Android Studio

TOPIC:- CALCULATOR

➢ Activity_main.xml file source 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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@color/white"
    android:orientation="horizontal"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/head"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/calculator"
        android:textAlignment="center"
        android:textColor="@color/black"
        android:textSize="40sp"
        android:textStyle="bold"
        android:minWidth="300dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintVertical_bias="0.02"
        tools:ignore="MissingConstraints" />
    <TextView
        android:id="@+id/tx1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:minWidth="250dp"
        android:text="Enter First Number"
        android:textColor="@color/black"
        android:textSize="64px"
        android:background="#b0fd87"
        android:textStyle="normal"
        android:textAlignment="center"

        app:layout_constraintTop_toTopOf="@+id/head"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintVertical_bias="0.130"
        tools:ignore="MissingConstraints" />
    <TextView
        android:id="@+id/tx2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter Ssecond Number"
```

```xml
        android:textSize="64px"
        android:background="#fdf887"
        android:textColor="@color/black"
        android:textStyle="normal"
        android:textAlignment="center"
        android:orientation="vertical"

        app:layout_constraintTop_toTopOf="@+id/head"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintVertical_bias="0.280"
        tools:ignore="MissingConstraints" />

    <EditText
        android:id="@+id/ed1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="95sp"
        android:minWidth="250dp"
        android:text=""
        android:textColor="@color/black"
        android:textAlignment="center"
        android:textSize="25sp"
        android:textStyle="italic"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.580"
        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.1"

tools:ignore="MissingConstraints,SpeakableTextPresentCheck,TouchTarge
tSizeCheck" />

    <EditText
        android:id="@+id/ed2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="95sp"
        android:minWidth="250dp"
        android:text=""
        android:textColor="@color/black"
        android:textAlignment="center"
        android:textSize="25sp"

        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.30"

tools:ignore="MissingConstraints,SpeakableTextPresentCheck,TouchTarge
tSizeCheck" />
    <TextView
        android:id="@+id/result"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Result will display here"
```

```xml
        android:textStyle="bold"
        android:textSize="25sp"
        android:textColor="@color/black"
        android:background="#c1fff8 "
        android:textAlignment="center"
        android:layout_margin="50sp"
        android:minWidth="250dp"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.45"
        app:layout_constraintBottom_toBottomOf="parent"
        tools:ignore="MissingConstraints"
        />
    <Button
        android:id="@+id/b1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Addition"
        android:textSize="20sp"
        android:textStyle="normal"
        android:layout_margin="90dp"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.54"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        tools:ignore="MissingConstraints"
        />
    <Button
        android:id="@+id/b2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Subtraction"
        android:textSize="20sp"
        android:textStyle="normal"
        android:layout_margin="90dp"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.66"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        tools:ignore="MissingConstraints"
        />
    <Button
        android:id="@+id/b3"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="@string/multiplication"
        android:textSize="20sp"
        android:textStyle="normal"
        android:layout_margin="90dp"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.772"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        tools:ignore="MissingConstraints"
        />
    <Button
        android:id="@+id/b4"
```

```xml
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Division"
            android:textSize="20sp"
            android:textStyle="normal"
            android:layout_margin="90dp"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent"
            app:layout_constraintVertical_bias="0.89"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintBottom_toBottomOf="parent"
            tools:ignore="MissingConstraints"
            />
        <Button
            android:id="@+id/clear"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Clear all"
            android:textColor="#123485"
            android:textSize="20sp"
            android:textStyle="normal"
            android:layout_margin="90dp"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent"
            app:layout_constraintVertical_bias="1.01"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            tools:ignore="MissingConstraints"
            />


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

➢ MainActivity.kt File source code :

```kotlin
package com.example.calculaterproject

import android.widget.TextView
import android.widget.EditText
import android.widget.Button
import android.os.Bundle
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_main)
        val head: TextView= findViewById(R.id.head)
        val result: TextView= findViewById(R.id.result)
        val tx1: TextView= findViewById(R.id.tx1)
        val tx2: TextView= findViewById(R.id.tx2)
        val ed1: EditText= findViewById(R.id.ed1)
        val ed2: EditText= findViewById(R.id.ed2)
        val b1: Button= findViewById(R.id.b1)
        val b2: Button= findViewById(R.id.b2)
```
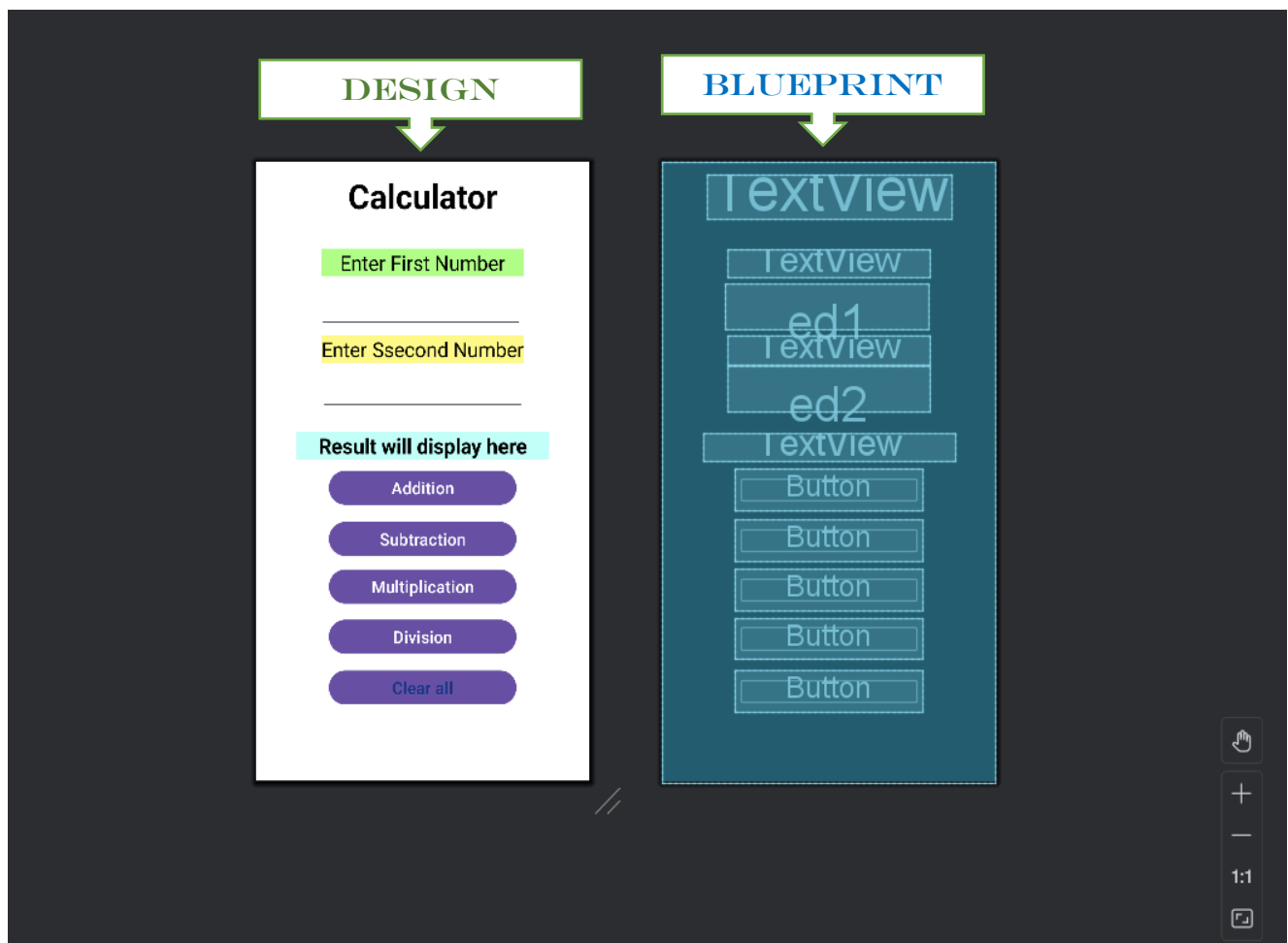
```kotlin
        val b3: Button= findViewById(R.id.b3)
        val b4: Button= findViewById(R.id.b4)
        val clear: Button= findViewById(R.id.clear)
        b1.setOnClickListener {
            val r1 = ed1.text.toString().toInt() +
ed2.text.toString().toInt()
            result.text= r1.toString()
        }
        b2.setOnClickListener {
            val r2 = ed1.text.toString().toInt() -
ed2.text.toString().toInt()
            result.text= r2.toString()
        }
        b3.setOnClickListener {
            val r3 = ed1.text.toString().toInt() *
ed2.text.toString().toInt()
            result.text= r3.toString()
        }
        b4.setOnClickListener {
            val r4 = ed1.text.toString().toInt() /
ed2.text.toString().toInt()
            result.text= r4.toString()
        }
        clear.setOnClickListener {
            ed1.text.clear()
            ed2.text.clear()
            result.text=" "
        }
    }
}
```

➤ Palette Interface :