<u>SIMPLE</u> <u>CALCULATOR</u>

Mobile App Development.
CSE4002.
SLOT: L3+L4.

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MainActivity.java:

```java
package com.example.calculator_basic;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    Button button0, button1, button2, button3, button4, button5, button6,
            button7, button8, button9, buttonAdd, buttonSub, buttonDivision,
            buttonMul, button10, buttonC, buttonEqual;
    EditText EditText;

    float mValueOne, mValueTwo;

    boolean Addition, mSubtract, Multiplication, Division;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        button0 = (Button) findViewById(R.id.button0);
        button1 = (Button) findViewById(R.id.button1);
        button2 = (Button) findViewById(R.id.button2);
        button3 = (Button) findViewById(R.id.button3);
```

```java
button4 = (Button) findViewById(R.id.button4);
button5 = (Button) findViewById(R.id.button5);
button6 = (Button) findViewById(R.id.button6);
button7 = (Button) findViewById(R.id.button7);
button8 = (Button) findViewById(R.id.button8);
button9 = (Button) findViewById(R.id.button9);
button10 = (Button) findViewById(R.id.button10);
buttonAdd = (Button) findViewById(R.id.buttonadd);
buttonSub = (Button) findViewById(R.id.buttonsub);
buttonMul = (Button) findViewById(R.id.buttonmul);
buttonDivision = (Button) findViewById(R.id.buttondiv);
buttonC = (Button) findViewById(R.id.buttonC);
buttonEqual = (Button) findViewById(R.id.buttoneql);
EditText = (EditText) findViewById(R.id.edt1);


button1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        EditText.setText(EditText.getText() + "1");
    }
});

button2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        EditText.setText(EditText.getText() + "2");
    }
});

button3.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        EditText.setText(EditText.getText() + "3");
    }
});

button4.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        EditText.setText(EditText.getText() + "4");
    }
});

button5.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        EditText.setText(EditText.getText() + "5");
```

```java
        }
    });

    button6.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            EditText.setText(EditText.getText() + "6");
        }
    });

    button7.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            EditText.setText(EditText.getText() + "7");
        }
    });

    button8.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            EditText.setText(EditText.getText() + "8");
        }
    });

    button9.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            EditText.setText(EditText.getText() + "9");
        }
    });

    button0.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            EditText.setText(EditText.getText() + "0");
        }
    });

    buttonAdd.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

            if (EditText == null) {
                EditText.setText("");
            } else {
                mValueOne = Float.parseFloat(EditText.getText() + "");
                Addition = true;
                EditText.setText(null);
```

```java
        }
      }
    });

    buttonSub.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
        mValueOne = Float.parseFloat(EditText.getText() + "");
        mSubtract = true;
        EditText.setText(null);
      }
    });

    buttonMul.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
        mValueOne = Float.parseFloat(EditText.getText() + "");
        Multiplication = true;
        EditText.setText(null);
      }
    });

    buttonDivision.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
        mValueOne = Float.parseFloat(EditText.getText() + "");
        Division = true;
        EditText.setText(null);
      }
    });

    buttonEqual.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
        mValueTwo = Float.parseFloat(EditText.getText() + "");

        if (Addition == true) {
          EditText.setText(mValueOne + mValueTwo + "");
          Addition = false;
        }

        if (mSubtract == true) {
          EditText.setText(mValueOne - mValueTwo + "");
          mSubtract = false;
        }

        if (Multiplication == true) {
          EditText.setText(mValueOne * mValueTwo + "");
```

```java
                Multiplication = false;
            }

            if (Division == true) {
                EditText.setText(mValueOne / mValueTwo + "");
                Division = false;
            }
        }
    });

    buttonC.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            EditText.setText("");
        }
    });

    button10.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            EditText.setText(EditText.getText() + ".");
        }
    });
  }
}
```

acitivity_main.xml:

```xml
<?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:id="@+id/relative1"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
<EditText
android:id="@+id/edt1"
android:layout_width="match_parent"
android:layout_height="wrap_content" />


<Button
android:id="@+id/button1"
style="?android:attr/buttonStyleSmall"
```

```xml
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignEnd="@+id/button4"
android:layout_alignRight="@+id/button4"
android:layout_below="@+id/edt1"
android:layout_marginTop="94dp"
android:text="1" />

<Button
android:id="@+id/button2"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignTop="@+id/button1"
android:layout_toLeftOf="@+id/button3"
android:layout_toStartOf="@+id/button3"
android:text="2" />

<Button
android:id="@+id/button3"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignTop="@+id/button2"
android:layout_centerHorizontal="true"
android:text="3" />

<Button
android:id="@+id/button4"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/button1"
android:layout_toLeftOf="@+id/button2"
android:text="4" />

<Button
android:id="@+id/button5"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignBottom="@+id/button4"
android:layout_alignLeft="@+id/button2"
android:layout_alignStart="@+id/button2"
android:text="5" />

<Button
android:id="@+id/button6"
```

```xml
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/button3"
    android:layout_alignStart="@+id/button3"
    android:layout_below="@+id/button3"
    android:text="6" />

<Button
    android:id="@+id/button7"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/button4"
    android:layout_toLeftOf="@+id/button2"
    android:text="7" />

<Button
    android:id="@+id/button8"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/button5"
    android:layout_alignStart="@+id/button5"
    android:layout_below="@+id/button5"
    android:text="8" />

<Button
    android:id="@+id/button9"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/button6"
    android:layout_alignStart="@+id/button6"
    android:layout_below="@+id/button6"
    android:text="9" />

<Button
    android:id="@+id/buttonadd"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignEnd="@+id/edt1"
    android:layout_alignRight="@+id/edt1"
    android:layout_alignTop="@+id/button3"
    android:layout_marginLeft="46dp"
    android:layout_marginStart="46dp"
    android:layout_toRightOf="@+id/button3"
```

```xml
        android:text="+" />

    <Button
        android:id="@+id/buttonsub"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignEnd="@+id/buttonadd"
        android:layout_alignLeft="@+id/buttonadd"
        android:layout_alignRight="@+id/buttonadd"
        android:layout_alignStart="@+id/buttonadd"
        android:layout_below="@+id/buttonadd"
        android:text="-" />

    <Button
        android:id="@+id/buttonmul"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/buttonsub"
        android:layout_alignParentEnd="true"
        android:layout_alignParentRight="true"
        android:layout_alignStart="@+id/buttonsub"
        android:layout_below="@+id/buttonsub"
        android:text="*" />

    <Button
        android:id="@+id/button10"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/button7"
        android:layout_toLeftOf="@+id/button2"
        android:text="." />

    <Button
        android:id="@+id/button0"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/button8"
        android:layout_alignStart="@+id/button8"
        android:layout_below="@+id/button8"
        android:text="0" />

    <Button
        android:id="@+id/buttonC"
        style="?android:attr/buttonStyleSmall"
```
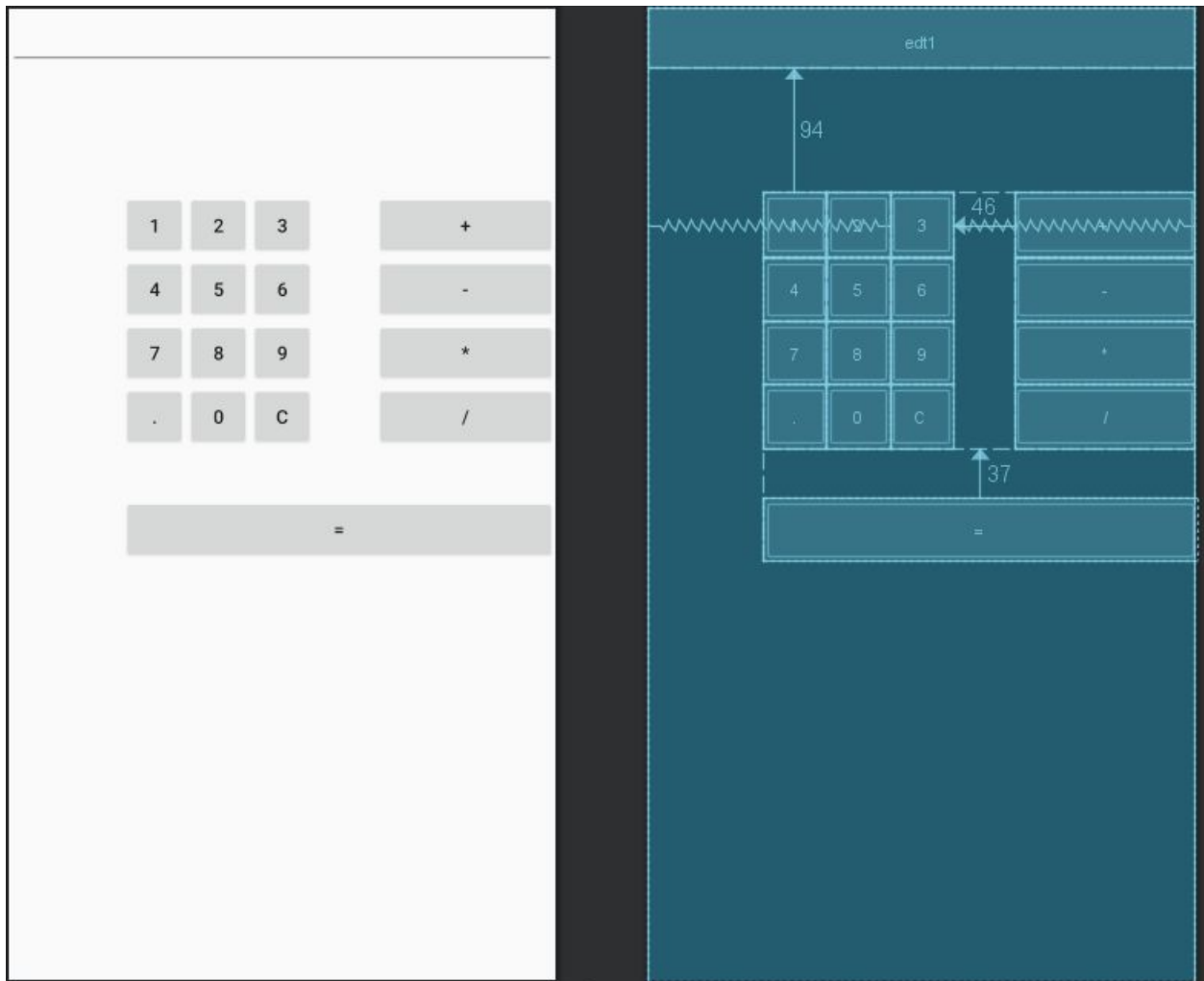
```xml
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/button9"
        android:layout_alignStart="@+id/button9"
        android:layout_below="@+id/button9"
        android:text="C" />

    <Button
        android:id="@+id/buttondiv"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignEnd="@+id/buttonmul"
        android:layout_alignLeft="@+id/buttonmul"
        android:layout_alignRight="@+id/buttonmul"
        android:layout_alignStart="@+id/buttonmul"
        android:layout_below="@+id/buttonmul"
        android:text="/" />

    <Button
        android:id="@+id/buttoneql"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignEnd="@+id/buttondiv"
        android:layout_alignLeft="@+id/button10"
        android:layout_alignRight="@+id/buttondiv"
        android:layout_alignStart="@+id/button10"
        android:layout_below="@+id/button0"
        android:layout_marginTop="37dp"
        android:text="=" />

</RelativeLayout>
```

App Design and Blueprint:

A Simple Example for Addition:

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