**Practical- 5. Design a simple to-do list application using SQLite**

XML Code:

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="ty.practical5.MainActivity">

<ListView

android:id="@+id/lvData"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_above="@+id/btnAdd"

android:layout\_alignParentLeft="true"

android:layout\_alignParentStart="true"

android:layout\_alignParentTop="true" />

<EditText

android:id="@+id/txtItem"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignParentBottom="true"

android:layout\_alignParentLeft="true"

android:layout\_alignParentStart="true"

android:layout\_alignTop="@+id/btnAdd"

android:layout\_toLeftOf="@+id/btnAdd"

android:layout\_toStartOf="@+id/btnAdd"

android:hint="Enter a New Item"

android:inputType="textMultiLine"

/>

<Button

android:id="@+id/btnAdd"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignParentBottom="true"

android:layout\_alignParentEnd="true"

android:layout\_alignParentRight="true"

android:onClick="AddItem"

android:text="Add Item" />

</RelativeLayout>

activity\_task\_details.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="ty.practical5.TaskDetails">

<Button

android:id="@+id/btnUpdate"

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android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignParentStart="true"

android:layout\_below="@+id/txtData"

android:layout\_marginStart="48dp"

android:layout\_marginTop="50dp"

android:onClick="Update"

android:text="Update" />

<Button

android:id="@+id/btnDelete"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignEnd="@+id/txtData"

android:layout\_alignTop="@+id/btnUpdate"

android:layout\_marginEnd="13dp"

android:onClick="Delete"

android:text="Delete" />

<EditText

android:id="@+id/txtData"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignParentTop="true"

android:layout\_alignStart="@+id/btnUpdate"

android:layout\_marginStart="19dp"

android:layout\_marginTop="57dp"

android:ems="10"

android:inputType="textMultiLine" />

</RelativeLayout>

Source Code:

toDoDatabaseHelper.java

package ty.practical5;

import android.content.ContentValues;

import android.content.Context;

import android.database.Cursor;

import android.database.sqlite.SQLiteDatabase;

import android.database.sqlite.SQLiteOpenHelper;

import java.util.ArrayList;

public class toDoDatabaseHelper extends SQLiteOpenHelper {

private static final String DATABASE\_NAME = "todoList.db";

private static final int DATABASE\_VERSION = 1;

public toDoDatabaseHelper(Context context) {

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

}

@Override

public void onCreate(SQLiteDatabase db) {

String query = "CREATE TABLE ToDo (task TEXT)";

db.execSQL(query);

}

@Override

public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {

db.execSQL("DROP TABLE IF EXISTS ToDo");

onCreate(db);

}

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public void addTask(String item){

ContentValues values = new ContentValues();

values.put("task", item);

SQLiteDatabase db = getWritableDatabase();

db.insert("ToDo", null, values);

db.close();

}

//Delete a product from the database

public void deleteTask(String item){

SQLiteDatabase db = this.getWritableDatabase();

db.execSQL("DELETE FROM ToDo where task='"+item+"'");

}

public void updateTask(String oldvalue, String newvalue){

try {

SQLiteDatabase db = this.getWritableDatabase();

ContentValues contentValues = new ContentValues();

contentValues.put("task", newvalue);

db.update("ToDo", contentValues, "task='"+oldvalue +"'", null);

db.close();

} catch (Exception e) {

e.printStackTrace();

}

}

public ArrayList<String> getAllTasks() {

ArrayList<String> contactList = new ArrayList<String>();

String selectQuery = "SELECT \* FROM ToDo";

SQLiteDatabase db = this.getWritableDatabase();

Cursor cursor = db.rawQuery(selectQuery, null);

if (cursor.moveToFirst()) {

do {

contactList.add(cursor.getString(0));

} while (cursor.moveToNext());

}

return contactList;

}

public ArrayList<String> getTaskByItem(int item) {

ArrayList<String> contactList = new ArrayList<String>();

String selectQuery = "SELECT \* FROM ToDo where task=" +item;

SQLiteDatabase db = this.getWritableDatabase();

Cursor cursor = db.rawQuery(selectQuery, null);

if (cursor.moveToFirst()) {

contactList.add(cursor.getString(1));

}

return contactList;

}

}

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MainActivity.java

package ty.practical5;

import android.content.Intent;

import android.os.Bundle;

import android.support.v7.app.AppCompatActivity;

import android.view.View;

import android.widget.AdapterView;

import android.widget.ArrayAdapter;

import android.widget.EditText;

import android.widget.ListView;

import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {

private ArrayList<String> items;

private ArrayAdapter<String> itemsAdapter;

private ListView lvData;

private toDoDatabaseHelper dbAccess;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

dbAccess = new toDoDatabaseHelper(this);

lvData = (ListView) findViewById(R.id.lvData);

items = new ArrayList<String>();

readItems();

itemsAdapter = new ArrayAdapter<String>(this,

android.R.layout.simple\_list\_item\_1, items);

lvData.setAdapter(itemsAdapter);

lvData.setOnItemClickListener(new AdapterView.OnItemClickListener() {

@Override

public void onItemClick(AdapterView<?> parent, View view, int position,

long id) {

Intent intent = new Intent(MainActivity.this, TaskDetails.class);

intent.putExtra("data",

lvData.getItemAtPosition(position).toString());

startActivity(intent);

// Refresh the adapter

refreshListView();

}

});

}

public void AddItem(View v) {

EditText txtItem = (EditText) findViewById(R.id.txtItem);

String itemText = txtItem.getText().toString();

itemsAdapter.add(itemText);

txtItem.setText("");

dbAccess.addTask(itemText);

}

public void readItems() {

try {

items = new ArrayList<String>(dbAccess.getAllTasks());

} catch (Exception e) {

items = new ArrayList<String>();

}

}

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public void refreshListView() {

itemsAdapter.notifyDataSetChanged();

}

}

TaskDetails.java

package ty.practical5;

import android.content.Intent;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.MenuItem;

import android.view.View;

import android.widget.EditText;

public class TaskDetails extends AppCompatActivity {

private toDoDatabaseHelper dbAccess;

String oldvalue="";

EditText txtData;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_task\_details);

//code to enable the back button

getSupportActionBar().setDisplayShowHomeEnabled(true);

getSupportActionBar().setDisplayHomeAsUpEnabled(true);

//code to fetch the selected list item data in the previous activity

dbAccess = new toDoDatabaseHelper(this);

Intent intent = getIntent();

oldvalue = intent.getStringExtra("data");

txtData = (EditText) findViewById(R.id.txtData);

txtData.setText(intent.getStringExtra("data"));

}

//code for delete button to delete the task

protected void Delete(View v) {

dbAccess.deleteTask(txtData.getText().toString());

Intent intent = new Intent(TaskDetails.this,MainActivity.class) ;

intent.setFlags(Intent.FLAG\_ACTIVITY\_CLEAR\_TOP);

startActivity(intent);

finish();

}

//code for delete button to update the task

protected void Update(View v) {

dbAccess.updateTask(oldvalue, txtData.getText().toString());

Intent intent = new Intent(TaskDetails.this,MainActivity.class) ;

intent.setFlags(Intent.FLAG\_ACTIVITY\_CLEAR\_TOP);

startActivity(intent);

finish();

}

//code to close the current activity and move to the previous

@Override

public boolean onOptionsItemSelected(MenuItem item) {

finish();

return super.onOptionsItemSelected(item);

}

}

Output:

