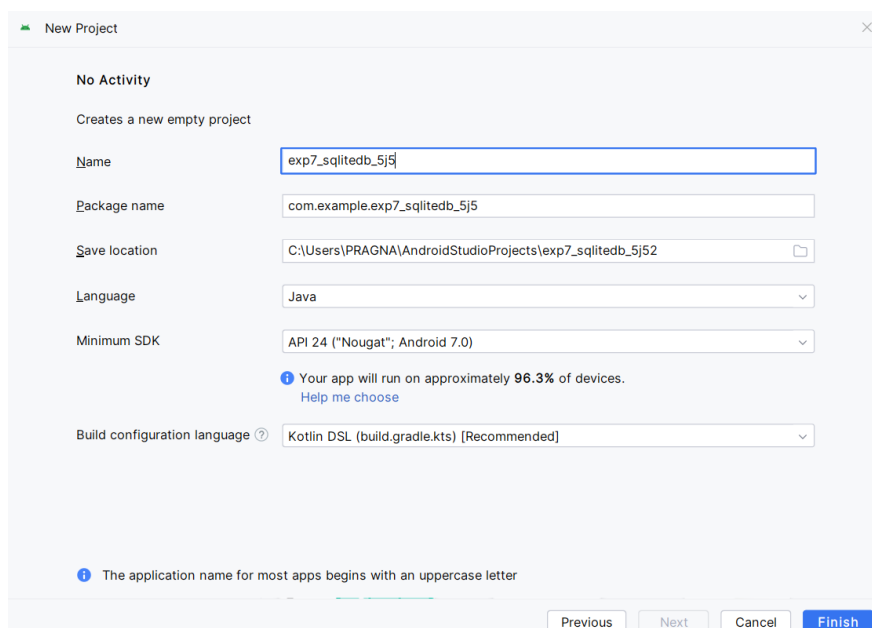
EXPERIMENT – 7

EXPERIMENT USING DATABASES IN ANDROID (SQLITE)

Creating a project by clicking on a new project. Another project will be opened to create an activity



Name the Project



MainActivity.java

```
package com.example.exp7_sqlitedb_5j5;

import androidx.appcompat.app.AppCompatActivity;

import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    StudentDBHelper dbHelper;
    EditText et_roll, et_name, et_avg, et_grade;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        //object is created
        dbHelper = new StudentDBHelper(this);
        et_roll = this.findViewById(R.id.et_roll);
        et_name = this.findViewById(R.id.et_name);
        et_avg = this.findViewById(R.id.et_avg);
        et_grade = this.findViewById(R.id.et_grade);
    }

    public void insertStudent(View v){
        String r = et_roll.getText().toString();
        String n = et_name.getText().toString();
        String a = et_avg.getText().toString();
        String g = et_grade.getText().toString();

        if(dbHelper.insertStudent(r,n,a,g)){
            Toast.makeText(this, "Insertion is Successful",
Toast.LENGTH_LONG).show();
        }
        else{
            Toast.makeText(this, "Insertion is Failed",
Toast.LENGTH_LONG).show();
        }
    }

    public void deleteStudent(View v){
        String r = et_roll.getText().toString();

        if(dbHelper.deleteStudent(r)){
            Toast.makeText(this, "Deletion is Successful",
Toast.LENGTH_LONG).show();
        }
        else{
            Toast.makeText(this, "Deletion is Failed",
Toast.LENGTH_LONG).show();
        }
    }

    public void updateStudent(View v){
        String r = et_roll.getText().toString();
        String n = et_name.getText().toString();
        String a = et_avg.getText().toString();
        String g = et_grade.getText().toString();
    }
}
```

```

        if (dbHelper.updateStudent(r,n,a,g)>0) {
            Toast.makeText(this, "Updation is Successful",
Toast.LENGTH_LONG).show();
        }
        else{
            Toast.makeText(this, "Updation is Failed",
Toast.LENGTH_LONG).show();
        }
    }
    public void getStudent(View v) {
        Cursor student =
dbHelper.viewStudent(et_roll.getText().toString());
        if (student.moveToFirst()) {
            et_name.setText(student.getString(1));
            et_avg.setText(student.getString(2));
            et_grade.setText(student.getString(3));
        }
        else{
            Toast.makeText(this, "No such student",
Toast.LENGTH_LONG).show();
        }
    }
}

```

activity_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<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">
    <TextView
        android:id="@+id/tv_title"
        android:text="SQLite Database App"
        android:textColor="@color/black"
        android:textSize="34sp"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"></TextView>
    <EditText
        android:id="@+id/et_roll"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24sp"
        android:layout_below="@id/tv_title"
        android:text="Roll No."></EditText>
    <EditText
        android:id="@+id/et_name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24sp"
        android:layout_below="@id/et_roll"
        android:text="Name"></EditText>
    <EditText
        android:id="@+id/et_avg"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24sp"

```

```

        android:layout_below="@id/et_name"
        android:text="Average"></EditText>
<EditText
    android:id="@+id/et_grade"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="24sp"
    android:layout_below="@id/et_avg"
    android:text="Grade"></EditText>

<Button
    android:id="@+id/btn_insert"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/et_grade"
    android:onClick="insertStudent"
    android:text="INSERT NEW STUDENT"
    android:textSize="24sp"></Button>

<Button
    android:id="@+id/btn_update"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/btn_insert"
    android:onClick="updateStudent"
    android:text="UPDATE EXISTING STUDENT"
    android:textSize="24sp"></Button>

<Button
    android:id="@+id/btn_delete"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/btn_update"
    android:onClick="deleteStudent"
    android:text="DELETE EXISTING STUDENT"
    android:textSize="24sp"></Button>

<Button
    android:id="@+id/btn_select"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/btn_delete"
    android:onClick="getStudent"
    android:text="SELECT A STUDENT"
    android:textSize="24sp"></Button>

</RelativeLayout>

```

StudentDBHelper.java

```

package com.example.exp7_sqlitedb_5j5;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;

```

```

import androidx.annotation.Nullable;

public class StudentDBHelper extends SQLiteOpenHelper {
    public StudentDBHelper(Context context) {
        super(context, "student.db", null, 1);
    }

    public StudentDBHelper(@Nullable Context context, @Nullable String
name, @Nullable SQLiteDatabase.CursorFactory factory, int version) {
        super(context, name, factory, version);
    }

    @Override
    public void onCreate(SQLiteDatabase db) { //creating a table
        String q = "create table StudentGrade(roll TEXT primary key, name
TEXT, avg TEXT, grade TEXT) ";
        //query is executed
        db.execSQL(q);
    }

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int
newVersion) {
        String q = "drop table if exists StudentGrade";
        //query is executed
        db.execSQL(q);
    }

    public boolean insertStudent(String roll, String name, String avg,
String grade){
        SQLiteDatabase sqLiteDatabase= this.getWritableDatabase();
        ContentValues student = new ContentValues();
        student.put("roll",roll);
        student.put("name",name);
        student.put("avg",avg);
        student.put("grade",grade);
        long res;
        res = sqLiteDatabase.insert("StudentGrade",null,student);
        if(res==-1) return (false);
        else return (true);
    }

    public int updateStudent(String roll, String name, String avg, String
grade){
        SQLiteDatabase sqLiteDatabase= this.getWritableDatabase();
        ContentValues student = new ContentValues();
        student.put("roll",roll);
        student.put("name",name);
        student.put("avg",avg);
        student.put("grade",grade);
        String[] params = new String[]{roll};

        return
sqLiteDatabase.update("StudentGrade",student,"roll=?",params);
    }

    public boolean deleteStudent(String roll){
        SQLiteDatabase sqLiteDatabase= this.getWritableDatabase();
        ContentValues student = new ContentValues();
        student.put("roll",roll);

```

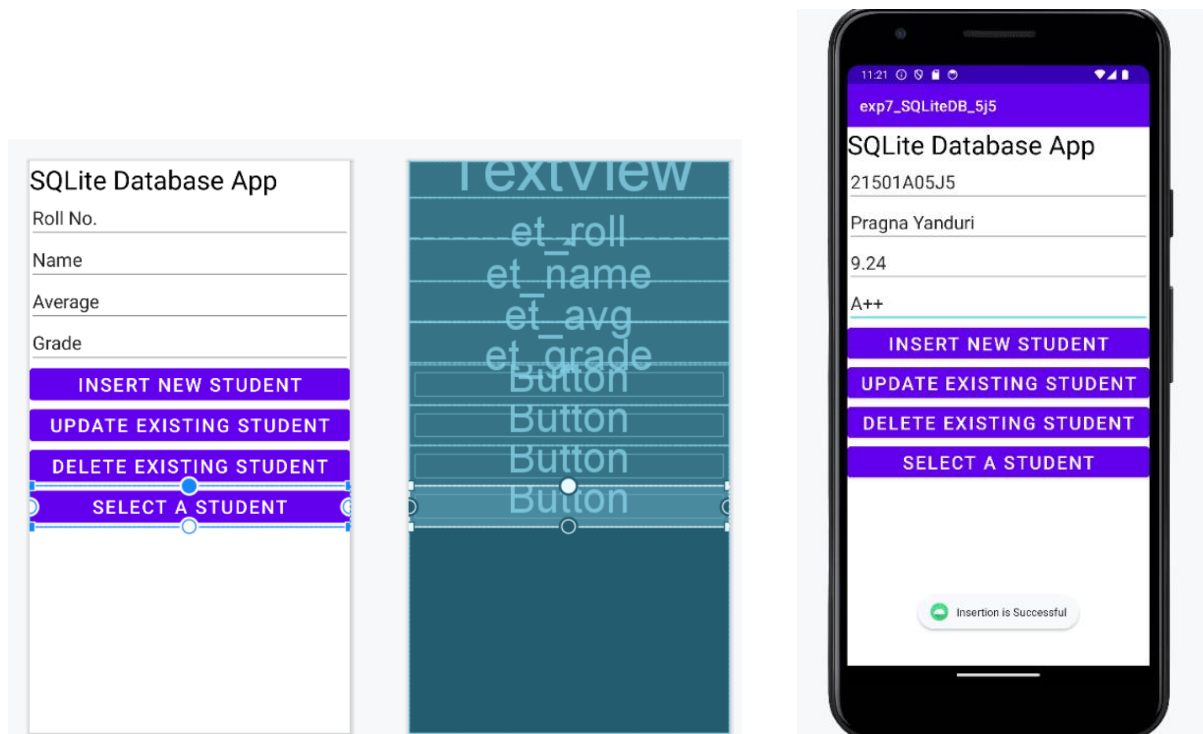
```

String[] params = new String[]{roll};
long res;
res = sqLiteDatabase.delete("StudentGrade","roll=?",params);
if(res==-1) return (false);
else return(true);

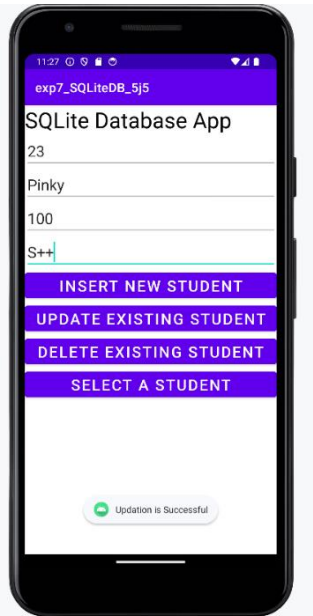
}
public Cursor viewStudent(String roll){
    SQLiteDatabase sqLiteDatabase = this.getWritableDatabase();
    String[] params = new String[]{roll};
    return sqLiteDatabase.rawQuery("select * from StudentGrade where
roll=?",params);
}
}

```

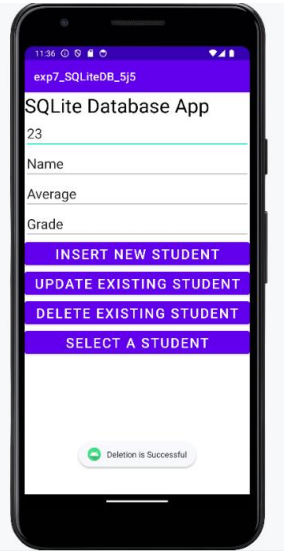
Output:



| roll | name | avg | grade |
|------------|-------------|------|-------|
| 23 | Y Pragna | 10 | S |
| 21501A0... | Pragna Y... | 9.24 | A++ |



| roll | name | avg | grade |
|------------|-------------|------|-------|
| 23 | Pinky | 100 | S++ |
| 21501A0... | Pragna Y... | 9.24 | A++ |



| roll | name | avg | grade |
|------------|-------------|------|-------|
| 21501A0... | Pragna Y... | 9.24 | A++ |

