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**

```
kotlin
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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
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<?xml version="1.0" encoding="utf-8"?>
```
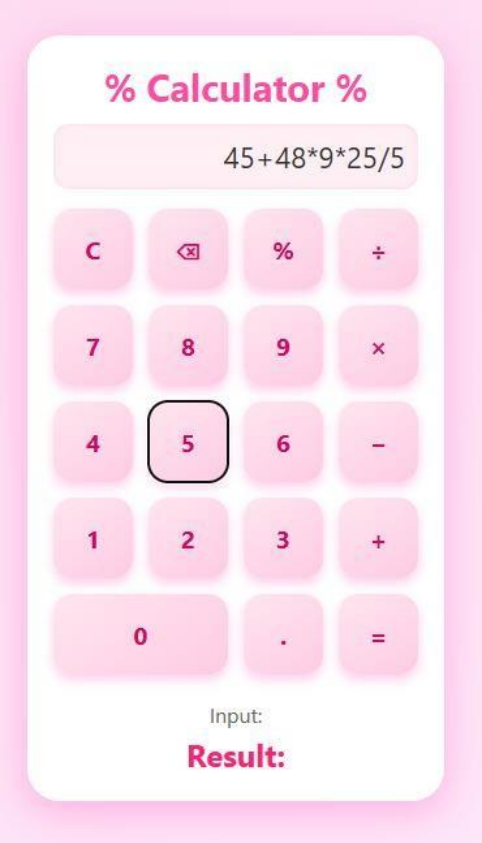
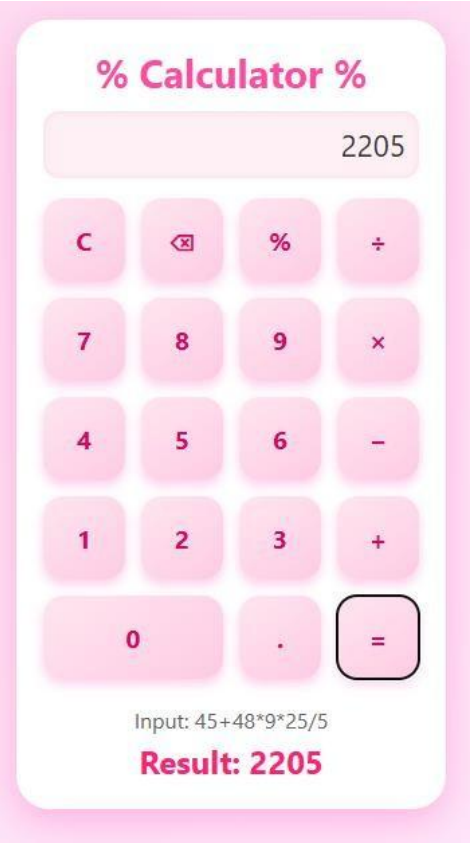

```
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:background="#FFF1F8"
    android:padding="24dp"
    android:gravity="center">

    <TextView
        android:text="Cute Calculator 💖"
        android:textSize="28sp"
        android:textColor="#E91E63"
        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="#E91E63"
        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="#E91E63"
        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="#F8BBD0" />

        <Button
            android:id="@+id/subtract"
            android:text="−"
            android:layout_width="0dp"
            android:layout_weight="1"
            android:layout_height="wrap_content"
            android:backgroundTint="#F8BBD0"
```

```
            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="#F8BBD0"
            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="#F8BBD0"
            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="#CE93D8"
        android:layout_marginBottom="16dp" />

    <TextView
        android:id="@+id/result"
        android:textSize="22sp"
        android:textStyle="bold"
        android:textColor="#880E4F"
        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.