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1. Write a program to create an activity with two buttons START and STOP. On pressing START button, the activity must start the counter by displaying the numbers from One and counter must keep on counting until the STOP button in 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"
  tools:context=".MainActivity">
  <TextView
    android:id="@+id/textView"
    android:layout_width="289dp"
    android:layout_height="120dp"
    android:layout_marginTop="128dp"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintStart toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
  <Button
    android:id="@+id/bstart"
    android:layout width="149dp"
    android:layout_height="75dp"
    android:layout marginTop="92dp"
    android:text="Start"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView"/>
  <Button
    android:id="@+id/bstop"
    android:layout_width="137dp"
    android:layout height="107dp"
    android:layout_marginTop="104dp"
    android:text="Stop"
    app:layout constraintBottom toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.521"
    app:layout constraintStart toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/bstart"
    app:layout_constraintVertical_bias="0.0" />
```

Java Code:

```
package com.example.counter;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import android.os.Handler;
import android.os.Message;
public class MainActivity extends AppCompatActivity implements View.OnClickListener {
  TextView tcounter;
  Button start, stop;
  int counter=0;
  boolean running=false;
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity main);
    tcounter = (TextView)findViewById(R.id.textView);
    start=(Button)findViewById(R.id.bstart);
    stop=(Button)findViewById(R.id.bstop);
    start.setOnClickListener(this);
    stop.setOnClickListener(this);
  public void onClick(View v){
    if(v.equals(start)) {
       counter =0;
       running = true;
       new Mycounter().start();
    else if(v.equals(stop)) {
       running = false;
    }
  }
  Handler handler = new Handler()
```

```
public void handleMessage(Message m)
{
    tcounter.setText(String.valueOf(m.what));
};
class Mycounter extends Thread
{
    public void run()
    {
        while(running)
        {
            counter++;
            handler.sendEmptyMessage(counter);
            try {
                Thread.sleep( 1000);
            }
            catch(Exception e){}
        }
    }
}
```

Output:



