

XML CODE

```
<?xml version="1.0" encoding="utf-8"?>

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/
android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">

<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:textAppearance="?android:attr/textAppearanceLarge"
android:text="Name"
android:id="@+id/textView"
android:layout_alignParentTop="true"
android:layout_alignParentLeft="true"
android:layout_alignParentStart="true" />

<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:textAppearance="?android:attr/textAppearanceLarge"
android:text="Surname"
android:id="@+id/textView2"
android:layout_below="@+id/editText_name"
android:layout_alignParentLeft="true"
android:layout_alignParentStart="true" />

<TextView
```

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:textAppearance="?android:attr/textAppearanceLarge"
```

```
android:text="Marks"
android:id="@+id/textView3"
android:layout_below="@+id/editText_surname"
android:layout_alignParentLeft="true"
android:layout_alignParentStart="true" />
```

```
<EditText
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/editText_name"
android:layout_alignTop="@+id/textView"
android:layout_toRightOf="@+id/textView"
android:layout_toEndOf="@+id/textView" />
```

```
<EditText
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/editText_surname"
android:layout_alignTop="@+id/textView2"
android:layout_toRightOf="@+id/textView2"
android:layout_toEndOf="@+id/textView2" />
```

```
<EditText
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/editText_Marks"
android:layout_below="@+id/editText_surname"
android:layout_toRightOf="@+id/textView3"
```

```
android:layout_toEndOf="@+id/textView3" />
```

```
<Button
```

```
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
```

```
android:text="Add Data"
```

```
android:id="@+id/button_add"
```

```
android:layout_below="@+id/editText_Marks"
```

```
android:layout_alignParentLeft="true"
```

```
android:layout_alignParentStart="true"
```

```
android:layout_marginTop="76dp" />
```

```
<Button
```

```
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
```

```
android:text="View All"
```

```
android:id="@+id/button_viewAll"
```

```
android:layout_above="@+id/button_update"
```

```
android:layout_centerHorizontal="true" />
```

```
<Button
```

```
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
```

```
android:text="Update"
```

```
android:id="@+id/button_update"
```

```
android:layout_below="@+id/button_add"
```

```
android:layout_alignParentLeft="true"
```

```
android:layout_alignParentStart="true" />
```

```
<Button
```

```
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
```

```

        android:text="Delete"
        android:id="@+id/button_delete"
        android:layout_centerVertical="true"
        android:layout_below="@+id/button_viewAll"
        android:layout_alignLeft="@+id/button_viewAll"

        android:layout_alignStart="@+id/button_viewAll" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textAppearance="?android:attr/textAppearanceLarge"
        android:text="id"
        android:id="@+id/textView_id"
        android:layout_below="@+id/editText_Marks"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true" />
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/editText_id"
        android:layout_alignTop="@+id/textView_id"
        android:layout_toRightOf="@+id/textView3"
        android:layout_toEndOf="@+id/textView3" />
</RelativeLayout>

```

JAVA CODE

```
package com.example.dbtest;
```

```
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import android.database.Cursor;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    DatabaseHelper myDb;
    EditText editName,editSurname,editMarks ,editTextId;
    Button btnAddData;
    Button btnviewAll;
    Button btnDelete;
    Button btnviewUpdate;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        myDb = new DatabaseHelper(this);
        editName = (EditText)findViewById(R.id.editText_name);
        editSurname =(EditText)findViewById(R.id.editText_surname);
        editMarks = (EditText)findViewById(R.id.editText_Marks);
        editTextId = (EditText)findViewById(R.id.editText_id);
        btnAddData = (Button)findViewById(R.id.button_add);
        btnviewAll = (Button)findViewById(R.id.button_viewAll);
```

```

btnviewUpdate= (Button)findViewById(R.id.button_update);
btnDelete= (Button)findViewById(R.id.button_delete);
AddData();
viewAll();
UpdateData();
DeleteData();
}

public void DeleteData() {
    btnDelete.setOnClickListener(
        new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Integer deletedRows =myDb.deleteData(editTextId.getText().toString());
                if(deletedRows > 0)
                    Toast.makeText(MainActivity.this,"Data Deleted",Toast.LENGTH_LONG).show();
                else
                    Toast.makeText(MainActivity.this,"Data not Deleted",Toast.LENGTH_LONG).show();
            }
        }
    );
}

public void UpdateData() {
    btnviewUpdate.setOnClickListener(

        new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                boolean isUpdate =
                    myDb.updateData(editTextId.getText().toString(),

```

```

editName.getText().toString(),

editSurname.getText().toString(),editMarks.getText().toString());
if(isUpdate == true)
    Toast.makeText(MainActivity.this,"Data Update",Toast.LENGTH_LONG).show();
else
    Toast.makeText(MainActivity.this,"Data not Updated",Toast.LENGTH_LONG).show();
}
}
);
}

public void AddData() {
    btnAddData.setOnClickListener(
        new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                boolean isInserted =
                    myDb.insertData(editName.getText().toString(),
                        editSurname.getText().toString(),
                        editMarks.getText().toString() );

                if(isInserted == true)
                    Toast.makeText(MainActivity.this,"Data
                    Inserted",Toast.LENGTH_LONG).show();
                else

                    Toast.makeText(MainActivity.this,"Data
                    not Inserted",Toast.LENGTH_LONG).show();
            }
        }
    );
}

```

```
}  
);  
}
```

```
public void viewAll() {  
    btnviewAll.setOnClickListener(  
        new View.OnClickListener() {  
            @Override  
            public void onClick(View v) {  
                Cursor res = myDb.getAllData();  
                if(res.getCount() == 0) {  
                    // show message  
                    showMessage("Error", "Nothing found");  
  
                    return;  
                }  

```

```
                StringBuffer buffer = new StringBuffer();  
                while (res.moveToNext()) {  
                    buffer.append("Id :"+  
                        res.getString(0)+"\n");  
                    buffer.append("Name :"+  
                        res.getString(1)+"\n");  
                    buffer.append("Surname :"+  
                        res.getString(2)+"\n");  
                    buffer.append("Marks :"+  
                        res.getString(3)+"\n\n");  
                }  

```



```
// Show all data
showMessage("Data",buffer.toString());
}
}
);
}
```

```
public void showMessage(String title,String Message){
AlertDialog.Builder builder = new
AlertDialog.Builder(this);
builder.setCancelable(true);
builder.setTitle(title);
builder.setMessage(Message);
builder.show();
}
```

```
@Override
public boolean onCreateOptionsMenu(Menu menu) {
getMenuInflater().inflate(R.menu.menu_main, menu);
return true;
}
```

```
@Override
public boolean onOptionsItemSelected(MenuItem item) {
int id = item.getItemId();
{
return true;
}
return super.onOptionsItemSelected(item);
}
```

```
}  
}
```

NEW JAVA FILE

```
package com.example.dbtest;
```

```
import android.content.ContentValues;
```

```
import android.content.Context;
```

```
import android.database.Cursor;
```

```
import android.database.sqlite.SQLiteDatabase;
```

```
import android.database.sqlite.SQLiteOpenHelper;
```

```
public class DatabaseHelper extends SQLiteOpenHelper {  
    public static final String DATABASE_NAME = "Student.db";  
    public static final String TABLE_NAME = "student_table";  
    public static final String COL_1 = "ID";  
    public static final String COL_2 = "NAME";  
    public static final String COL_3 = "SURNAME";  
    public static final String COL_4 = "MARKS";
```

```
    public DatabaseHelper(Context context) {  
        super(context, DATABASE_NAME, null, 1);  
    }
```

```
@Override
```

```
    public void onCreate(SQLiteDatabase db) {  
        db.execSQL("create table " + TABLE_NAME + " (ID INTEGER PRIMARY  
        KEY AUTOINCREMENT,NAME TEXT,SURNAME TEXT,MARKS INTEGER)");  
    }
```

```
@Override
```

```
public void onUpgrade(SQLiteDatabase db, int oldVersion, int
newVersion) {
    db.execSQL("DROP TABLE IF EXISTS "+TABLE_NAME);

    onCreate(db);
}
```

```
public boolean insertData(String name,String surname,String marks) {
    SQLiteDatabase db = this.getWritableDatabase();
    ContentValues contentValues = new ContentValues();
    contentValues.put(COL_2,name);
    contentValues.put(COL_3,surname);
    contentValues.put(COL_4,marks);
    long result = db.insert(TABLE_NAME,null ,contentValues);
    if(result == -1)
        return false;
    else
        return true;
}
```

```
public Cursor getAllData() {
    SQLiteDatabase db = this.getWritableDatabase();
    Cursor res = db.rawQuery("select * from "+TABLE_NAME,null);
    return res;
}
```

```
public boolean updateData(String id,String name,String surname,String
marks) {
    SQLiteDatabase db = this.getWritableDatabase();
    ContentValues contentValues = new ContentValues();
    contentValues.put(COL_1,id);
```

```
contentValues.put(COL_2,name);  
contentValues.put(COL_3,surname);  
contentValues.put(COL_4,marks);  
db.update(TABLE_NAME, contentValues, "ID = ?",new String[]  
{ id });
```

```
return true;  
}
```

```
public Integer deleteData (String id) {  
    SQLiteDatabase db = this.getWritableDatabase();  
    return db.delete(TABLE_NAME, "ID = ?",new String[] {id});  
}  
}
```

11:06

DBTest

Name JOHN

Surname STEEV

Marks 90

id 6

ADD DATA VIEW ALL

UPDATE DELETE

11:07

DBTest

Name JOHN

Surname STEEV

Marks 90

id 6

Data

Id :5
Name :SMITH
Surname :STEEV
Marks :80

Id :6
Name :JOHN
Surname :STEEV
Marks :90