

CSE- 4002 LAB-4 Assignment

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Faculty Name: Dr. Prabha Selvaraj Mam Date: 10 /28/2021

Student name: Taran Mamidala Reg. no.: 19BCE7346

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</pre>
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</pre>
       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</pre>
    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</pre>
    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" />
```

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```
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>



MainActitivity.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() {
           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:

