Practical 5

**filename:activity\_main.xml**

<?xml version="1.0" encoding="utf-8"?>

<LinearLayout

xmlns:android="http://schemas.android.com/apk/res/android"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation="vertical"

android:gravity="center"

android:padding="16dp">

<TextView

android:id="@+id/textViewCounter"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="0"

android:textSize="48sp"

android:layout\_marginBottom="24dp"

android:textStyle="bold"/>

<Button

android:id="@+id/btnStart"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Start"

android:layout\_marginBottom="16dp"/>

<Button

android:id="@+id/btnStop"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Stop"/>

</LinearLayout>

**filename:MainActivity.java**

package com.example.myapplication;

import android.os.Bundle;

import android.os.Handler;

import android.widget.Button;

import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private TextView textViewCounter;

private Button btnStart, btnStop;

private int counter = 0;

private boolean isRunning = false;

private Handler handler = new Handler();

private Runnable runnable;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

// Initialize UI components

textViewCounter = findViewById(R.id.textViewCounter);

btnStart = findViewById(R.id.btnStart);

btnStop = findViewById(R.id.btnStop);

// Define what happens every second

runnable = new Runnable() {

@Override

public void run() {

if (isRunning) {

counter++;

textViewCounter.setText(String.valueOf(counter));

handler.postDelayed(this, 1000); // Repeat every 1 second

}

}

};

// Start button logic

btnStart.setOnClickListener(v -> {

if (!isRunning) {

isRunning = true;

handler.post(runnable); // Start the counter

}

});

// Stop button logic

btnStop.setOnClickListener(v -> {

isRunning = false;

handler.removeCallbacks(runnable); // Stop the counter

});

}

}