**WEB TECHNOLOGY AND MOBILE APPLICATIONS**

**EXPERIMENT-8**

**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:

o If not: show a toast message “Enter valid numbers”.

o If valid:

 Perform the selected operation.

 Show the result on the screen.

6. Clear button resets everything.

7. End.

**CODE:**

**activity\_main.xml**

<LinearLayout

xmlns:android="http://schemas.android.com/apk/res/android"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation="vertical"

android:padding="24dp"

android:gravity="center"

android:background="#FFF9F0">

<EditText

android:id="@+id/input1"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter number 1"

android:inputType="numberDecimal"

android:backgroundTint="#FFB6C1" />

<EditText

android:id="@+id/input2"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter number 2"

android:inputType="numberDecimal"

android:backgroundTint="#FFB6C1"

android:layout\_marginTop="12dp" />

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:gravity="center"

android:layout\_marginTop="16dp">

<Button

android:id="@+id/btnAdd"

android:text="+"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" />

<Button

android:id="@+id/btnSubtract"

android:text="-"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="8dp" />

<Button

android:id="@+id/btnMultiply"

android:text="×"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="8dp" />

<Button

android:id="@+id/btnDivide"

android:text="÷"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="8dp" />

</LinearLayout>

<TextView

android:id="@+id/resultText"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Result: "

android:textSize="20sp"

android:textColor="#333"

android:layout\_marginTop="20dp" />

</LinearLayout>

**MainActivity.java**

package com.example.cutecalculator

import android.os.Bundle

import android.widget.\*

import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {

private lateinit var input1: EditText

private lateinit var input2: EditText

private lateinit var resultText: TextView

private lateinit var btnAdd: Button

private lateinit var btnSubtract: Button

private lateinit var btnMultiply: Button

private lateinit var btnDivide: Button

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

input1 = findViewById(R.id.input1)

input2 = findViewById(R.id.input2)

resultText = findViewById(R.id.resultText)

btnAdd = findViewById(R.id.btnAdd)

btnSubtract = findViewById(R.id.btnSubtract)

btnMultiply = findViewById(R.id.btnMultiply)

btnDivide = findViewById(R.id.btnDivide)

btnAdd.setOnClickListener { calculate("+") }

btnSubtract.setOnClickListener { calculate("-") }

btnMultiply.setOnClickListener { calculate("\*") }

btnDivide.setOnClickListener { calculate("/") }

}

private fun calculate(operation: String) {

val num1 = input1.text.toString()

val num2 = input2.text.toString()

if (num1.isEmpty() || num2.isEmpty()) {

Toast.makeText(this, "Please enter both numbers", Toast.LENGTH\_SHORT).show()

return

}

val n1 = num1.toDouble()

val n2 = num2.toDouble()

val result = when (operation) {

"+" -> n1 + n2

"-" -> n1 - n2

"\*" -> n1 \* n2

"/" -> {

if (n2 == 0.0) {

Toast.makeText(this, "Cannot divide by zero", Toast.LENGTH\_SHORT).show()

return

} else n1 / n2

}

else -> 0.0

}

resultText.text = "Result: %.2f".format(result)

}

}

**OUTPUT:**

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