

Name – Devansh Bamrara

Course - BCA

Section – 5 B

Roll No. – 1921053 / 18

Subject Name - Mobile Application
Development

Subject Code - TBC 502

Create a simple application to implement a simple calculator in android.

Code:

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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView4"
        android:layout_width="164dp"
        android:layout_height="49dp"
        android:text="Calculator"
        android:textSize="34sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.068" />

    <EditText
        android:id="@+id/editTextNumber4"
        android:layout_width="176dp"
        android:layout_height="47dp"
        android:layout_marginStart="28dp"
        android:layout_marginTop="116dp"
        android:ems="10"
        android:inputType="number"
        app:layout_constraintStart_toEndOf="@+id/textView2"
        app:layout_constraintTop_toBottomOf="@+id/textView4" />

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="36dp"
        android:text="1st Number"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.207"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView4" />
```

```
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="128dp"
    android:text="2nd Number"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.206"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView4" />

<EditText
    android:id="@+id/editTextNumber3"
    android:layout_width="177dp"
    android:layout_height="47dp"
    android:layout_marginStart="32dp"
    android:layout_marginTop="28dp"
    android:ems="10"
    android:inputType="number"
    app:layout_constraintStart_toEndOf="@+id/textView1"
    app:layout_constraintTop_toBottomOf="@+id/textView4" />

<TextView
    android:id="@+id/textView8"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="196dp"
    android:textSize="16sp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView4" />

<Button
    android:id="@+id/mul"
    android:layout_width="70dp"
    android:layout_height="40dp"
    android:layout_marginTop="296dp"
    android:text="*"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.409"
    app:layout_constraintStart_toEndOf="@+id/div"
    app:layout_constraintTop_toBottomOf="@+id/textView4" />

<Button
    android:id="@+id/sub"
    android:layout_width="70dp"
    android:layout_height="40dp"
    android:layout_marginTop="240dp"
    android:text="-"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.409"
    app:layout_constraintStart_toEndOf="@+id/add"
    app:layout_constraintTop_toBottomOf="@+id/textView4" />

<Button
    android:id="@+id/div"
    android:layout_width="70dp"
    android:layout_height="40dp"
    android:layout_marginTop="296dp"
    android:text="/"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.293"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView4" />
```

```

<Button
    android:id="@+id/add"
    android:layout_width="70dp"
    android:layout_height="40dp"
    android:layout_marginTop="240dp"
    android:text="+"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.293"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView4" />

<Button
    android:id="@+id/clear"
    android:layout_width="70dp"
    android:layout_height="40dp"
    android:layout_marginTop="360dp"
    android:text="C"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView4"
    tools:ignore="MissingConstraints" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

JAVA - >

```

package com.example.simplecal;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
    Button add,mul,sub,div,clear;
    EditText num1, num2;
    TextView ans;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        add = findViewById(R.id.add);
        mul = findViewById(R.id.mul);
        sub = findViewById(R.id.sub);
        div = findViewById(R.id.div);
        clear = findViewById(R.id.clear);
        num1 = findViewById(R.id.editTextNumber3);
        num2 = findViewById(R.id.editTextNumber4);
        ans = findViewById(R.id.textView8);
        add.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                int n1 = Integer.parseInt(num1.getText().toString());
                int n2 = Integer.parseInt(num2.getText().toString());
                int add = n1 + n2;
                ans.setText(String.valueOf("sum is : " + add));
            }
        });
    }
}

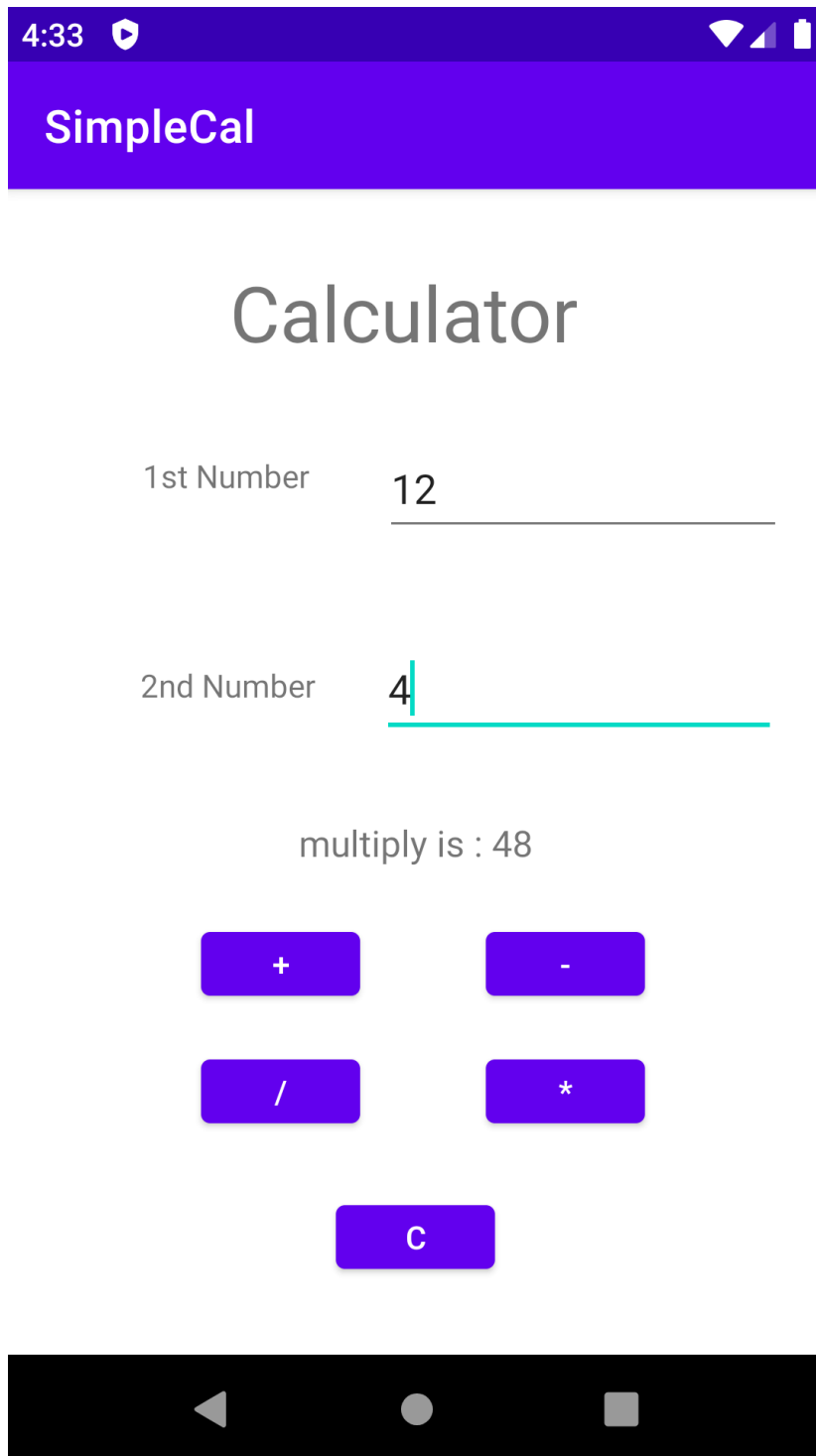
```

```

sub.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        int n1 = Integer.parseInt(num1.getText().toString());
        int n2 = Integer.parseInt(num2.getText().toString());
        int sub = n1 - n2;
        ans.setText(String.valueOf("subtract is : " + sub));
    }
});
mul.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        int n1 = Integer.parseInt(num1.getText().toString());
        int n2 = Integer.parseInt(num2.getText().toString());
        int mul = n1 * n2;
        ans.setText(String.valueOf("multiply is : " + mul));
    }
});
div.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        int n1 = Integer.parseInt(num1.getText().toString());
        int n2 = Integer.parseInt(num2.getText().toString());
        int div = n1 / n2;
        ans.setText(String.valueOf("divide is : " + div));
    }
});
clear.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        ans.setText(String.valueOf(""));
    }
});
}
}

```

Output:



The image shows a mobile application interface for a calculator. At the top, a status bar displays the time 4:33 and various icons. Below it, a purple header bar contains the text "SimpleCal". The main area has a large title "Calculator" in a light gray font. There are two input fields: "1st Number" with the value "12" and "2nd Number" with the value "4". Below these, the text "multiply is : 48" is displayed. A set of five buttons is shown: a 2x2 grid of arithmetic operators (+, -, /, *) and a single "C" button below them. All buttons are purple with white text. At the bottom, a black navigation bar contains three standard Android icons: a triangle, a circle, and a square.

4:33

SimpleCal

Calculator

1st Number 12

2nd Number 4

multiply is : 48

+

-

/

*

C