## 5. Develop an application that makes use of database. Objective:

**XML Code:**

<?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="16dp">

<EditText android:id="@+id/titleEditText" android:layout\_width="match\_parent" android:layout\_height="48dp" android:hint="Title" />

<EditText android:id="@+id/descriptionEditText" android:layout\_width="match\_parent" android:layout\_height="48dp" android:hint="Description" />

<Button android:id="@+id/addButton"

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="Add Note" />

<ListView android:id="@+id/notesListView" android:layout\_width="match\_parent"

android:layout\_height="wrap\_content" />

<TextView

android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:fontFamily="sans-serif" android:gravity="bottom|center" android:text="Nikhil" android:textSize="25sp" />

</LinearLayout>

## Java Code (DBHelper.java):

package com.example.android\_db;

import android.content.ContentValues; import android.content.Context; import android.database.Cursor;

import android.database.sqlite.SQLiteDatabase; import android.database.sqlite.SQLiteOpenHelper;

public class DBHelper extends SQLiteOpenHelper {

private static final String DATABASE\_NAME = "Notes.db"; private static final int DATABASE\_VERSION = 1;

private static final String TABLE\_NAME = "notes"; private static final String COLUMN\_ID = "id"; private static final String COLUMN\_TITLE = "title";

private static final String COLUMN\_DESCRIPTION = "description";

public DBHelper(Context context) {

super(context, DATABASE\_NAME, null, DATABASE\_VERSION);

}

@Override

public void onCreate(SQLiteDatabase db) {

String CREATE\_TABLE = "CREATE TABLE " + TABLE\_NAME + "("

+ COLUMN\_ID + " INTEGER PRIMARY KEY AUTOINCREMENT,"

+ COLUMN\_TITLE + " TEXT,"

+ COLUMN\_DESCRIPTION + " TEXT" + ")";

db.execSQL(CREATE\_TABLE);

}

@Override

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

onCreate(db);

}

// Insert a new note

public boolean insertNote(String title, String description) { SQLiteDatabase db = this.getWritableDatabase(); ContentValues values = new ContentValues(); values.put(COLUMN\_TITLE, title); values.put(COLUMN\_DESCRIPTION, description);

long result = db.insert(TABLE\_NAME, null, values); return result != -1; // returns false if insert fails

}

// Get all notes

public Cursor getAllNotes() {

SQLiteDatabase db = this.getReadableDatabase();

return db.rawQuery("SELECT \* FROM " + TABLE\_NAME, null);

}

// Delete a note

public boolean deleteNoteById(int id) { SQLiteDatabase db = this.getWritableDatabase();

return db.delete(TABLE\_NAME, COLUMN\_ID + "=" + id, null) > 0;

}

}

## Java Code(MainActivity.java):

package com.example.android\_db;

import androidx.appcompat.app.AppCompatActivity; import android.database.Cursor;

import android.os.Bundle;

import android.widget.ArrayAdapter; import android.widget.Button; import android.widget.EditText; import android.widget.ListView; import android.widget.Toast;

import java.util.ArrayList;

public class MainActivity extends AppCompatActivity { DBHelper dbHelper;

EditText titleEditText, descriptionEditText; Button addButton;

ListView notesListView; ArrayList<String> notesList; ArrayAdapter<String> notesAdapter;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main);

dbHelper = new DBHelper(this);

titleEditText = findViewById(R.id.titleEditText); descriptionEditText = findViewById(R.id.descriptionEditText); addButton = findViewById(R.id.addButton);

notesListView = findViewById(R.id.notesListView); notesList = new ArrayList<>();

loadNotes(); addButton.setOnClickListener(v -> {

String title = titleEditText.getText().toString();

String description = descriptionEditText.getText().toString();

if (title.isEmpty() || description.isEmpty()) {

Toast.makeText(MainActivity.this, "Please enter both title and description", Toast.LENGTH\_SHORT).show();

return;

}

boolean isInserted = dbHelper.insertNote(title, description);

if (isInserted) {

Toast.makeText(MainActivity.this, "Note added successfully", Toast.LENGTH\_SHORT).show();

loadNotes();

} else {

Toast.makeText(MainActivity.this, "Failed to add note", Toast.LENGTH\_SHORT).show();

}

});

notesListView.setOnItemLongClickListener((parent, view, position, id) -> { String selectedItem = notesList.get(position);

int noteId = Integer.parseInt(selectedItem.split(":")[0]); boolean isDeleted = dbHelper.deleteNoteById(noteId); if (isDeleted) {

Toast.makeText(MainActivity.this, "Note deleted", Toast.LENGTH\_SHORT).show();

loadNotes();

} else {

Toast.makeText(MainActivity.this, "Failed to delete note", Toast.LENGTH\_SHORT).show();

}

return true;

});

}

private void loadNotes() {

Cursor cursor = dbHelper.getAllNotes(); notesList.clear();

if (cursor.moveToFirst()) { do {

int id = cursor.getInt(0);

String title = cursor.getString(1);

String description = cursor.getString(2); notesList.add(id + ": " + title + "\n" + description);

} while (cursor.moveToNext());

}

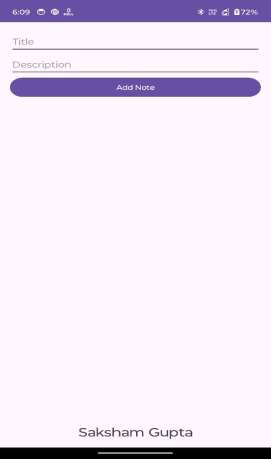
notesAdapter = new ArrayAdapter<>(this, android.R.layout.simple\_list\_item\_1, notesList);

notesListView.setAdapter(notesAdapter); notesAdapter.notifyDataSetChanged();

}

}

**Output:**



# Toast Message

**Objective:** The objective of this project is to develop a simple Android application that demonstrates the use of a Toast message in Java. The application will include a user interface with a button, and when the button is clicked, a Toast message will appear on the screen providing brief feedback to the user.

# Xml Code:

*<?*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"](http://schemas.android.com/apk/res-auto) xmlns:tools="[http://schemas.android.com/tools"](http://schemas.android.com/tools) android:id="@+id/main"

android:orientation="vertical" android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:padding="50sp" tools:context=".MainActivity">

<TextView android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="SignUp" android:layout\_gravity="center" android:textSize="35sp"/>

<LinearLayout android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:orientation="horizontal">

<TextView android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="User Id"/>

<EditText android:id="@+id/et1"

android:layout\_width="250dp" android:layout\_height="50dp" android:layout\_marginLeft="45dp" android:hint="UserId"/>

</LinearLayout>

<LinearLayout android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_marginTop="30dp">

<TextView android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Password"/>

<EditText android:id="@+id/et2"

android:layout\_width="250dp" android:layout\_height="50dp" android:hint="Password" android:layout\_marginLeft="30dp"/>

</LinearLayout>

<Button android:id="@+id/btn"

android:layout\_width="wrap\_content" android:layout\_height="50dp" android:layout\_marginTop="30dp" android:layout\_gravity="center" android:text="Submit"/>

<TextView android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:fontFamily="sans-serif"

android:gravity="bottom|center" android:text="Nikhil" android:textSize="25sp" />

</LinearLayout>

**Java Code**

package com.example.toastmsg;

import android.os.Bundle; import android.view.View; import android.widget.Button; import android.widget.EditText; import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity { private EditText editText1,editText2;

private Button button; @Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.*activity\_main*);

editText1 = findViewById(R.id.*et1*); editText2 = findViewById(R.id.*et2*); button = findViewById(R.id.*btn*);

button.setOnClickListener(new View.OnClickListener() { @Override

public void onClick(View view) {

String text = editText1.getText().toString(); String text1 = editText2.getText().toString();

Toast.*makeText*(MainActivity.this, "User Id: skg & Password: 123",

Toast.*LENGTH\_SHORT*).show();

if (text.equals("skg") && text1.equals("123")) { Toast.*makeText*(MainActivity.this, "Success",

Toast.*LENGTH\_LONG*).show();

}

else {

Toast.*makeText*(MainActivity.this, "Failed", Toast.*LENGTH\_SHORT*).show();

}

}

});

}

}

**Output:**

