1. **Arithmetic operations**

**XML CODE:**

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

<LinearLayout xmlns:android=*"http://schemas.android.com/apk/res/android"*

android:layout\_width=*"fill\_parent"*

android:layout\_height=*"fill\_parent"*

android:orientation=*"vertical"* >

<EditText

android:id=*"@+id/num1"*

android:hint=*"Enter Number"*

android:layout\_marginTop=*"10dp"*

android:inputType=*"number"*

android:layout\_width=*"match\_parent"*

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

<EditText

android:id=*"@+id/num2"*

android:hint=*"Enter Number"*

android:layout\_marginTop=*"10dp"*

android:inputType=*"number"*

android:layout\_width=*"match\_parent"*

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

<LinearLayout

android:id=*"@+id/linearLayout1"*

android:layout\_width=*"match\_parent"*

android:layout\_height=*"wrap\_content"*

android:layout\_marginTop=*"20dp"* >

<Button

android:id=*"@+id/add"*

android:layout\_width=*"0dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_marginLeft=*"5dp"*

android:layout\_weight=*"1"*

android:text=*"add"*

android:textSize=*"20dp"* />

<Button

android:id=*"@+id/sub"*

android:layout\_width=*"0dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_marginLeft=*"5dp"*

android:layout\_weight=*"1"*

android:text=*"sub"*

android:textSize=*"20dp"* />

<Button

android:id=*"@+id/mul"*

android:layout\_width=*"0dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_marginLeft=*"5dp"*

android:layout\_weight=*"1"*

android:text=*"mul"*

android:textSize=*"20dp"* />

<Button

android:id=*"@+id/div"*

android:layout\_width=*"0dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_marginLeft=*"5dp"*

android:layout\_weight=*"1"*

android:text=*"div"*

android:textSize=*"20dp"* />

</LinearLayout>

<TextView

android:id=*"@+id/ans"*

android:layout\_gravity=*"center"*

android:layout\_marginLeft=*"5dp"*

android:textSize=*"30dp"*

android:layout\_marginTop=*"10dp"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:text=*"result is shown here"* />

</LinearLayout>

**JAVA CODE:**

**package** com.cal;

**import** android.app.Activity;

**import** android.os.Bundle;

**import** android.view.View;

**import** android.widget.Button;

**import** android.widget.EditText;

**import** android.widget.TextView;

**public** **class** CalculatorActivity **extends** Activity {

EditText no1,no2;

TextView ans;

**int** num1,num2;

@Override

**public** **void** onCreate(Bundle savedInstanceState) {

**super**.onCreate(savedInstanceState);

setContentView(R.layout.*main*);

no1 = (EditText) findViewById(R.id.*num1*);

no2 = (EditText) findViewById(R.id.*num2*);

ans = (TextView) findViewById(R.id.*ans*);

Button btnAdd = (Button) findViewById(R.id.*add*);

Button btnSubtract = (Button) findViewById(R.id.*sub*);

Button btnMultiply = (Button) findViewById(R.id.*mul*);

Button btnDivide = (Button) findViewById(R.id.*div*);

btnAdd.setOnClickListener(**new** View.OnClickListener() {

**public** **void** onClick(View view) {

performOperation('+');

}

});

btnSubtract.setOnClickListener(**new** View.OnClickListener() {

**public** **void** onClick(View view) {

performOperation('-');

}

});

btnMultiply.setOnClickListener(**new** View.OnClickListener() {

**public** **void** onClick(View view) {

performOperation('\*');

}

});

btnDivide.setOnClickListener(**new** View.OnClickListener() {

**public** **void** onClick(View view) {

performOperation('/');

}

});

}

**private** **void** performOperation(**char** operation) {

String num1Str = no1.getText().toString();

String num2Str = no2.getText().toString();

**if** (!num1Str.isEmpty() && !num2Str.isEmpty()) {

**double** num1 = Double.*parseDouble*(num1Str);

**double** num2 = Double.*parseDouble*(num2Str);

**double** result = 0;

**switch** (operation) {

**case** '+':

result = num1 + num2;

**break**;

**case** '-':

result = num1 - num2;

**break**;

**case** '\*':

result = num1 \* num2;

**break**;

**case** '/':

**if** (num2 != 0) {

result = num1 / num2;

} **else** {

ans.setText("Cannot divide by zero");

**return**;

}

**break**;

}

ans.setText("Result: " + result);

} **else** {

ans.setText("Please enter valid numbers");

}

}

}

1. **Designing a login page to show a message with Toast**

**XML CODE:**

?xml version=*"1.0"* encoding=*"utf-8"*?>

<LinearLayout xmlns:android=*"http://schemas.android.com/apk/res/android"*

android:layout\_width=*"fill\_parent"*

android:layout\_height=*"fill\_parent"*

android:orientation=*"vertical"* >

<RelativeLayout

android:id=*"@+id/relativeLayout1"*

android:layout\_width=*"match\_parent"*

android:layout\_height=*"match\_parent"* >

<TextView

android:id=*"@+id/textView1"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignParentTop=*"true"*

android:layout\_centerHorizontal=*"true"*

android:layout\_marginTop=*"36dp"*

android:text=*"LOGIN PAGE"*

android:textColor=*"#ff0000"*

android:textSize=*"20dp"*

android:textStyle=*"bold"* />

<TextView

android:id=*"@+id/textView2"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignParentLeft=*"true"*

android:layout\_below=*"@+id/textView1"*

android:layout\_marginLeft=*"50dp"*

android:layout\_marginTop=*"58dp"*

android:text=*"User Name"*

android:textColor=*"#0000ff"*

android:textSize=*"15dp"*

android:textStyle=*"bold"* />

<EditText

android:id=*"@+id/un"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_below=*"@+id/textView1"*

android:layout\_marginLeft=*"24dp"*

android:layout\_marginTop=*"42dp"*

android:layout\_toRightOf=*"@+id/textView2"*

android:width=*"150dp"* />

<EditText

android:id=*"@+id/pas"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignLeft=*"@+id/un"*

android:layout\_below=*"@+id/un"*

android:layout\_marginTop=*"30dp"*

android:width=*"150dp"* />

<TextView

android:id=*"@+id/textView3"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignLeft=*"@+id/textView2"*

android:layout\_alignTop=*"@+id/pas"*

android:layout\_marginTop=*"14dp"*

android:text=*"Password"*

android:textColor=*"#0000ff"*

android:textSize=*"15dp"*

android:textStyle=*"bold"* />

<Button

android:id=*"@+id/login"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignLeft=*"@+id/textView3"*

android:layout\_below=*"@+id/pas"*

android:layout\_marginTop=*"44dp"*

android:text=*"LOGIN"*

android:textColor=*"#ffa500"*

android:textSize=*"15dp"*

android:textStyle=*"bold"*

android:width=*"90dp"* />

<Button

android:id=*"@+id/cancel"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignRight=*"@+id/pas"*

android:layout\_alignTop=*"@+id/login"*

android:layout\_marginRight=*"20dp"*

android:text=*"CANCEL"*

android:textColor=*"#ffa500"*

android:textSize=*"15dp"*

android:textStyle=*"bold"*

android:width=*"90dp"* />

</RelativeLayout>

</LinearLayout>

**JAVA CODE:**

package com.hh;

import android.app.Activity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

public class HhActivity extends Activity {

Button b1, b2;

EditText ed1, ed2;

/\*\* Called when the activity is first created. \*/

@Override

public void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.main);

ed1 = findViewById(R.id.un);

ed2 = findViewById(R.id.pas);

b1 = findViewById(R.id.login);

b1.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

if (ed1.getText().toString().equals("hi") && ed2.getText().toString().equals("mas")) {

Toast.makeText(HhActivity.this, "Login Success",

Toast.LENGTH\_SHORT).show();

} else {

// If incorrect, show a toast message

Toast.makeText(HhActivity.this, "Incorrect username or password",

Toast.LENGTH\_SHORT).show();

}

}

});

b2 = findViewById(R.id.cancel);

b2.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

finish();

}

});

}

}

1. **Design a login page that redirects to next page using the intent objects.**

**XML CODE:**

**MAIN.XML**

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

<LinearLayout xmlns:android=*"http://schemas.android.com/apk/res/android"*

android:layout\_width=*"fill\_parent"*

android:layout\_height=*"fill\_parent"*

android:orientation=*"vertical"* >

<RelativeLayout

android:id=*"@+id/relativeLayout1"*

android:layout\_width=*"match\_parent"*

android:layout\_height=*"match\_parent"* >

<TextView

android:id=*"@+id/textView1"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignParentTop=*"true"*

android:layout\_centerHorizontal=*"true"*

android:layout\_marginTop=*"36dp"*

android:text=*"LOGIN PAGE"*

android:textColor=*"#ff0000"*

android:textSize=*"20dp"*

android:textStyle=*"bold"* />

<TextView

android:id=*"@+id/textView2"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignParentLeft=*"true"*

android:layout\_below=*"@+id/textView1"*

android:layout\_marginLeft=*"50dp"*

android:layout\_marginTop=*"58dp"*

android:text=*"User Name"*

android:textColor=*"#0000ff"*

android:textSize=*"15dp"*

android:textStyle=*"bold"* />

<EditText

android:id=*"@+id/un"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_below=*"@+id/textView1"*

android:layout\_marginLeft=*"24dp"*

android:layout\_marginTop=*"42dp"*

android:layout\_toRightOf=*"@+id/textView2"*

android:width=*"150dp"* />

<EditText

android:id=*"@+id/pas"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignLeft=*"@+id/un"*

android:layout\_below=*"@+id/un"*

android:layout\_marginTop=*"30dp"*

android:width=*"150dp"* />

<TextView

android:id=*"@+id/textView3"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignLeft=*"@+id/textView2"*

android:layout\_alignTop=*"@+id/pas"*

android:layout\_marginTop=*"14dp"*

android:text=*"Password"*

android:textColor=*"#0000ff"*

android:textSize=*"15dp"*

android:textStyle=*"bold"* />

<Button

android:id=*"@+id/login"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignLeft=*"@+id/textView3"*

android:layout\_below=*"@+id/pas"*

android:layout\_marginTop=*"44dp"*

android:text=*"LOGIN"*

android:textColor=*"#ffa500"*

android:textSize=*"15dp"*

android:textStyle=*"bold"*

android:width=*"90dp"* />

<Button

android:id=*"@+id/cancel"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignRight=*"@+id/pas"*

android:layout\_alignTop=*"@+id/login"*

android:layout\_marginRight=*"20dp"*

android:text=*"CANCEL"*

android:textColor=*"#ffa500"*

android:textSize=*"15dp"*

android:textStyle=*"bold"*

android:width=*"90dp"* />

</RelativeLayout>

</LinearLayout>

**FIRST.XML**

<?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">

<LinearLayout

android:id="@+id/linearLayout1"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="vertical">

<TextView

android:id="@+id/textView1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="60dp"

android:layout\_marginRight="60dp"

android:text="Students Mark Details"

android:textColor="#0e0eff"

android:textSize="20dp" />

</LinearLayout>

<LinearLayout

android:id="@+id/linearLayout2"

android:layout\_width="match\_parent"

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

<TextView

android:id="@+id/textView2"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="NAME:"

android:textSize="20dp"

android:textColor="#ff0e0e"

android:layout\_marginTop="20dp"/>

<TextView

android:id="@+id/textView3"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="DANIJOSE"

android:layout\_marginTop="20dp"

android:layout\_marginLeft="20dp"

android:textAppearance="?android:attr/textAppearanceLarge" />

<ImageView

android:id="@+id/imageView1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="30dp"

android:layout\_marginTop="15dp"

android:src="@drawable/a" />

</LinearLayout>

<LinearLayout

android:id="@+id/linearLayout3"

android:layout\_width="match\_parent"

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

<TextView

android:id="@+id/textView4"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="D.NO:"

android:layout\_marginTop="20dp"

android:textSize="20dp"

android:textColor="#ff0e0e" />

<TextView

android:id="@+id/textView5"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="12345"

android:layout\_marginTop="20dp"

android:layout\_marginLeft="20dp"

android:textAppearance="?android:attr/textAppearanceLarge" />

</LinearLayout>

<TableLayout

android:id="@+id/tableLayout1"

android:layout\_width="match\_parent"

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

<TableRow

android:id="@+id/tableRow1"

android:layout\_width="wrap\_content"

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

<TextView

android:id="@+id/textView6"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Name"

android:layout\_marginTop="20dp"

android:layout\_marginLeft="20dp" />

<TextView

android:id="@+id/textView7"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Tamil"

android:layout\_marginTop="20dp"

android:layout\_marginLeft="30dp" />

<TextView

android:id="@+id/textView8"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="English"

android:layout\_marginTop="20dp"

android:layout\_marginLeft="20dp" />

<TextView

android:id="@+id/textView9"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Maths"

android:layout\_marginTop="20dp"

android:layout\_marginLeft="20dp" />

<TextView

android:id="@+id/textView10"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Science"

android:layout\_marginTop="20dp"

android:layout\_marginLeft="20dp" />

</TableRow>

<TableRow

android:id="@+id/tableRow2"

android:layout\_width="wrap\_content"

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

<TextView

android:id="@+id/textView11"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="20dp"

android:text="DaniJose"

android:layout\_marginTop="10dp" />

<EditText

android:id="@+id/editText2"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="10dp"

android:layout\_marginTop="10dp"

android:text="90" />

<EditText

android:id="@+id/editText1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="15dp"

android:layout\_marginTop="10dp"

android:text="100" >

<requestFocus />

</EditText>

<EditText

android:id="@+id/editText3"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="20dp"

android:layout\_marginTop="10dp"

android:text="85" />

<EditText

android:id="@+id/editText4"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="20dp"

android:layout\_marginTop="10dp"

android:text="75"/>

</TableRow>

</TableLayout>

<LinearLayout

android:id="@+id/linearLayout4"

android:layout\_width="match\_parent"

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

<Button

android:id="@+id/Save"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Save"

android:layout\_marginLeft="50dp"

android:layout\_marginTop="30dp"

android:textColor="#ffa500"

android:textSize="15dp"

android:textStyle="bold"

android:width="90dp" />

<Button

android:id="@+id/first"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Home"

android:layout\_marginLeft="50dp"

android:layout\_marginTop="30dp"

android:textColor="#ffa500"

android:textSize="15dp"

android:textStyle="bold"

android:width="90dp" />

</LinearLayout>

</LinearLayout>

**ACTIVITY.JAVA**

package com.hh;

import android.app.Activity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

public class HhActivity extends Activity {

Button b1, b2;

EditText ed1, ed2;

/\*\* Called when the activity is first created. \*/

@Override

public void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.main);

ed1 = findViewById(R.id.un);

ed2 = findViewById(R.id.pas);

b1 = findViewById(R.id.login);

b1.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

if (ed1.getText().toString().equals("hi") && ed2.getText().toString().equals("mas")) {

Intent in = new Intent(HhActivity.this, login.class);

startActivity(in);

} else {

// If incorrect, show a toast message

Toast.makeText(HhActivity.this, "Incorrect username or password",Toast.LENGTH\_SHORT).show();

}

}

});

b2 = findViewById(R.id.cancel);

b2.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

finish();

}

});

}

}

**LOGIN.JAVA**

package com.hh;

import android.app.Activity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.Toast;

public class login extends Activity {

/\*\* Called when the activity is first created. \*/

public void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.first);

Button b11, b22;

b11 = findViewById(R.id.Save);

b11.setOnClickListener(new View.OnClickListener() {

public void onClick(View view) {

// Perform actions when the "Save" button is clicked

// For now, just show a toast message

Toast.makeText(login.this, "Data Saved", Toast.LENGTH\_SHORT).show();

}

});

b22 = findViewById(R.id.first);

b22.setOnClickListener(new View.OnClickListener() {

public void onClick(View view) {

// Navigate back to the HhActivity when the "Home" button is clicked

Intent in = new Intent(login.this, HhActivity.class);

startActivity(in);

}

});

}

}

**AndroidManifest.xml**

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

<manifest xmlns:android=*"http://schemas.android.com/apk/res/android"*

package=*"com.hh"*

android:versionCode=*"1"*

android:versionName=*"1.0"* >

<uses-sdk android:minSdkVersion=*"10"* />

<application

android:allowBackup=*"true"*

android:icon=*"@drawable/ic\_launcher"*

android:label=*"@string/app\_name"* >

<activity

android:name=*".HhActivity"*

android:label=*"@string/app\_name"* >

<intent-filter>

<action android:name=*"android.intent.action.MAIN"* />

<category android:name=*"android.intent.category.LAUNCHER"* />

</intent-filter>

</activity>

<activity android:name=*".login"*></activity>

</application>

</manifest>

1. **create a bouncing ball animation**

**XML CODE:**

**// Open res/layout/activity\_main.xml and add the following 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">

<View

android:id="@+id/ballView"

android:layout\_width="50dp"

android:layout\_height="50dp"

android:background="@drawable/ball" />

</RelativeLayout>

**// 2. Create a new XML file in res/drawable/ball.xml and add the following code**

<shape xmlns:android="http://schemas.android.com/apk/res/android"

android:shape="oval">

<solid android:color="#FF5733" />

</shape>

**JAVA CODE:**

package com.example.yourappname;

import android.app.Activity;

import android.os.Bundle;

import android.view.View;

import android.view.animation.Animation;

import android.view.animation.TranslateAnimation;

import android.widget.RelativeLayout;

public class MainActivity extends Activity {

private View ballView;

private int screenHeight;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

ballView = findViewById(R.id.ballView);

screenHeight = getResources().getDisplayMetrics().heightPixels;

startBouncingAnimation();

}

private void startBouncingAnimation() {

TranslateAnimation animation = new TranslateAnimation(0, 0, 0, screenHeight);

animation.setDuration(2000);

animation.setFillAfter(true);

animation.setRepeatMode(Animation.REVERSE);

animation.setRepeatCount(Animation.INFINITE);

ballView.startAnimation(animation);

}

}

1. **Perform insert, update, read, and readall operations in SQLite database**

**XML CODE:**

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

<AbsoluteLayout xmlns:android=*"http://schemas.android.com/apk/res/android"*

android:layout\_width=*"match\_parent"*

android:layout\_height=*"match\_parent"*>

<TextView

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"50dp"*

android:layout\_y=*"20dp"*

android:text=*"Student Details"*

android:textSize=*"30sp"* />

<TextView

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"20dp"*

android:layout\_y=*"110dp"*

android:text=*"Enter Rollno:"*

android:textSize=*"20sp"* />

<TextView

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"20dp"*

android:layout\_y=*"160dp"*

android:text=*"Enter Name:"*

android:textSize=*"20sp"* />

<EditText

android:id=*"@+id/Rollno"*

android:layout\_width=*"150dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"160dp"*

android:layout\_y=*"102dp"*

android:inputType=*"number"*

android:textSize=*"20sp"* >

<requestFocus />

</EditText>

<EditText

android:id=*"@+id/Name"*

android:layout\_width=*"150dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"160dp"*

android:layout\_y=*"155dp"*

android:inputType=*"text"*

android:textSize=*"20sp"* />

<TextView

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"20dp"*

android:layout\_y=*"217dp"*

android:text=*"Enter Marks:"*

android:textSize=*"20sp"* />

<EditText

android:id=*"@+id/Marks"*

android:layout\_width=*"150dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"161dp"*

android:layout\_y=*"212dp"*

android:inputType=*"number"*

android:textSize=*"20sp"* />

<Button

android:id=*"@+id/View"*

android:layout\_width=*"91dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"180dp"*

android:layout\_y=*"356dp"*

android:text=*"View"*

android:textSize=*"20dp"* />

<Button

android:id=*"@+id/Insert"*

android:layout\_width=*"80dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"36dp"*

android:layout\_y=*"286dp"*

android:text=*"Insert"*

android:textSize=*"20dp"* />

<Button

android:id=*"@+id/Update"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"38dp"*

android:layout\_y=*"357dp"*

android:text=*"Update"*

android:textSize=*"20dp"* />

<Button

android:id=*"@+id/ViewAll"*

android:layout\_width=*"100dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"105dp"*

android:layout\_y=*"419dp"*

android:text=*"View All"*

android:textSize=*"20dp"* />

</AbsoluteLayout>

**JAVA CODE:**

package com.database;

import android.app.Activity;

import android.app.AlertDialog.Builder;

import android.content.Context;

import android.database.Cursor;

import android.database.sqlite.SQLiteDatabase;

import android.os.Bundle;

import android.view.View;

import android.view.View.OnClickListener;

import android.widget.Button;

import android.widget.EditText;

public class DataActivity extends Activity implements OnClickListener

{

EditText Rollno,Name,Marks;

Button Insert,Delete,Update,View,ViewAll;

SQLiteDatabase db;

/\*\* Called when the activity is first created. \*/

@Override

public void onCreate(Bundle savedInstanceState)

{

super.onCreate(savedInstanceState);

setContentView(R.layout.main);

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

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

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

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

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

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

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

Insert.setOnClickListener(this);

Update.setOnClickListener(this);

View.setOnClickListener(this);

ViewAll.setOnClickListener(this);

// Creating database and table

db=openOrCreateDatabase("StudentDB", Context.MODE\_PRIVATE, null);

db.execSQL("CREATE TABLE IF NOT EXISTS student(rollno VARCHAR,name VARCHAR,marks VARCHAR);");

}

public void onClick(View view)

{

// Inserting a record to the Student table

if(view==Insert)

{

// Checking for empty fields

if(Rollno.getText().toString().trim().length()==0||

Name.getText().toString().trim().length()==0||

Marks.getText().toString().trim().length()==0)

{

showMessage("Error", "Please enter all values");

return;

}

db.execSQL("INSERT INTO student VALUES('"+Rollno.getText()+"','"+Name.getText()+

"','"+Marks.getText()+"');");

showMessage("Success", "Record added");

clearText();

}

// Deleting a record from the Student table

// Updating a record in the Student table

if(view==Update)

{

// Checking for empty roll number

if(Rollno.getText().toString().trim().length()==0)

{

showMessage("Error", "Please enter Rollno");

return;

}

Cursor c=db.rawQuery("SELECT \* FROM student WHERE rollno='"+Rollno.getText()+"'", null);

if(c.moveToFirst()) {

db.execSQL("UPDATE student SET name='" + Name.getText() + "',marks='" + Marks.getText() +

"' WHERE rollno='"+Rollno.getText()+"'");

showMessage("Success", "Record Modified");

}

else {

showMessage("Error", "Invalid Rollno");

}

clearText();

}

// Display a record from the Student table

if(view==View)

{

// Checking for empty roll number

if(Rollno.getText().toString().trim().length()==0)

{

showMessage("Error", "Please enter Rollno");

return;

}

Cursor c=db.rawQuery("SELECT \* FROM student WHERE rollno='"+Rollno.getText()+"'", null);

if(c.moveToFirst())

{

Name.setText(c.getString(1));

Marks.setText(c.getString(2));

}

else

{

showMessage("Error", "Invalid Rollno");

clearText();

}

}

// Displaying all the records

if(view==ViewAll)

{

Cursor c=db.rawQuery("SELECT \* FROM student", null);

if(c.getCount()==0)

{

showMessage("Error", "No records found");

return;

}

StringBuffer buffer=new StringBuffer();

while(c.moveToNext())

{

buffer.append("Rollno: "+c.getString(0)+"\n");

buffer.append("Name: "+c.getString(1)+"\n");

buffer.append("Marks: "+c.getString(2)+"\n\n");

}

showMessage("Student Details", buffer.toString());

}

}

public void showMessage(String title,String message)

{

Builder builder=new Builder(this);

builder.setCancelable(true);

builder.setTitle(title);

builder.setMessage(message);

builder.show();

}

public void clearText()

{

Rollno.setText("");

Name.setText("");

Marks.setText("");

Rollno.requestFocus();

}

}

1. **perform insert, delete, read, and readall operations in SQLite database**

**XML CODE:**

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

<AbsoluteLayout xmlns:android=*"http://schemas.android.com/apk/res/android"*

android:layout\_width=*"match\_parent"*

android:layout\_height=*"match\_parent"*>

<TextView

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"50dp"*

android:layout\_y=*"20dp"*

android:text=*"Student Details"*

android:textSize=*"30sp"* />

<TextView

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"20dp"*

android:layout\_y=*"110dp"*

android:text=*"Enter Rollno:"*

android:textSize=*"20sp"* />

<TextView

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"20dp"*

android:layout\_y=*"160dp"*

android:text=*"Enter Name:"*

android:textSize=*"20sp"* />

<EditText

android:id=*"@+id/Rollno"*

android:layout\_width=*"150dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"160dp"*

android:layout\_y=*"102dp"*

android:inputType=*"number"*

android:textSize=*"20sp"* >

<requestFocus />

</EditText>

<EditText

android:id=*"@+id/Name"*

android:layout\_width=*"150dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"160dp"*

android:layout\_y=*"155dp"*

android:inputType=*"text"*

android:textSize=*"20sp"* />

<TextView

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"20dp"*

android:layout\_y=*"217dp"*

android:text=*"Enter Marks:"*

android:textSize=*"20sp"* />

<EditText

android:id=*"@+id/Marks"*

android:layout\_width=*"150dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"161dp"*

android:layout\_y=*"212dp"*

android:inputType=*"number"*

android:textSize=*"20sp"* />

<Button

android:id=*"@+id/View"*

android:layout\_width=*"91dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"180dp"*

android:layout\_y=*"356dp"*

android:text=*"View"*

android:textSize=*"20dp"* />

<Button

android:id=*"@+id/Delete"*

android:layout\_width=*"93dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"180dp"*

android:layout\_y=*"288dp"*

android:text=*"Delete"*

android:textSize=*"20dp"* />

<Button

android:id=*"@+id/Insert"*

android:layout\_width=*"80dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"36dp"*

android:layout\_y=*"286dp"*

android:text=*"Insert"*

android:textSize=*"20dp"* />

<Button

android:id=*"@+id/ViewAll"*

android:layout\_width=*"100dp"*

android:layout\_height=*"wrap\_content"*

android:layout\_x=*"105dp"*

android:layout\_y=*"419dp"*

android:text=*"View All"*

android:textSize=*"20dp"* />

</AbsoluteLayout>

**JAVA CODE**

package com.database;

import android.app.Activity;

import android.app.AlertDialog.Builder;

import android.content.Context;

import android.database.Cursor;

import android.database.sqlite.SQLiteDatabase;

import android.os.Bundle;

import android.view.View;

import android.view.View.OnClickListener;

import android.widget.Button;

import android.widget.EditText;

public class DataActivity extends Activity implements OnClickListener

{

EditText Rollno,Name,Marks;

Button Insert,Delete,Update,View,ViewAll;

SQLiteDatabase db;

/\*\* Called when the activity is first created. \*/

@Override

public void onCreate(Bundle savedInstanceState)

{

super.onCreate(savedInstanceState);

setContentView(R.layout.main);

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

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

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

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

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

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

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

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

Insert.setOnClickListener(this);

Delete.setOnClickListener(this);

Update.setOnClickListener(this);

View.setOnClickListener(this);

ViewAll.setOnClickListener(this);

// Creating database and table

db=openOrCreateDatabase("StudentDB", Context.MODE\_PRIVATE, null);

db.execSQL("CREATE TABLE IF NOT EXISTS student(rollno VARCHAR,name VARCHAR,marks VARCHAR);");

}

public void onClick(View view)

{

// Inserting a record to the Student table

if(view==Insert)

{

// Checking for empty fields

if(Rollno.getText().toString().trim().length()==0||

Name.getText().toString().trim().length()==0||

Marks.getText().toString().trim().length()==0)

{

showMessage("Error", "Please enter all values");

return;

}

db.execSQL("INSERT INTO student VALUES('"+Rollno.getText()+"','"+Name.getText()+

"','"+Marks.getText()+"');");

showMessage("Success", "Record added");

clearText();

}

// Deleting a record from the Student table

if(view==Delete)

{

// Checking for empty roll number

if(Rollno.getText().toString().trim().length()==0)

{

showMessage("Error", "Please enter Rollno");

return;

}

Cursor c=db.rawQuery("SELECT \* FROM student WHERE rollno='"+Rollno.getText()+"'", null);

if(c.moveToFirst())

{

db.execSQL("DELETE FROM student WHERE rollno='"+Rollno.getText()+"'");

showMessage("Success", "Record Deleted");

}

else

{

showMessage("Error", "Invalid Rollno");

}

clearText();

}

// Updating a record in the Student table

// Display a record from the Student table

if(view==View)

{

// Checking for empty roll number

if(Rollno.getText().toString().trim().length()==0)

{

showMessage("Error", "Please enter Rollno");

return;

}

Cursor c=db.rawQuery("SELECT \* FROM student WHERE rollno='"+Rollno.getText()+"'", null);

if(c.moveToFirst())

{

Name.setText(c.getString(1));

Marks.setText(c.getString(2));

}

else

{

showMessage("Error", "Invalid Rollno");

clearText();

}

}

// Displaying all the records

if(view==ViewAll)

{

Cursor c=db.rawQuery("SELECT \* FROM student", null);

if(c.getCount()==0)

{

showMessage("Error", "No records found");

return;

}

StringBuffer buffer=new StringBuffer();

while(c.moveToNext())

{

buffer.append("Rollno: "+c.getString(0)+"\n");

buffer.append("Name: "+c.getString(1)+"\n");

buffer.append("Marks: "+c.getString(2)+"\n\n");

}

showMessage("Student Details", buffer.toString());

}

}

public void showMessage(String title,String message)

{

Builder builder=new Builder(this);

builder.setCancelable(true);

builder.setTitle(title);

builder.setMessage(message);

builder.show();

}

public void clearText()

{

Rollno.setText("");

Name.setText("");

Marks.setText("");

Rollno.requestFocus();

}

}

1. **Design a simple calculator to perform arithmetic operations**

**XML CODE:**

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

<LinearLayout xmlns:android=*"http://schemas.android.com/apk/res/android"*

android:layout\_width=*"fill\_parent"*

android:layout\_height=*"fill\_parent"*

android:orientation=*"vertical"* >

<RelativeLayout

android:id=*"@+id/relativeLayout1"*

android:layout\_width=*"match\_parent"*

android:layout\_height=*"match\_parent"* >

<EditText

android:id=*"@+id/editText1"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignParentLeft=*"true"*

android:layout\_alignParentRight=*"true"*

android:layout\_alignParentTop=*"true"* />

<Button

android:id=*"@+id/button1"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignParentLeft=*"true"*

android:layout\_below=*"@+id/editText1"*

android:text=*"1"* />

<Button

android:id=*"@+id/button2"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_below=*"@+id/editText1"*

android:layout\_toRightOf=*"@+id/button1"*

android:text=*"2"* />

<Button

android:id=*"@+id/button3"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignTop=*"@+id/button2"*

android:layout\_toRightOf=*"@+id/button2"*

android:text=*"3"* />

<Button

android:id=*"@+id/button4"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignTop=*"@+id/button3"*

android:layout\_toRightOf=*"@+id/button3"*

android:text=*"4"* />

<Button

android:id=*"@+id/button6"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignParentLeft=*"true"*

android:layout\_below=*"@+id/button1"*

android:text=*"6"* />

<Button

android:id=*"@+id/button7"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignTop=*"@+id/button6"*

android:layout\_toRightOf=*"@+id/button6"*

android:text=*"7"* />

<Button

android:id=*"@+id/button8"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignTop=*"@+id/button7"*

android:layout\_toRightOf=*"@+id/button7"*

android:text=*"8"* />

<Button

android:id=*"@+id/button9"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignLeft=*"@+id/button4"*

android:layout\_alignTop=*"@+id/button8"*

android:text=*"9"* />

<Button

android:id=*"@+id/button5"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_below=*"@+id/editText1"*

android:layout\_toRightOf=*"@+id/button4"*

android:text=*"5"* />

<Button

android:id=*"@+id/button10"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_below=*"@+id/button4"*

android:layout\_toRightOf=*"@+id/button4"*

android:text=*"0"* />

<Button

android:id=*"@+id/BPlus"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignParentLeft=*"true"*

android:layout\_below=*"@+id/button6"*

android:text=*"+"* />

<Button

android:id=*"@+id/BMinus"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignTop=*"@+id/BPlus"*

android:layout\_toRightOf=*"@+id/BPlus"*

android:text=*"-"* />

<Button

android:id=*"@+id/BStar"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignLeft=*"@+id/button8"*

android:layout\_alignTop=*"@+id/BMinus"*

android:text=*"\*"* />

<Button

android:id=*"@+id/BSlash"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignTop=*"@+id/BStar"*

android:layout\_toLeftOf=*"@+id/button10"*

android:text=*"/"* />

<Button

android:id=*"@+id/BEqual"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignLeft=*"@+id/button10"*

android:layout\_alignTop=*"@+id/BSlash"*

android:text=*"="* />

<Button

android:id=*"@+id/button11"*

android:layout\_width=*"wrap\_content"*

android:layout\_height=*"wrap\_content"*

android:layout\_alignParentLeft=*"true"*

android:layout\_below=*"@+id/BPlus"*

android:text=*"Clear"*

android:textColor=*"#ff0000"*/>

</RelativeLayout>

</LinearLayout>

**JAVA CODE**

package com.Calculator;

import android.app.Activity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

public class CalculatorActivity extends Activity {

EditText box;

Button b1,b2,b3,b4,b5,b6,b7,b8,b9,b0,badd,bsub,bmul,bdiv,beql,bclr;

double num1,num2,result;

String option;

@Override

public void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.main);

box=(EditText)findViewById(R.id.editText1);

b1=(Button)findViewById(R.id.button1);

b2=(Button)findViewById(R.id.button2);

b3=(Button)findViewById(R.id.button3);

b4=(Button)findViewById(R.id.button4);

b5=(Button)findViewById(R.id.button5);

b6=(Button)findViewById(R.id.button6);

b7=(Button)findViewById(R.id.button7);

b8=(Button)findViewById(R.id.button8);

b9=(Button)findViewById(R.id.button9);

b0=(Button)findViewById(R.id.button10);

badd=(Button)findViewById(R.id.BPlus);

bsub=(Button)findViewById(R.id.BMinus);

bmul=(Button)findViewById(R.id.BStar);

bdiv=(Button)findViewById(R.id.BSlash);

beql=(Button)findViewById(R.id.BEqual);

bclr=(Button)findViewById(R.id.button11);

b1.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

box.append("1");

}

});

b2.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

box.append("2");

}

});

b3.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

box.append("3");

}

});

b4.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

box.append("4");

}

});

b5.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

box.append("5");

}

});

b6.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

box.append("6");

}

});

b7.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

box.append("7");

}

});

b8.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

box.append("8");

}

});

b9.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

box.append("9");

}

});

b0.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

box.append("0");

}

});

badd.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

num1=Double.parseDouble(box.getText().toString());

box.setText("");

option="+";

}

});

bsub.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

num1=Double.parseDouble(box.getText().toString());

box.setText("");

option="-";

}

});

bmul.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

num1=Double.parseDouble(box.getText().toString());

box.setText("");

option="\*";

}

});

bdiv.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

num1=Double.parseDouble(box.getText().toString());

box.setText("");

option="/";

}

});

beql.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

if(option.equals("+"))

{

num2=Double.parseDouble(box.getText().toString());

result=num1+num2;

box.setText(String.valueOf(result));

}

if(option.equals("-"))

{

num2=Double.parseDouble(box.getText().toString());

result=num1-num2;

box.setText(String.valueOf(result));

}

if(option.equals("\*"))

{

num2=Double.parseDouble(box.getText().toString());

result=num1\*num2;

box.setText(String.valueOf(result));

}

if(option.equals("/"))

{

num2=Double.parseDouble(box.getText().toString());

if(num2==0)

{

box.setText("Zero Division Error");

}

else

{

result=num1/num2;

box.setText(String.valueOf(result));

}

}

}

});

bclr.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

num1=0;

num2=0;

result=0;

box.setText("");

}

});

}

}