EXP 9 CALCULATOR APP

🎯 AIM

To develop a **simple and cute Calculator App** in Android Studio using Kotlin, allowing the user to perform basic arithmetic operations (Addition, Subtraction, Multiplication, Division) with a mobile-friendly interface and clear input/output validation.

ALGORITHM

1. Start the app.
2. Display two input fields for numbers.
3. Show buttons: ➕ ➖ ✖ ➗ and 🧹 (clear).
4. User enters two numbers and taps a button.
5. App checks if both inputs are valid numbers:
    - If not: show a toast message “Enter valid numbers”.
    - If valid:
        - Perform the selected operation.
        - Show the result on the screen.
6. Clear button resets everything.
7. End.

💻 CODE

✔ **MainActivity.kt**

```
package com.example.calci

import android.os.Bundle import android.widget.*
import androidx.appcompat.app.AppCompatActivity
class MainActivity : AppCompatActivity() { private lateinit var num1: EditText private
lateinit var num2: EditText private lateinit var result: TextView private lateinit var
addBtn: Button private lateinit var subBtn: Button private lateinit var mulBtn: Button
private lateinit var divBtn: Button private lateinit var clearBtn: Button

override fun onCreate(savedInstanceState: Bundle?) { super.onCreate(savedInstanceState)
setContentView(R.layout.activity_main)

num1 = findViewById(R.id.number1) num2 = findViewById(R.id.number2) result =
findViewById(R.id.result) addBtn = findViewById(R.id.add) subBtn =
findViewById(R.id.subtract) mulBtn = findViewById(R.id.multiply) divBtn =
findViewById(R.id.divide) clearBtn = findViewById(R.id.clear)
```

```
addBtn.setOnClickListener { calculate("+") } subBtn.setOnClickListener { calculate("-") }
mulBtn.setOnClickListener { calculate("*") } divBtn.setOnClickListener { calculate("/") }
clearBtn.setOnClickListener {
num1.text.clear() num2.text.clear() result.text = ""
}
}

private fun calculate(op: String) { val n1Text = num1.text.toString() val n2Text =
num2.text.toString()
if (n1Text.isEmpty() || n2Text.isEmpty()) { Toast.makeText(this, "Enter valid numbers",
Toast.LENGTH_SHORT).show()
return
}

val n1 = n1Text.toDouble() val n2 = n2Text.toDouble() val res = when (op) {
"+" -> n1 + n2 "-" -> n1 - n2
"*" -> n1 * n2 "/" -> {
if (n2 == 0.0) {
Toast.makeText(this, "Cannot divide by zero", Toast.LENGTH_SHORT).show()
return
}
n1 / n2
}
else -> 0.0
}
result.text = "Result: $res"
}
}
```

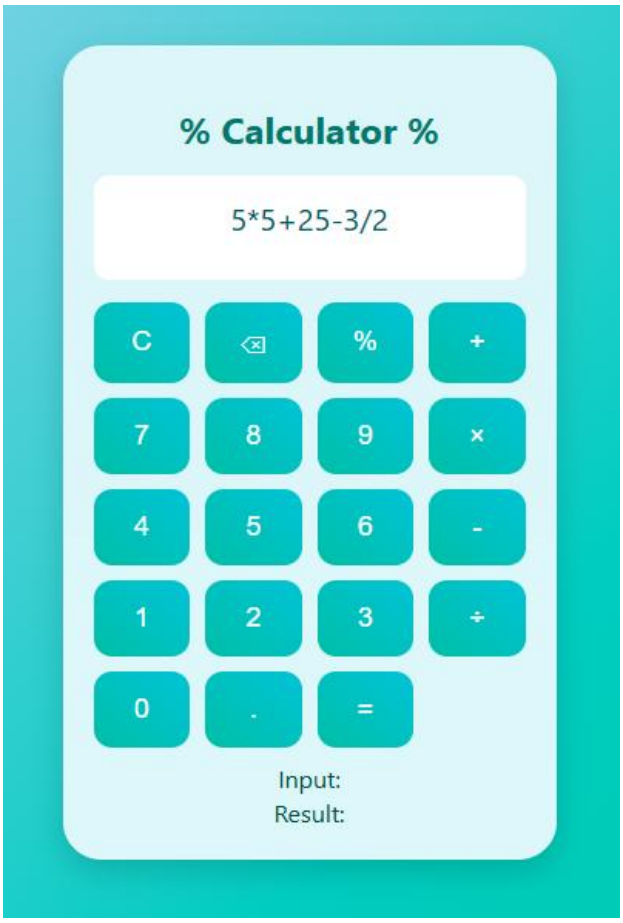
`activity_main.xml` (Cute Styling UI)

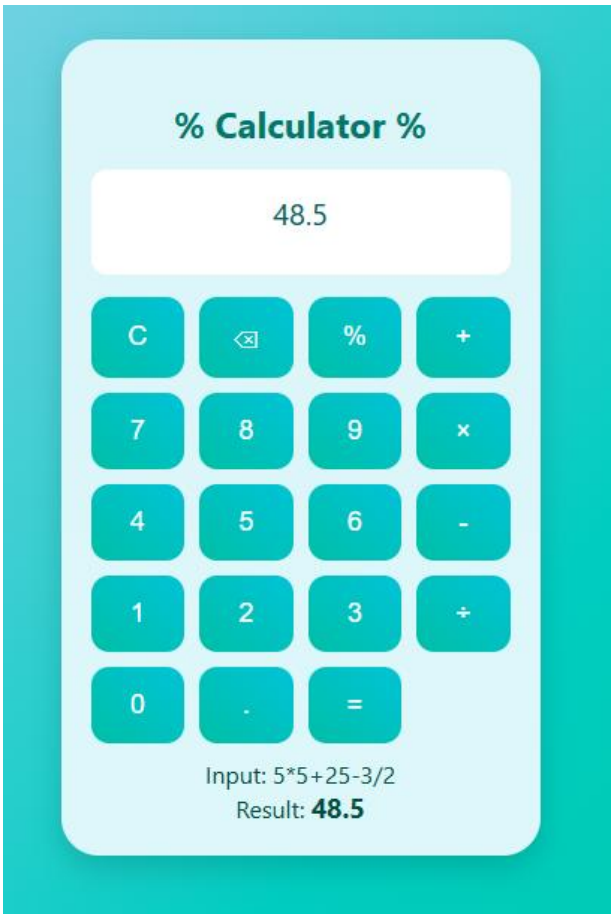
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:background="#E0F7FA"  <!-- Light teal background -->
    android:padding="24dp"
    android:gravity="center">

    <TextView
        android:text="Cute Calculator 💗"
        android:textSize="28sp"
        android:textColor="#00796B"  <!-- Teal text -->
        android:layout_marginBottom="16dp"
        android:textStyle="bold"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content" />
```

```
<EditText
    android:id="@+id/number1"
    android:hint="Enter Number 1"
    android:inputType="numberDecimal"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:backgroundTint="#4DB6AC"  <!-- Aqua blue-green -->
    android:padding="10dp"
    android:layout_marginBottom="12dp"/>

<EditText
    android:id="@+id/number2"
    android:hint="Enter Number 2"
    android:inputType="numberDecimal"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:backgroundTint="#4DB6AC"
    android:padding="10dp"
    android:layout_marginBottom="24dp"/>

<LinearLayout
    android:orientation="horizontal"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:gravity="center"
    android:layout_marginBottom="16dp">

    <Button
        android:id="@+id/add"
        android:text="➕"
        android:layout_width="0dp"
        android:layout_weight="1"
        android:layout_height="wrap_content"
        android:backgroundTint="#80CBC4" />

    <Button
        android:id="@+id/subtract"
        android:text="➖"
        android:layout_width="0dp"
        android:layout_weight="1"
        android:layout_height="wrap_content"
        android:backgroundTint="#80CBC4"
        android:layout_marginStart="8dp"/>

    <Button
        android:id="@+id/multiply"
        android:text="✖□"
        android:layout_width="0dp"
        android:layout_weight="1"
        android:layout_height="wrap_content"
        android:backgroundTint="#80CBC4"
        android:layout_marginStart="8dp"/>
```

```
        <Button
            android:id="@+id/divide"
            android:text="÷"
            android:layout_width="0dp"
            android:layout_weight="1"
            android:layout_height="wrap_content"
            android:backgroundTint="#80CBC4"
            android:layout_marginStart="8dp"/>
    </LinearLayout>

    <Button
        android:id="@+id/clear"
        android:text=" Clear"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:backgroundTint="#4DD0E1"  <!-- Light cyan -->
        android:layout_marginBottom="16dp" />

    <TextView
        android:id="@+id/result"
        android:textSize="22sp"
        android:textStyle="bold"
        android:textColor="#004D40"  <!-- Dark teal -->
        android:layout_width="wrap_content"
        android:layout_height="wrap_content" />
</LinearLayout>
```

OUTPUT:





✓ RESULT

Once you run the app:

- You can enter two numbers.
- Tap any operation: + − ×□ ÷
- Result appears below in bold.
- Clear button resets the input.
- If input is missing or invalid, you'll see a toast message.