



- a. **Create an Android app to add and subtract two numbers supplied from the user interface having two text boxes.**
- b. **Create an Android app to multiply and divide two numbers supplied from the user interface having two text boxes.**

- **activity\_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:orientation="vertical"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView3"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:background="#FBEAEB"
        android:textSize="40sp"
        android:text="MiNi calculator"
        android:textAlignment="center"/>

    <EditText
        android:id="@+id/editTextText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginBottom="20dp"
        android:ems="10"
        android:inputType="numberDecimal"
        android:hint="Enter first value" />

    <EditText
        android:id="@+id/editTextText2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginBottom="20dp"
        android:ems="10"
        android:inputType="numberDecimal"
        android:hint="Enter second value" />
```



```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="20dp"
    android:orientation="horizontal">

    <Button
        android:id="@+id/button2"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="+" />

    <Button
        android:id="@+id/button3"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="-" />

    <Button
        android:id="@+id/button4"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="*" />

    <Button
        android:id="@+id/button5"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="/" />
</LinearLayout>

<TextView
    android:id="@+id/textView4"
    android:textSize="40sp"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:background="#2F3C7E"
    android:text="Result="
```



```
        android:textColor="#ff0000"  
        android:textStyle="bold"/>
```

```
</LinearLayout>
```

- **MainActivity.java**

```
package com.example.calculator;
```

```
import androidx.appcompat.app.AppCompatActivity;
```

```
import android.os.Bundle;
```

```
import android.view.View;
```

```
import android.widget.Button;
```

```
import android.widget.EditText;
```

```
import android.widget.TextView;
```

```
import android.widget.Toast;
```

```
public class MainActivity extends AppCompatActivity {
```

```
    private EditText editText1, editText2;
```

```
    private TextView resultTextView;
```

```
    private Button addButton, subtractButton, multiplyButton, divideButton;
```

```
@Override
```

```
protected void onCreate(Bundle savedInstanceState) {
```

```
    super.onCreate(savedInstanceState);
```

```
    setContentView(R.layout.activity_main);
```

```
    // Initialize UI elements
```

```
    editText1 = findViewById(R.id.editTextText);
```

```
    editText2 = findViewById(R.id.editTextText2);
```

```
    resultTextView = findViewById(R.id.textView4);
```

```
    addButton = findViewById(R.id.button2);
```

```
    subtractButton = findViewById(R.id.button3);
```

```
    multiplyButton = findViewById(R.id.button4);
```

```
    divideButton = findViewById(R.id.button5);
```

```
    // Set listeners for buttons
```

```
    addButton.setOnClickListener(new View.OnClickListener() {
```

```
        @Override
```

```
        public void onClick(View v) {
```

```
            performOperation('+');
```

```
        }
```



```
});

subtractButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        performOperation('-');
    }
});

multiplyButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        performOperation('*');
    }
});

divideButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        performOperation('/');
    }
});
}

private void performOperation(char operator) {
    String input1 = editText1.getText().toString();
    String input2 = editText2.getText().toString();

    if (input1.isEmpty() || input2.isEmpty()) {
        Toast.makeText(this, "Please enter both values", Toast.LENGTH_SHORT).show();
        return;
    }

    try {
        double value1 = Double.parseDouble(input1);
        double value2 = Double.parseDouble(input2);
        double result = 0;

        switch (operator) {
            case '+':
                result = value1 + value2;
                break;
```

```
        case '-':
            result = value1 - value2;
            break;
        case '*':
            result = value1 * value2;
            break;
        case '/':
            if (value2 != 0) {
                result = value1 / value2;
                result = Math.round(result * 100.0) / 100.0;
            } else {
                Toast.makeText(this, "Cannot divide by zero", Toast.LENGTH_SHORT).show();
                return;
            }
            break;
    }

    resultTextView.setText("Result = " + result);
} catch (NumberFormatException e) {
    Toast.makeText(this, "Invalid input", Toast.LENGTH_SHORT).show();
}
}
```

- **Output: -**

