

PROGRAM 5: Write a program to create an activity with two buttons START and STOP. On pressing of the START button, the activity must start the counter by displaying the numbers from One and the counter must keep on counting until the STOP button is pressed. Display the counter value in a TextViewcontrol



File Name: Acitivity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:textAlignment="center"
    tools:context=".MainActivity">

    <Button
        android:id="@+id/btn_stop"
        android:layout_width="94dp"
        android:layout_height="42dp"
        android:text="STOP"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.507"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.566" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="290dp"
        android:layout_height="37dp"
        android:text="COUNTER APPLICATION"
        android:textAlignment="center"
        android:textColor="#E91E63"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.495"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.142" />
```

```

<TextView
    android:id="@+id/txt_value"
    android:layout_width="186dp"
    android:layout_height="46dp"
    android:text="counter vallue"
    android:textAlignment="center"
    android:textColor="#FF5722"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.323" />

<Button
    android:id="@+id/btn_start"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="START"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.453" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

File Name:MainActivity.java

```

package com.example.counter;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.os.Handler;
import android.os.Looper;
import android.os.Message;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity implements
View.OnClickListener {
    Button buttonStart, buttonStop;
    TextView counterValue;
    public int Counter=0;
    public boolean running=false;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        buttonStart=(Button) findViewById(R.id.btn_start);
        buttonStart.setOnClickListener(this);
    }
}

```

```

        buttonStop=(Button)findViewById(R.id.btn_stop);
        buttonStop.setOnClickListener(this);
        counterValue=(TextView)findViewById(R.id.txt_value);
    }

    @Override
    public void onClick(View v) {
        if(v.equals(buttonStart))
        {
            counterStart();
        } else if(v.equals(buttonStop))
        {
            counterStop();
        }
    }

    private void counterStop() {
        this.running=false;
        buttonStart.setEnabled(true);
        buttonStop.setEnabled(false);
    }

    private void counterStart() {
        Counter=0;
        running=true;
        System.out.println("Start ->"+Thread.currentThread().getName());
        new myCounter().start();
        buttonStart.setEnabled(false);
        buttonStop.setEnabled(true);
    }

    Handler handler = new Handler(Looper.getMainLooper())
    {
        public void handleMessage(Message mes)
        {
            counterValue.setText(String.valueOf(mes.what));
        }
    };

    class myCounter extends Thread {
        public void run() {
            System.out.println("myCounter->"+Thread.currentThread().getName());
            while(running){
                Counter++;
                handler.sendMessage(Counter);
                try{
                    Thread.sleep(1000);
                } catch(Exception e) { }
            }
        }
    }
}

```

