**PART – A**

**Experiment-No:4**

Write a program to create an act1V1ty 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.

**Components Used:**

* Buttons: To Change Wallpapper.
* TextView:To set counter Value.

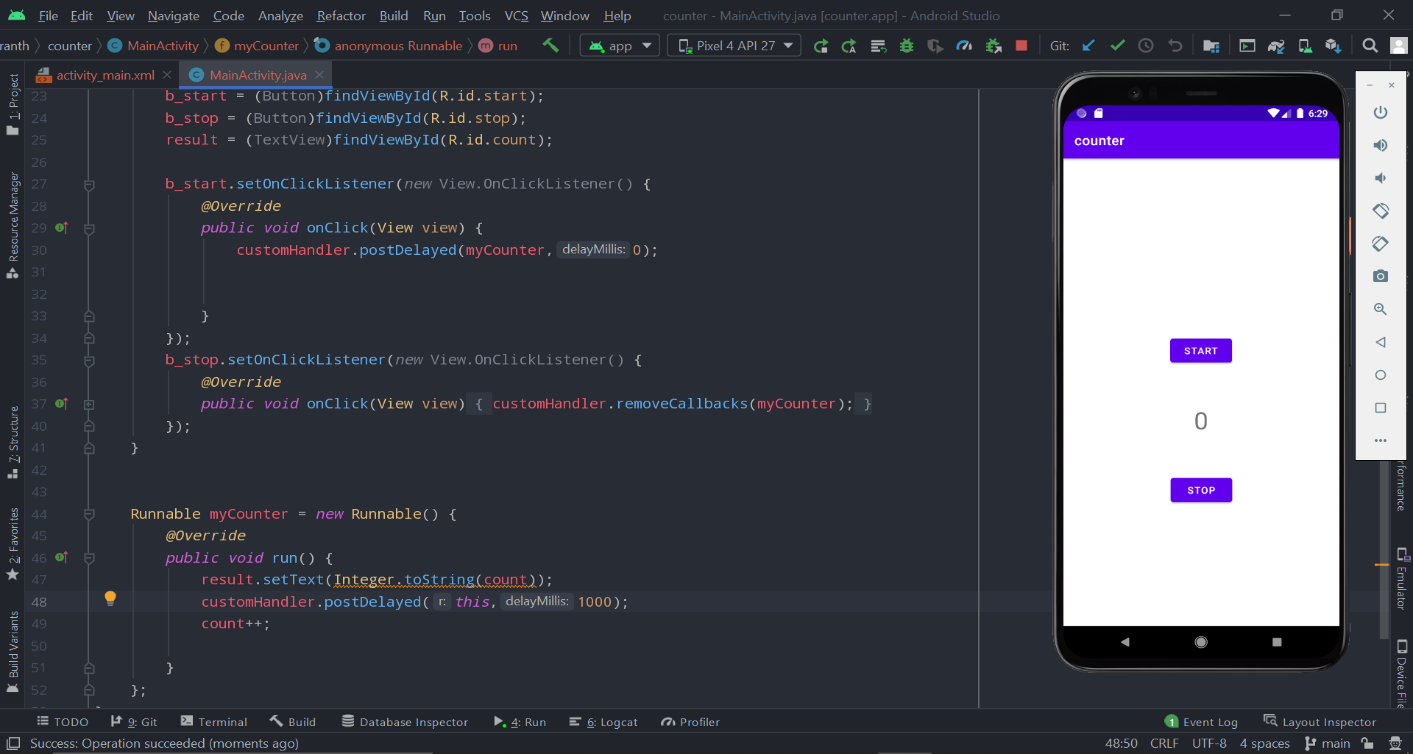
**XML Code:**

<?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">  
  
 <Button  
 android:id="@+id/start"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="264dp"  
 android:text="Start"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <TextView  
 android:id="@+id/count"  
 android:layout\_width="169dp"  
 android:layout\_height="69dp"  
 android:layout\_marginTop="56dp"  
 android:text="0"  
 android:textAlignment="center"  
 android:textSize="36sp"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/start" />  
  
 <Button  
 android:id="@+id/stop"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Stop"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.501"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/count"  
 app:layout\_constraintVertical\_bias="0.166" />  
</androidx.constraintlayout.widget.ConstraintLayout>

**Java Code:**

*package* com.keshavrkaranth.counter;  
  
*import* androidx.appcompat.app.AppCompatActivity;  
  
*import* android.os.Bundle;  
*import* android.os.Handler;  
*import* android.view.View;  
*import* android.widget.Button;  
*import* android.widget.TextView;  
  
*public class* MainActivity *extends* AppCompatActivity {  
 Button b\_start,b\_stop;  
 TextView result;  
 *int* count = 0;  
 Handler customHandler = *new* Handler();  
  
  
 *@Override  
 protected void* onCreate(Bundle savedInstanceState) {  
 *super*.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
  
 b\_start = (Button)findViewById(R.id.start);  
 b\_stop = (Button)findViewById(R.id.stop);  
 result = (TextView)findViewById(R.id.count);  
  
 b\_start.setOnClickListener(*new* View.OnClickListener() {  
 *@Override  
 public void* onClick(View view) {  
 customHandler.postDelayed(myCounter,0);  
  
  
 }  
 });  
 b\_stop.setOnClickListener(*new* View.OnClickListener() {  
 *@Override  
 public void* onClick(View view) {  
 customHandler.removeCallbacks(myCounter);  
 }  
 });  
 }  
  
  
 Runnable myCounter = *new* Runnable() {  
 *@Override  
 public void* run() {  
 result.setText(Integer.toString(count));  
 customHandler.postDelayed(*this*,1000);  
 count++;  
  
 }  
 };  
}

**Sample Output:**

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