

CSE- 4002 LAB-4 Assignment

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Calculator App

Design a calculator to perform addition, subtraction, multiplication and division. Also a 'C' button to clear the Value in the Textbox and '=' button to display the result.

activity_main.xml

```
-----
<?xml version="1.0" encoding="utf-8" ?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:id="@+id/b6"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:backgroundTint="#F6F3F3"
android:scrollbarSize="20dp"
tools:context=".MainActivity">

    <TextView
        android:id="@+id/t1"
        android:layout_width="353dp"
        android:layout_height="56dp"
        android:layout_marginTop="192dp"
        android:textColor="#101010"
        android:textColorHint="#807A7A"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <LinearLayout
        android:id="@+id/linearLayout4"
```

```
        android:layout_width="380dp"
        android:layout_height="76dp"
        android:layout_marginEnd="16dp"
        android:orientation="horizontal"
        app:layout_constraintBottom_toTopOf="@+id/linearLayout3"
        app:layout_constraintEnd_toEndOf="parent">

        <Button
            android:id="@+id/b1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="10dp"
            android:layout_weight="1"
            android:text="1" />

        <Button
            android:id="@+id/b2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="10dp"
            android:layout_weight="1"
            android:text="2" />

        <Button
            android:id="@+id/b3"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="10dp"
            android:layout_weight="1"
            android:text="3" />

        <Button
            android:id="@+id/ba"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="10dp"
            android:layout_weight="1"
            android:text="+" />
    </LinearLayout>

    <LinearLayout
        android:id="@+id/linearLayout3"
        android:layout_width="380dp"
        android:layout_height="77dp"
        android:orientation="horizontal"
        app:layout_constraintBottom_toTopOf="@+id/linearLayout2"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.548"
```

```
app:layout_constraintStart_toStartOf="parent">

<Button
    android:id="@+id/b4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:layout_weight="1"
    android:text="4" />

<Button
    android:id="@+id/b5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:layout_weight="1"
    android:text="5" />

<Button
    android:id="@+id/b06"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:layout_weight="1"
    android:text="6" />

<Button
    android:id="@+id/bs"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:layout_weight="1"
    android:text="-" />

</LinearLayout>

<LinearLayout
    android:id="@+id/linearLayout"
    android:layout_width="384dp"
    android:layout_height="82dp"
    android:layout_marginBottom="108dp"
    android:orientation="horizontal"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.481"
    app:layout_constraintStart_toStartOf="parent">

<Button
```

```
        android:id="@+id/bc"
        android:layout_width="70dp"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_weight="1"
        android:text="C" />

<Button
    android:id="@+id/b0"
    android:layout_width="71dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:layout_weight="1"
    android:text="0" />

<Button
    android:id="@+id/be"
    android:layout_width="75dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:layout_weight="1"
    android:text="" />

<Button
    android:id="@+id/bd"
    android:layout_width="69dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:layout_weight="1"
    android:text="/" />
</LinearLayout>

<TextView
    android:id="@+id/textView2"
    android:layout_width="128dp"
    android:layout_height="38dp"
    android:layout_margin="10dp"
    android:background="#FF9800"
    android:text="Calculator"
    android:textColor="#121111"
    android:textSize="24sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toTopOf="@+id/t1"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<LinearLayout
```

```
android:id="@+id/linearLayout2"
android:layout_width="383dp"
android:layout_height="76dp"
android:layout_marginBottom="188dp"
android:orientation="horizontal"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent">
```

```
<Button
    android:id="@+id/b7"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:layout_weight="1"
    android:text="7" />
```

```
<Button
    android:id="@+id/b8"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:layout_weight="1"
    android:text="8" />
```

```
<Button
    android:id="@+id/b9"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:layout_weight="1"
    android:text="9" />
```

```
<Button
    android:id="@+id/bm"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:layout_weight="1"
    android:text="*" />
```

```
</LinearLayout>
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
-----

package com.example.calculatorapp;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
    TextView t1;
    Button b0,b1,b2,b3,b4,b5,b6,b7,b8,b9,ba,bs,bd,bm,bc,be;
    int res = 0, temp = 0;
    String t,r,op;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1 = findViewById(R.id.T1);
        b0 = findViewById(R.id.B0);
        b1 = findViewById(R.id.B1);
        b2 = findViewById(R.id.B2);
        b3 = findViewById(R.id.B3);
        b4 = findViewById(R.id.B4);
        b5 = findViewById(R.id.B5);
        b6 = findViewById(R.id.B6);
        b7 = findViewById(R.id.B7);
        b8 = findViewById(R.id.B8);
        b9 = findViewById(R.id.B9);
        ba = findViewById(R.id.BA);
        bs = findViewById(R.id.BS);
        bd = findViewById(R.id.BD);
        bm = findViewById(R.id.BM);
        bc = findViewById(R.id.BC);
        be = findViewById(R.id.BE);
        b0.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                t = t1.getText().toString();
                r = t + "0";
                t1.setText(r);
            }
        });
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
```

```
        public void onClick(View v) {
            t = t1.getText().toString();
            r = t + "1";
            t1.setText(r);
        }
    });
    b2.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            t = t1.getText().toString();
            r = t + "2";
            t1.setText(r);
        }
    });
    b3.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            t = t1.getText().toString();
            r = t + "3";
            t1.setText(r);
        }
    });
    b4.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            t = t1.getText().toString();
            r = t + "4";
            t1.setText(r);
        }
    });
    b5.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            t = t1.getText().toString();
            r = t + "5";
            t1.setText(r);
        }
    });
    b6.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            t = t1.getText().toString();
            r = t + "6";
            t1.setText(r);
        }
    });
    b7.setOnClickListener(new View.OnClickListener() {
        @Override
```

```
        public void onClick(View v) {
            t = t1.getText().toString();
            r = t + "7";
            t1.setText(r);
        }
    });
    b8.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            t = t1.getText().toString();
            r = t + "8";
            t1.setText(r);
        }
    });
    b9.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            t = t1.getText().toString();
            r = t + "9";
            t1.setText(r);
        }
    });
    ba.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            op = "+";
            temp = Integer.parseInt(t1.getText().toString());
            t1.setText("");
        }
    });
    bs.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            op = "-";
            temp = Integer.parseInt(t1.getText().toString());
            t1.setText("");
        }
    });
    bd.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            op = "/";
            temp = Integer.parseInt(t1.getText().toString());
            t1.setText("");
        }
    });
    bm.setOnClickListener(new View.OnClickListener() {
        @Override
```



```
        public void onClick(View v) {
            op = "*";
            temp = Integer.parseInt(t1.getText().toString());
            t1.setText("");
        }
    });
    bc.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            temp = 0;
            t1.setText("");
        }
    });
    be.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            if (op.equals("+")) {
                res = temp + Integer.parseInt(t1.getText().toString());
                t1.setText(String.valueOf(res));
            }
            else if (op.equals("-")) {
                res = temp - Integer.parseInt(t1.getText().toString());
                t1.setText(String.valueOf(res));
            }
            else if (op.equals("/")) {
                res = temp / Integer.parseInt(t1.getText().toString());
                t1.setText(String.valueOf(res));
            }
            else if (op.equals("*")) {
                res = temp * Integer.parseInt(t1.getText().toString());
                t1.setText(String.valueOf(res));
            }
        }
    });
}
```

OUTPUT :