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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) {
```

Assignment No - 2

```
            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

Ankit Jain , 0801IT221023

Assignment No - 2

```
<?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"
```

Ankit Jain , 0801IT221023

Assignment No - 2

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

</LinearLayout>
```