

## Assignment No - 2

Q.1 Develop an Android App for Basic Arithmetic Operations?

### MainActivity.java

```
package com.example.basicarithmeticoperation;
```

```
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
```

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

```
    EditText num1, num2;
    Button btnAdd, btnSubtract, btnMultiply, btnDivide;
    TextView result;
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
```

```
        num1 = findViewById(R.id.num1);
        num2 = findViewById(R.id.num2);
        btnAdd = findViewById(R.id.btnAdd);
        btnSubtract = findViewById(R.id.btnSubtract);
        btnMultiply = findViewById(R.id.btnMultiply);
        btnDivide = findViewById(R.id.btnDivide);
        result = findViewById(R.id.result);
```

```
        btnAdd.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                calculate("+");
            }
        });
```

```
        btnSubtract.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                calculate("-");
            }
        });
```

```
        btnMultiply.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
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```
        calculate("*");
    }
});

btnDivide.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        calculate("/");
    }
});
}

private void calculate(String operator) {
    String strNum1 = num1.getText().toString();
    String strNum2 = num2.getText().toString();

    if (strNum1.isEmpty() || strNum2.isEmpty()) {
        Toast.makeText(this, "Please enter both numbers", Toast.LENGTH_SHORT).show();
        return;
    }

    double n1 = Double.parseDouble(strNum1);
    double n2 = Double.parseDouble(strNum2);
    double res = 0;

    switch (operator) {
        case "+":
            res = n1 + n2;
            break;
        case "-":
            res = n1 - n2;
            break;
        case "*":
            res = n1 * n2;
            break;
        case "/":
            if (n2 == 0) {
                Toast.makeText(this, "Cannot divide by zero", Toast.LENGTH_SHORT).show();
                return;
            }
            res = n1 / n2;
            break;
    }
    result.setText("Result: " + res);
}
}
```

**activity\_main.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:padding="20dp"
    android:gravity="center">

    <EditText
        android:id="@+id/num1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter first number"
        android:inputType="numberDecimal" />

    <EditText
        android:id="@+id/num2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter second number"
        android:inputType="numberDecimal" />

    <Button
        android:id="@+id/btnAdd"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Addition" />

    <Button
        android:id="@+id/btnSubtract"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Subtraction" />

    <Button
        android:id="@+id/btnMultiply"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Multiplication" />

    <Button
        android:id="@+id/btnDivide"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Division" />

    <TextView
        android:id="@+id/result"
```

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```
android:layout_width="match_parent"  
android:layout_height="wrap_content"  
android:paddingTop="10dp"  
android:text="Result: "  
android:textSize="18sp" />
```

</LinearLayout>

A screenshot of a mobile application interface for a calculator. It features a light pink background. At the top, there are two input fields with horizontal lines. The first field contains the number '12' and the second field contains the number '5'. Below these fields are four purple, rounded rectangular buttons stacked vertically, labeled 'Addition', 'Subtraction', 'Multiplication', and 'Division' in white text. At the bottom of the interface, the text 'Result: 60.0' is displayed in a black font.

A screenshot of a mobile application interface for a calculator, similar to the one on the left. It has a light pink background. The top section has two input fields with horizontal lines. The first field contains the number '52613' and the second field contains the number '55'. Below these are four purple, rounded rectangular buttons stacked vertically, labeled 'Addition', 'Subtraction', 'Multiplication', and 'Division' in white text. At the bottom, the text 'Result: 2893715.0' is displayed in a black font.