Background operations (async task) – extends and implements see in Logcat

Activity,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"**>  
  
 <**TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Processing..."  
 android:textSize="24sp"  
 android:padding="20dp"**/>  
</**LinearLayout**>

Mainactivity.java

**package** com.example.bgoperations;  
  
**import** android.os.AsyncTask;  
**import** android.os.Bundle;  
**import** android.widget.TextView;  
**import** androidx.appcompat.app.AppCompatActivity;  
  
**public class** MainActivity **extends** AppCompatActivity {  
  
 **private** TextView **textView**;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
 **textView** = findViewById(R.id.***textView***);  
  
 *// Start background task using AsyncTask* **new** BackgroundTask().execute();  
  
 *// Start thread using extends Thread* MyThread myThread = **new** MyThread();  
 myThread.start();  
  
 *// Start thread using implements Runnable* Thread runnableThread = **new** Thread(**new** MyRunnable());  
 runnableThread.start();  
 }  
  
 *// AsyncTask to perform a background operation and update UI* **private class** BackgroundTask **extends** AsyncTask<Void, Integer, Void> {  
 @Override  
 **protected** Void doInBackground(Void... voids) {  
 **for** (**int** i = 1; i <= 10; i++) {  
 **try** {  
 Thread.*sleep*(1000); *// Simulate delay* publishProgress(i); *// Update UI* } **catch** (InterruptedException e) {  
 e.printStackTrace();  
 }  
 }  
 **return null**;  
 }  
  
 @Override  
 **protected void** onProgressUpdate(Integer... values) {  
 **textView**.setText(**"Count: "** + values[0]);  
 }  
 }  
  
 *// Thread using extends Thread* **private class** MyThread **extends** Thread {  
 @Override  
 **public void** run() {  
 **for** (**int** i = 1; i <= 5; i++) {  
 **try** {  
 Thread.*sleep*(1000);  
 System.***out***.println(**"Thread (extends): "** + i);  
 } **catch** (InterruptedException e) {  
 e.printStackTrace();  
 }  
 }  
 }  
 }  
  
 *// Thread using implements Runnable* **private class** MyRunnable **implements** Runnable {  
 @Override  
 **public void** run() {  
 **for** (**int** i = 1; i <= 5; i++) {  
 **try** {  
 Thread.*sleep*(1000);  
 System.***out***.println(**"Thread (Runnable): "** + i);  
 } **catch** (InterruptedException e) {  
 e.printStackTrace();  
 }  
 }  
 }  
 }  
}

dependencies **{** implementation **'androidx.appcompat:appcompat:1.4.1'** implementation **'com.google.android.material:material:1.5.0'** implementation **'androidx.constraintlayout:constraintlayout:2.1.3'** *// Unit test dependencies* testImplementation **'junit:junit:4.13.2'** *// Android Instrumentation test dependencies* androidTestImplementation **'androidx.test.ext:junit:1.1.3'** androidTestImplementation **'androidx.test.espresso:espresso-core:3.4.0'  
}**