

## Write an android app to develop a calculator with basic operations.

## activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</p>
  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"
```

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android:layout height="wrap content"

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```
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"/>
```

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</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() {
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@Override
    public void onClick(View v) {
        performOperation('-');
     }
});
multiplyButton.setOnClickListener(new View
```



```
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;
```

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

## • Output: -

