

PROGRAM 12

Create database using SQLite and perform INSERT and SELECT

CODE:

activity_main.xml:

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

<android.support.constraint.ConstraintLayout
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">

    <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/editTextName"

            android:layout_width="match_parent"

            android:layout_height="wrap_content"

            android:hint="Name" />

        <EditText

            android:id="@+id/editTextAge"

            android:layout_width="match_parent"

            android:layout_height="wrap_content"

            android:hint="Age"
```

```
        android:inputType="number" />

<EditText

    android:id="@+id/editTextMark"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:hint="Mark"

    android:inputType="number" />

<Button

    android:id="@+id/buttonInsert"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:text="Insert Data" />

<Button

    android:id="@+id/buttonSelect"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:text="select Data" />

<TextView

    android:id="@+id/textViewData"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:layout_marginTop="16dp"

    android:text="User Data:"

    android:textStyle="bold" />

</LinearLayout>

</android.support.constraint.ConstraintLayout>
```

MainActivity.java:

```
package com.example.sjcet.c5q1;

import android.support.v7.app.AppCompatActivity;

import android.database.Cursor;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    private DatabaseHelper db; // database name

    private EditText editTextName, editTextAge, editTextMark;

    private TextView textViewData;

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        db = new DatabaseHelper(this);

        editTextName = findViewById(R.id.editTextName);

        editTextAge = findViewById(R.id.editTextAge);

        editTextMark = findViewById(R.id.editTextMark);

        textViewData = findViewById(R.id.textViewData);

        Button buttonInsert = findViewById(R.id.buttonInsert);

        Button buttonSelect = findViewById(R.id.buttonSelect);

        buttonInsert.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {
```

```

String name = editTextName.getText().toString();

int age = Integer.parseInt(editTextAge.getText().toString());

int mark = Integer.parseInt(editTextMark.getText().toString());

boolean insertData = db.insertUser(name, age, mark); // insert data

if (insertData) {

    Toast.makeText(MainActivity.this, "User Inserted Successfully",
        Toast.LENGTH_SHORT).show();

    displayData();

} else {

    Toast.makeText(MainActivity.this, "Failed to Insert User",
        Toast.LENGTH_SHORT).show();

}

}

});

buttonSelect.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        displayData();

    }

});

}

//display data

private void displayData() {

    Cursor cursor = db.getAllUsers();

    if (cursor.getCount() == 0) {

        textViewData.setText("No users found");

    } else {

        StringBuilder data = new StringBuilder();

```

```

        while (cursor.moveToNext()) {
            int id = cursor.getInt(0);
            String name = cursor.getString(1);
            int age = cursor.getInt(2);
            int mark = cursor.getInt(3);
            data.append("ID: ").append(id)
                .append(", Name: ").append(name)
                .append(", Age: ").append(age)
                .append(", Mark: ").append(mark)
                .append("\n");
        }
        textViewData.setText(data.toString());
    }
}

```

DatabaseHelper.java

```

package com.example.sjcet.c5q1;

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{

    private static final String DATABASE_NAME = "UserDatabase.db";

    private static final String TABLE_NAME = "UserTable";

    private static final String COL_1 = "ID";

    private static final String COL_2 = "NAME";

```

```

private static final String COL_3 = "AGE";

private static final String COL_4 = "MARK";

public DatabaseHelper(Context context) {

    super(context, DATABASE_NAME, null, 1);

}

@Override

public void onCreate(SQLiteDatabase db) {

    db.execSQL("CREATE TABLE " + TABLE_NAME + " (" +

    COL_1 + " INTEGER PRIMARY KEY AUTOINCREMENT," +

    COL_2 + " TEXT," +

    COL_3 + " INTEGER," +

    COL_4 + " INTEGER)");

}

@Override

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

    db.execSQL("DROP TABLE IF EXISTS " + TABLE_NAME);

    onCreate(db);

}

public boolean insertUser(String name, int age, int mark) {

    SQLiteDatabase db = this.getWritableDatabase();

    ContentValues contentValues = new ContentValues();

    contentValues.put(COL_2, name);

    contentValues.put(COL_3, age);

    contentValues.put(COL_4, mark);

    long result = db.insert(TABLE_NAME, null, contentValues);

    return result != -1;

}

```

```
public Cursor getAllUsers() {  
    SQLiteDatabase db = this.getWritableDatabase();  
    return db.rawQuery("SELECT * FROM " + TABLE_NAME, null);  
}  
}
```

OUTPUT:

