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</pre>
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.sendEmptyMessage(Counter);
                    Thread. sleep(1000);
                } catch(Exception e) { }
       }
   }
}
```

