PROGRAM 5

COUNTER

XML CODE

*<?***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="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="268dp"  
 android:text="STOP"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.448"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"** />  
  
 <**TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="COUNTER APPLICATION"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.229"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.044"  
 android:textSize="24sp"  
 android:textColor="@color/purple\_700"**/>  
  
 <**TextView  
 android:id="@+id/txt\_value"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="COUNTER VALUE"  
 android:textAlignment="center"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.497"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.163"** />  
  
 <**Button  
 android:id="@+id/btn\_start"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="180dp"  
 android:text="START"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.448"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"** />  
  
</**androidx.constraintlayout.widget.ConstraintLayout**>

JAVA CODE

**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**);  
 **try** {  
 Thread.*sleep*(1000);  
 }**catch** (Exception e) {  
 }  
 }  
  
  
  
 }  
 }  
  
 }