

# 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");
    }
}
}

```

## 2. 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();
        }
    });
}
}

```

### 3. 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>

```

## 4. 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);

}

}

```

## 5. 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();
}
}

```

## 6. 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();
}
}

```

## 7. 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("");
    }
});

}
}

```