

# Mid term

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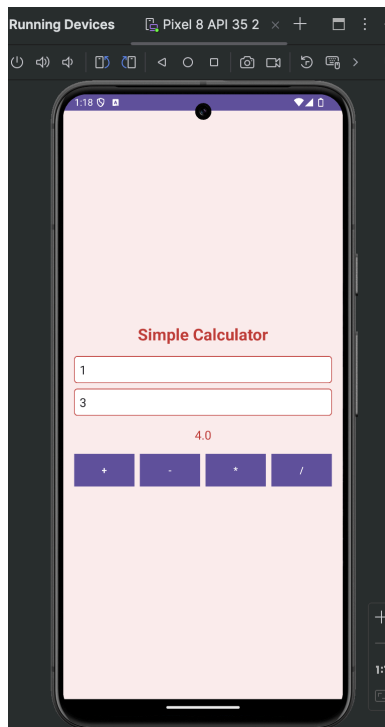
Subject: (2024A) COMP-5450-AA - Mobile Programming

## **Ques1:**

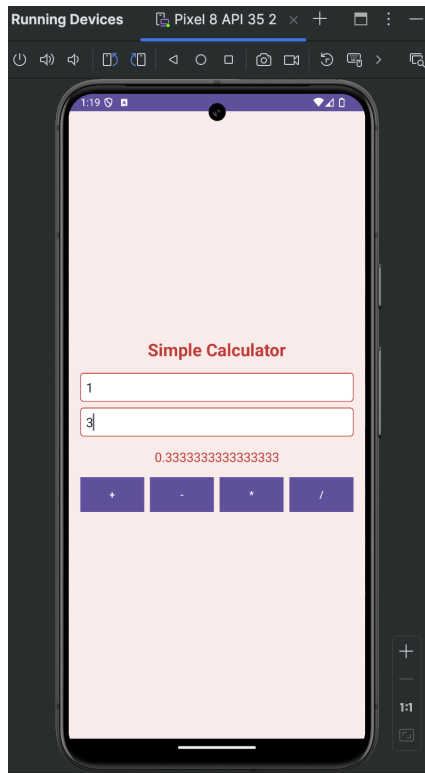
**App name: Simple Calculator**

Calculator after using When statement:

On selection of addition button:



On selecting division button:



It gives output with more than 10 digits after a point.

### **Codes:**

MainActivity.kt

```
package com.example.midterm_que1

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.TextView
import android.widget.Toast

class MainActivity : AppCompatActivity() {

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

        val number1EditText = findViewById<EditText>(R.id.number1)
        val number2EditText = findViewById<EditText>(R.id.number2)
        val resultTextView = findViewById<TextView>(R.id.result)
```

```

        val buttonAdd = findViewById<Button>(R.id.buttonAdd)
        val buttonSubtract = findViewById<Button>(R.id.buttonSubtract)
        val buttonMultiply = findViewById<Button>(R.id.buttonMultiply)
        val buttonDivide = findViewById<Button>(R.id.buttonDivide)

        buttonAdd.setOnClickListener {
            performOperation(number1EditText, number2EditText, resultTextView,
"add")
        }

        buttonSubtract.setOnClickListener {
            performOperation(number1EditText, number2EditText, resultTextView,
"subtract")
        }

        buttonMultiply.setOnClickListener {
            performOperation(number1EditText, number2EditText, resultTextView,
"multiply")
        }

        buttonDivide.setOnClickListener {
            performOperation(number1EditText, number2EditText, resultTextView,
"divide")
        }
    }

    private fun performOperation(
        number1EditText: EditText,
        number2EditText: EditText,
        resultTextView: TextView,
        operation: String
    ) {
        val num1 = number1EditText.text.toString().toDoubleOrNull()
        val num2 = number2EditText.text.toString().toDoubleOrNull()

        if (num1 == null || num2 == null) {
            Toast.makeText(this, "Please enter valid numbers",
Toast.LENGTH_SHORT).show()
            return
        }

        val result = when (operation) {
            "add" -> num1 + num2
            "subtract" -> num1 - num2
            "multiply" -> num1 * num2
            "divide" -> {
                if (num2 != 0.0) num1 / num2
                else {

```

```

        Toast.makeText(this, "Cannot divide by zero",
Toast.LENGTH_SHORT).show()
        return
    }
}
else -> 0.0
}

resultTextView.text = result.toString()
}
}

```

## Colors.xml

```

<resources>
    <color name="button_background">#D32F2F</color>
</resources>

```

## Edit\_text\_bg.xml

```

<shape xmlns:android="http://schemas.android.com/apk/res/android">
    <solid android:color="#FFFFFF"/>
    <corners android:radius="4dp"/>
    <stroke android:width="1dp" android:color="#D32F2F"/>
</shape>

```

## Activity\_main.xml

```

<?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:padding="16dp"
    android:gravity="center"
    android:background="#FFEBEE">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Simple Calculator"
        android:textSize="24sp"
        android:textStyle="bold"
        android:layout_marginBottom="16dp"
        android:textColor="#D32F2F" />

    <EditText
        android:id="@+id/number1"

```

```

        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter first number"
        android:inputType="numberDecimal"
        android:background="@drawable/edit_text_bg"
        android:padding="8dp"
        android:layout_marginBottom="8dp" />

<EditText
    android:id="@+id/number2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter second number"
    android:inputType="numberDecimal"
    android:background="@drawable/edit_text_bg"
    android:padding="8dp"
    android:layout_marginBottom="16dp" />

<TextView
    android:id="@+id/result"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="16dp"
    android:textSize="18sp"
    android:text="Result"
    android:textColor="#D32F2F" />

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

    <Button
        android:id="@+id/buttonAdd"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="+"
        android:background="@color/button_background"
        android:textColor="@android:color/white" />

    <Button
        android:id="@+id/buttonSubtract"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="-"
        android:background="@color/button_background"

```

```
        android:textColor="@android:color/white"
        android:layout_marginStart="8dp"
        android:layout_marginLeft="8dp" />

    <Button
        android:id="@+id/buttonMultiply"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="*"
        android:background="@color/button_background"
        android:textColor="@android:color/white"
        android:layout_marginStart="8dp"
        android:layout_marginLeft="8dp" />

    <Button
        android:id="@+id/buttonDivide"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="/"
        android:background="@color/button_background"
        android:textColor="@android:color/white"
        android:layout_marginStart="8dp"
        android:layout_marginLeft="8dp" />
</LinearLayout>
</LinearLayout>
```