

2. Calculator

Aim

Develop an Android application using controls like Button, TextView, EditText for designing a calculator having basic functionality like Addition, Subtraction, Multiplication, and Division.

Procedure

- 1) Firstly Create an Application by Name "SimpleCalci"
- 2) Go to xml code of design change the layout to "RelativeLayout"
- 3) Add TextView component & change the following properties:
 - Size: 38dp
 - Text: Simple Calci
 - Center-Align
- 4) Add PlainText(EditText) component & change the following properties in XML Code:
 - Text: ""
 - Hint: "Enter the first number"
 - id: "@+id/editText1"
- 5) Add PlainText(EditText) component & change the following properties in XML Code:
 - Text: ""
 - Hint: "Enter the second number"
 - id: "@+id/editText2"
- 6) Add TextView component to display result & change the following properties:
 - Size: 40dp
 - Text: "0"
 - Center-Align
 - id: "@+id/textView1"
- 7) Add 4 Buttons & rename the four buttons "Add", "Sub", "Mul" and "div" with following addition:
 - Onclick: "doAdd"(Add Button)
 - Onclick: "doSub"(Sub Button)
 - Onclick: "doMul"(Mul Button)
 - Onclick: "doDiv"(Div Button)

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="98dp"
        android:layout_marginBottom="653dp"

        android:text="SIMPLE CALCI"
```

```
android:textSize="38dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintHorizontal_bias="0.498"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.042" />
<EditText
    android:id="@+id/editText1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="115dp"
    android:layout_marginBottom="547dp"
    android:ems="10"
    android:hint="Enter the First Number"
    android:inputType="textPersonName"
    android:text="" />
<EditText
    android:id="@+id/editText2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="111dp"
    android:layout_marginBottom="455dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:hint="Enter the Second Number"
    android:text="" />
<TextView
    android:id="@+id/textView1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="203dp"
    android:layout_marginBottom="350dp"
    android:text="0"
    android:textSize="40dp" />
<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="274dp"
    android:layout_marginBottom="237dp"
    android:onClick="doAdd"
    android:text="ADD" />
<Button
    android:id="@+id/button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
```

```

android:layout_alignParentBottom="true"
android:layout_marginEnd="68dp"
android:layout_marginBottom="233dp"
android:onClick="doSub"
android:text="SUB" />
<Button
android:id="@+id/button3"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="277dp"
android:layout_marginBottom="115dp"
android:onClick="doMul"
android:text="MUL" />
<Button
android:id="@+id/button4"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="63dp"
android:layout_marginBottom="104dp"
android:onClick="doDiv"
android:text="DIV" />
</RelativeLayout>

```

MainActivity.java

```

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
    EditText e1,e2;
    TextView tv1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1 = (EditText)findViewById(R.id.editText1);
        e2 = (EditText)findViewById(R.id.editText2);
        tv1 = (TextView)findViewById(R.id.textView1);
    }
    public void doAdd(View V){
        int a1 = Integer.parseInt(e1.getText().toString());
        int a2 = Integer.parseInt(e2.getText().toString());
        int result= a1+a2;
        tv1.setText(""+result);
    }
    public void doSub(View V){
        int a1 = Integer.parseInt(e1.getText().toString());
        int a2 = Integer.parseInt(e2.getText().toString());
        int result= a1-a2;
        tv1.setText(""+result);
    }
}

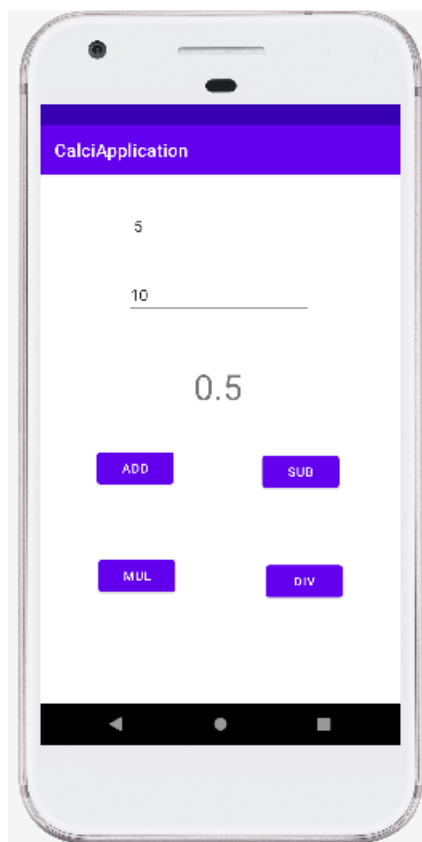
```

```

}
public void doMul(View V){
int a1 = Integer.parseInt(e1.getText().toString());
int a2 = Integer.parseInt(e2.getText().toString());
int result= a1*a2;
tv1.setText(""+result);
}
public void doDiv(View V){
int a1 = Integer.parseInt(e1.getText().toString());
int a2 = Integer.parseInt(e2.getText().toString());
float result= a1/a2;
tv1.setText(""+result);
}
}
}

```

OUTPUT



Result

Thus, the calculator program is entered and the output is verified successfully.