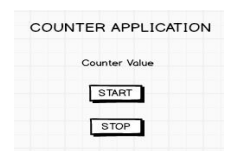
**MOBILE APPLICATION DEVELOPMENT**

**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.**



**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) {  
 }  
 }  
  
  
  
 }  
 }  
  
 }