

Q1] Construct an Android application to accept two numbers in two EditText, with four buttons as ADD, SUB, DIV and MULT and display Result using Toast Control.

activity_main.xml (layout file):

```
<?xml version="1.0" encoding="utf-8"?>
```

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

```
    android:layout_width="match_parent"
```

```
    android:layout_height="match_parent"
```

```
    android:padding="16dp">
```

```
<EditText
```

```
    android:id="@+id/number1EditText"
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
```

```
    android:hint="Enter number 1"/>
```

```
<EditText
```

```
    android:id="@+id/number2EditText"
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_below="@id/number1EditText"
```

```
    android:layout_marginTop="16dp"
```

```
    android:hint="Enter number 2"/>
```

```
<Button
```

```
    android:id="@+id/addButton"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_below="@id/number2EditText"
```

```
    android:layout_marginTop="16dp"
```

```
android:text="ADD"/>
```

```
<Button
```

```
    android:id="@+id/subtractButton"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_below="@id/addButton"
```

```
    android:layout_marginTop="16dp"
```

```
    android:text="SUB"/>
```

```
<Button
```

```
    android:id="@+id/divideButton"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_below="@id/subtractButton"
```

```
    android:layout_marginTop="16dp"
```

```
    android:text="DIV"/>
```

```
<Button
```

```
    android:id="@+id/multiplyButton"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_below="@id/divideButton"
```

```
    android:layout_marginTop="16dp"
```

```
    android:text="MULT"/>
```

```
</RelativeLayout>
```

```
MainActivity.java (Java code):
```

```
import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;


import androidx.appcompat.app.AppCompatActivity;


public class MainActivity extends AppCompatActivity {


    private EditText number1EditText, number2EditText;


    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);


        number1EditText = findViewById(R.id.number1EditText);

        number2EditText = findViewById(R.id.number2EditText);


        Button addButton = findViewById(R.id.addButton);

        addButton.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                performOperation('+');

            }

        });

    }

}
```

```
Button subtractButton = findViewById(R.id.subtractButton);
subtractButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        performOperation('-');
    }
});
```

```
Button divideButton = findViewById(R.id.divideButton);
divideButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        performOperation('/');
    }
});
```

```
Button multiplyButton = findViewById(R.id.multiplyButton);
multiplyButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        performOperation('*');
    }
});
}
```

```
private void performOperation(char operator) {
    String num1Str = number1EditText.getText().toString();
    String num2Str = number2EditText.getText().toString();
```

```
if (num1Str.isEmpty() || num2Str.isEmpty()) {  
    Toast.makeText(this, "Please enter both numbers", Toast.LENGTH_SHORT).show();  
    return;  
}  
  
double num1 = Double.parseDouble(num1Str);  
double num2 = Double.parseDouble(num2Str);  
double result = 0;  
  
switch (operator) {  
    case '+':  
        result = num1 + num2;  
        break;  
    case '-':  
        result = num1 - num2;  
        break;  
    case '/':  
        if (num2 != 0) {  
            result = num1 / num2;  
        } else {  
            Toast.makeText(this, "Cannot divide by zero", Toast.LENGTH_SHORT).show();  
            return;  
        }  
        break;  
    case '*':  
        result = num1 * num2;  
        break;  
}
```

```
    Toast.makeText(this, "Result: " + result, Toast.LENGTH_SHORT).show();  
}  
}
```