**8) Write a program to display circular progress bar.**

**activity\_main.xml:**

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:padding="16dp"

tools:context=".MainActivity">

<ProgressBar

android:id="@+id/progressBarCircular"

style="?android:attr/progressBarStyleLarge"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_centerInParent="true" />

</RelativeLayout>

**MainActivity.java**

import android.os.Bundle;

import android.os.Handler;

import android.os.Message;

import android.view.animation.Animation;

import android.view.animation.RotateAnimation;

import android.widget.ProgressBar;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private ProgressBar progressBarCircular;

private static final int MAX\_PROGRESS = 100;

private int progress = 0;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

progressBarCircular = findViewById(R.id.progressBarCircular);

Thread thread = new Thread(new Runnable() {

@Override

public void run() {

while (progress < MAX\_PROGRESS) {

progress += 5;

handler.sendMessage(handler.obtainMessage());

try {

Thread.sleep(1000); // Simulate progress update every 1 second

} catch (InterruptedException e) {

e.printStackTrace();

}

}

}

});

thread.start();

}

Handler handler = new Handler(new Handler.Callback() {

@Override

public boolean handleMessage(Message msg) {

progressBarCircular.setProgress(progress);

return true;

}

});

}