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 CopyEdit
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 CopyEdit
<?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
```

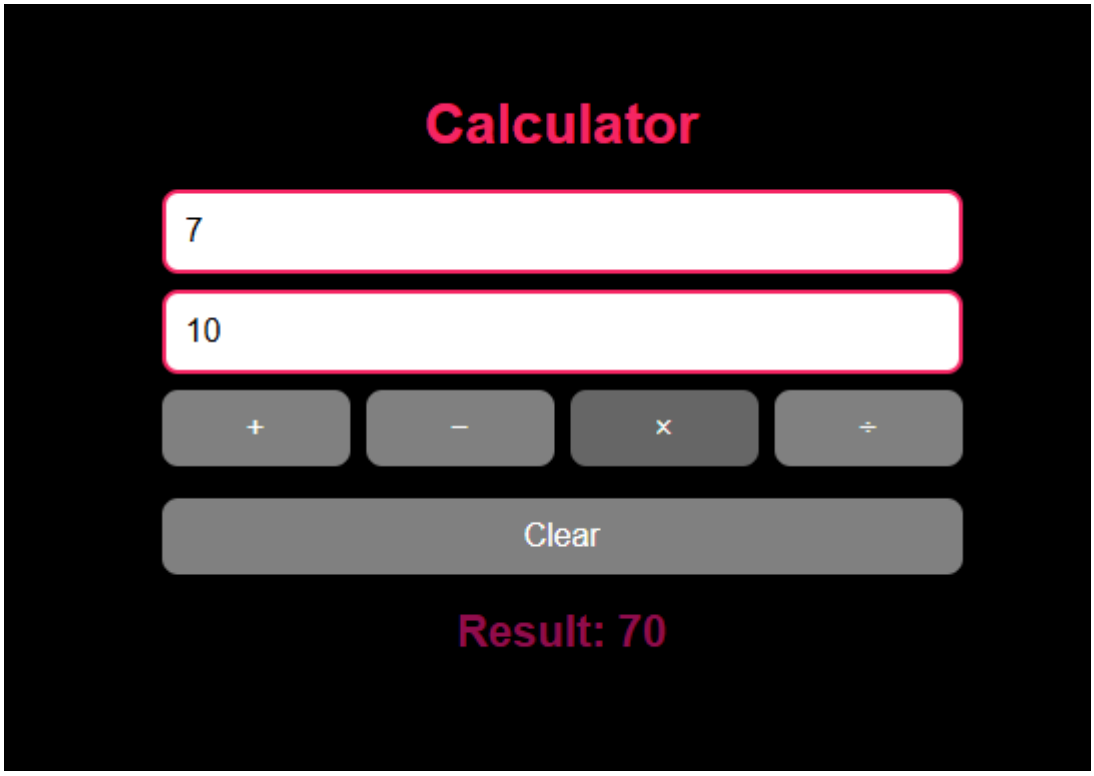
```
            android:id="@+id/multiply"
android:text="✕"
android:layout_width="0dp"
android:layout_weight="1"
android:layout_height="wrap_content"
android:backgroundTint="#F8BBD0"
android:layout_marginStart="8dp"/>

        <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:


Calculator
7
10
+
−
×
÷
Clear
Result: 70

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.