**PR-13**

**13 Develop a program to implement Progress Bar.**

**XML Code**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:gravity="center"  
 android:padding="20dp">  
  
 <!-- TextView for Progress Dialog title -->  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:gravity="center"  
 android:text="ProgressDialog"  
 android:textSize="24sp"  
 android:layout\_marginBottom="30dp"/>  
  
 <!-- Button to trigger progress bar -->  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Start Download"  
 android:layout\_marginTop="20dp"  
 android:layout\_marginBottom="30dp"/>  
  
</LinearLayout>

**Java Code**

package com.example.pr13\_progressbar;  
  
import android.os.Bundle;  
import android.os.Handler;  
import android.view.View;  
import android.widget.Button;  
import android.widget.ProgressBar;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AlertDialog;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity implements View.OnClickListener {  
  
 Button btn;  
 ProgressBar progressBar;  
 int counter = 0;  
 int max = 100;  
 Handler handler = new Handler();  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 btn = findViewById(R.id.*button*);  
 btn.setOnClickListener(this);  
 }  
  
 @Override  
 public void onClick(View v) {  
 // Show progress bar in an AlertDialog  
 AlertDialog.Builder builder = new AlertDialog.Builder(MainActivity.this);  
 builder.setTitle("Android Developers");  
 builder.setMessage("Downloading File...");  
  
 // Create a custom progress bar  
 ProgressBar progressBar = new ProgressBar(MainActivity.this);  
 progressBar.setIndeterminate(false);  
 progressBar.setMax(max);  
 builder.setView(progressBar);  
 AlertDialog dialog = builder.create();  
 dialog.show();  
  
 // Simulate a downloading task  
 new Thread(new Runnable() {  
 @Override  
 public void run() {  
 while (counter < max) {  
 counter++;  
  
 // Update the progress bar on the UI thread  
 handler.post(new Runnable() {  
 @Override  
 public void run() {  
 progressBar.setProgress(counter);  
 }  
 });  
  
 try {  
 Thread.*sleep*(100); // Simulate a delay (for demo purposes)  
 } catch (InterruptedException e) {  
 e.printStackTrace();  
 }  
 }  
  
 // Dismiss dialog when download is complete  
 handler.post(new Runnable() {  
 @Override  
 public void run() {  
 dialog.dismiss();  
 Toast.*makeText*(MainActivity.this, "Download Complete!", Toast.*LENGTH\_SHORT*).show();  
 }  
 });  
 }  
 }).start();  
 }  
}