**LAB 6**

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**AndroidManifest.xml**

<?xml version="1.0" encoding="utf-8"?>  
<manifest xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools">  
  
 <application  
 android:allowBackup="true"  
 android:dataExtractionRules="@xml/data\_extraction\_rules"  
 android:fullBackupContent="@xml/backup\_rules"  
 android:icon="@mipmap/ic\_launcher"  
 android:label="@string/app\_name"  
 android:roundIcon="@mipmap/ic\_launcher\_round"  
 android:supportsRtl="true"  
 android:theme="@style/Theme.Lab6">  
  
  
 <activity  
 android:name=".MainActivity"  
 android:exported="true">  
 <intent-filter>  
 <action android:name="android.intent.action.MAIN" />  
 <category android:name="android.intent.category.LAUNCHER" />  
 </intent-filter>  
 </activity>  
 <activity android:name=".PostActivity" />  
 <activity android:name=".Main3Activity" />  
 <activity android:name=".MusicActivity" />  
 <activity android:name=".MusicRxActivity" />  
  
 </application>  
</manifest>

**MainActivity.java**

package com.example.lab6;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.os.Handler;  
import android.os.Message;  
import android.widget.Button;  
import android.widget.ProgressBar;  
import android.widget.TextView;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import java.util.Random;  
  
public class MainActivity extends AppCompatActivity {  
  
  
 private Button btnLab1, btnLab2, btnLab3, btnLab4, btnLab5;  
 private ProgressBar pbFirst, pbSecond;  
 private TextView tvWorking, tvReturned;  
 private Button btnStart, btnBack;  
 private boolean isRunning = false;  
 private int intTest = 0;  
 private Handler handler;  
 private Thread bgThread;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 showMainMenu(); // hiển thị menu chính  
 }  
  
 private void showMainMenu() {  
 setContentView(R.layout.*activity\_main*);  
  
 btnLab1 = findViewById(R.id.*btn\_lab1*);  
 btnLab2 = findViewById(R.id.*btn\_lab2*);  
 btnLab3 = findViewById(R.id.*btn\_lab3*);  
 btnLab4 = findViewById(R.id.*btn\_lab4*);  
 btnLab5 = findViewById(R.id.*btn\_lab5*);  
  
  
 btnLab1.setOnClickListener(v -> runThreadExample());  
  
  
 btnLab2.setOnClickListener(v ->  
 startActivity(new Intent(this, PostActivity.class)));  
 btnLab3.setOnClickListener(v ->  
 startActivity(new Intent(this, Main3Activity.class)));  
 btnLab4.setOnClickListener(v ->  
 startActivity(new Intent(this, MusicActivity.class)));  
 btnLab5.setOnClickListener(v ->  
 startActivity(new Intent(this, MusicRxActivity.class)));  
 }  
  
  
 private void runThreadExample() {  
 // Gán layout bài 1 (nhớ đã có file activity\_thread\_message.xml)  
 setContentView(R.layout.*activity\_thread\_message*);  
  
 pbFirst = findViewById(R.id.*pb\_first*);  
 pbSecond = findViewById(R.id.*pb\_second*);  
 tvWorking = findViewById(R.id.*tv\_working*);  
 tvReturned = findViewById(R.id.*tv\_return*);  
 btnStart = findViewById(R.id.*btn\_start*);  
 btnBack = findViewById(R.id.*btn\_back*); // nút quay về menu  
  
  
 handler = new Handler(msg -> {  
 int randomValue = (int) msg.obj;  
 int progress = msg.arg1;  
 String text = "Returned by background thread: " + randomValue +  
 "\nGlobal value: " + intTest;  
 tvReturned.setText(text);  
 pbFirst.setProgress(progress);  
 pbSecond.setProgress(progress);  
 return true;  
 });  
  
  
 btnStart.setOnClickListener(v -> startThread());  
  
  
 btnBack.setOnClickListener(v -> {  
 isRunning = false;  
 showMainMenu();  
 });  
 }  
  
  
 private void startThread() {  
 if (isRunning) return;  
  
 isRunning = true;  
 intTest = 0;  
 pbFirst.setProgress(0);  
 pbSecond.setProgress(0);  
 tvWorking.setText("Working...");  
 tvReturned.setText("");  
  
 bgThread = new Thread(() -> {  
 Random random = new Random();  
 for (int i = 1; i <= 100 && isRunning; i++) {  
 intTest++;  
 int randomNum = random.nextInt(100);  
 Message msg = handler.obtainMessage(1, i, 0, randomNum);  
 handler.sendMessage(msg);  
  
 try {  
 Thread.*sleep*(100);  
 } catch (InterruptedException e) {  
 e.printStackTrace();  
 }  
 }  
  
 runOnUiThread(() -> {  
 isRunning = false;  
 tvWorking.setText("Done! Background thread stopped.");  
 Toast.*makeText*(MainActivity.this, "Thread finished!", Toast.*LENGTH\_SHORT*).show();  
 });  
 });  
  
 bgThread.start();  
 }  
  
 @Override  
 protected void onStop() {  
 super.onStop();  
 isRunning = false;  
 }  
}

**activity\_main**

<?xml version="1.0" encoding="utf-8"?>  
<ScrollView xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent">  
  
 <LinearLayout  
 android:id="@+id/layout\_main\_menu"  
 android:orientation="vertical"  
 android:gravity="center"  
 android:padding="20dp"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="LAB 06 - MULTITHREADING MENU"  
 android:textSize="20sp"  
 android:textStyle="bold"  
 android:layout\_marginBottom="20dp"/>  
  
 <Button  
 android:id="@+id/btn\_lab1"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Bài 1"/>  
  
 <Button  
 android:id="@+id/btn\_lab2"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Bài 2"  
 android:layout\_marginTop="10dp"/>  
  
 <Button  
 android:id="@+id/btn\_lab3"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Bài 3"  
 android:layout\_marginTop="10dp"/>  
  
 <Button  
 android:id="@+id/btn\_lab4"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Bài 4"  
 android:layout\_marginTop="10dp"/>  
  
 <Button  
 android:id="@+id/btn\_lab5"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Bài 5"  
 android:layout\_marginTop="10dp"/>  
 </LinearLayout>  
  
</ScrollView>

A screenshot of a phone

AI-generated content may be incorrect.

A black cell phone with a white screen

AI-generated content may be incorrect.