Department of
Bachelor of Computer Applications

Android Operating System
Lab File – CA 05

Subject Code: 19BCA4C03L
Class: IInd Year IInd Semester

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Question 01 :

Program for simple calculator.

Code :

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/activity_main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="top"
    android:textAlignment="center"
    android:background="@android:color/holo_blue_bright"
    android:weightSum="1"
    tools:ignore="RtlCompat">
    <TextView
        android:text="enter_two_numbers"
        android:layout_width="match_parent"
        android:id="@+id/textView"
        android:layout_height="30dp"
        android:gravity="center_horizontal"
        android:textColorLink="?android:attr/editTextColor"
        tools:textStyle="bold|italic"
        android:textStyle="bold|italic"
        android:fontFamily="serif"
        android:visibility="visible"
        android:textSize="24sp"
        android:layout_weight="0.07" />
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:inputType="number"
        android:ems="10"
        android:id="@+id/editOp1"
        android:textSize="18sp"
        android:gravity="center_horizontal"
        android:layout_marginBottom="5dp"
        android:visibility="visible" />
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:inputType="number"
        android:ems="10"
        android:id="@+id/editOp2"
        android:textSize="18sp"
        android:gravity="center_horizontal"
        android:elevation="1dp" />
    <LinearLayout
        android:orientation="horizontal"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <Button
            android:id="@+id/btnadd"
            android:layout_width="60dp"
```

```xml
            android:layout_height="wrap_content"
            android:layout_weight="0.03"
            android:text="+" />

        <Button
            android:id="@+id/btnsub"
            android:layout_width="60dp"
            android:layout_height="wrap_content"
            android:layout_weight="0.03"
            android:text="-" />

        <Button
            android:id="@+id/btnmul"
            android:layout_width="60dp"
            android:layout_height="wrap_content"
            android:layout_weight="0.03"
            android:text="*" />

        <Button
            android:id="@+id/btndiv"
            android:layout_width="60dp"
            android:layout_height="wrap_content"
            android:layout_weight="0.03"
            android:text="/" />

        <Button
            android:id="@+id/btnclr"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="0.03"
            android:text="clear" />
    </LinearLayout>

    <TextView
        android:id="@+id/textView1"
        android:layout_width="match_parent"
        android:layout_height="50dp"
        android:layout_marginTop="10dp"
        android:fontFamily="serif"
        android:gravity="center_horizontal"
        android:text="result"
        android:textColorLink="?android:attr/editTextColor"
        android:textSize="30sp"
        android:textStyle="bold|italic"
        android:visibility="visible"
        tools:textStyle="bold|italic" />

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:inputType="number"
        android:ems="10"
        android:id="@+id/result"
        android:textSize="18sp"
        android:text="0.00"
        android:gravity="center_horizontal" />
</LinearLayout>
```

```java
package com.example.myapplication09;

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 opr1;
    private EditText opr2;
    private Button btnadd;
    private Button btnsub;
    private Button btnmul;
    private Button btndiv;
    private Button btnclr;
    private TextView txtresult;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        opr1 = (EditText) findViewById(R.id.editOp1);
        opr2 = (EditText) findViewById(R.id.editOp2);
        btnadd = (Button) findViewById(R.id.btnadd);
        btnsub = (Button) findViewById(R.id.btnsub);
        btnmul = (Button) findViewById(R.id.btnmul);
        btndiv = (Button) findViewById(R.id.btndiv);
        btnclr = (Button) findViewById(R.id.btnclr);
        txtresult= (TextView) findViewById(R.id.result);
// Addition
        btnadd.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if((opr1.getText().length()>0) &&
(opr2.getText().length()>0))
                {
                    double oper1 =
Double.parseDouble(opr1.getText().toString());
                    double oper2 =
Double.parseDouble(opr2.getText().toString());
                    double result = oper1 + oper2;
                    txtresult.setText(Double.toString(result));
                }
                else
                {
                    Toast toast= Toast.makeText(MainActivity.this,"Enter
The Required Numbers",Toast.LENGTH_LONG);
                    toast.show();
                }
            }
        });
//Subtraction
        btnsub.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if((opr1.getText().length()>0) &&
(opr2.getText().length()>0))
```

```java
                    {
                        double oper1 =
Double.parseDouble(opr1.getText().toString());
                        double oper2 =
Double.parseDouble(opr2.getText().toString());
                        double result = oper1 - oper2;
                        txtresult.setText(Double.toString(result));
                    }
                    else
                    {
                        Toast toast= Toast.makeText(MainActivity.this,"Enter
The Required Numbers",Toast.LENGTH_LONG);
                        toast.show();
                    }
                }
            });
// Multiplication
        btnmul.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if((opr1.getText().length()>0) &&
(opr2.getText().length()>0))
                    {
                        double oper1 =
Double.parseDouble(opr1.getText().toString());
                        double oper2 =
Double.parseDouble(opr2.getText().toString());
                        double result = oper1 * oper2;
                        txtresult.setText(Double.toString(result));
                    }
                    else
                    {
                        Toast toast= Toast.makeText(MainActivity.this,"Enter
The Required Numbers",Toast.LENGTH_LONG);
                        toast.show();
                    }
                }
            });
// Division
        btndiv.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if((opr1.getText().length()>0) &&
(opr2.getText().length()>0))
                    {
                        double oper1 =
Double.parseDouble(opr1.getText().toString());
                        double oper2 =
Double.parseDouble(opr2.getText().toString());
                        double result = oper1 / oper2;
                        txtresult.setText(Double.toString(result));
                    }
                    else
                    {
                        Toast toast= Toast.makeText(MainActivity.this,"Enter
The Required Numbers",Toast.LENGTH_LONG);
                        toast.show();
                    }
                }
            });
```

```java
// Reset Fields
        btnclr.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                opr1.setText("");
                opr2.setText("");
                txtresult.setText("0.00");
                opr1.requestFocus();
            }
        });
    }
}
```

Output :