Exercise:

1. **Write a program to display circular progress bar.**
   - **activity_main.xml**

```xml
<?xml version="1.0" encoding="utf-8"?>
<AbsoluteLayout
xmlns:android="http://schemas.android.
com/apk/res/android"
xmlns:tools="http://schemas.android.co
m/tools"
  android:layout_width="match_parent"
  android:layout_height="match_parent"
  android:orientation="vertical"
  android:gravity="center"
  android:background="@drawable/bg"
  tools:context=".MainActivity">
  <ProgressBar
    android:id="@+id/progressBar"
    android:layout_width="200dp"
    android:layout_height="200dp"
    android:layout_y="150dp"
    android:layout_x="100dp"
    android:indeterminateOnly="false"
```

```xml
android:progressDrawable="@drawable/
custom_progress"/>
  <TextView
    android:id="@+id/textView1"
  android:layout_width="wrap_content"
 android:layout_height="wrap_content"
    android:layout_y="235dp"
    android:layout_x="180dp"
android:layout_centerHorizontal="true"
    android:text="0/100" />
  <Button   android:id="@+id/b1"
 android:layout_width="wrap_content"
  android:layout_height="wrap_content"
    android:layout_y="350dp"
    android:layout_x="130dp"
    android:text="Start Progress"
    android:textAllCaps="false"
  android:layout_marginTop="16dp"/>
</AbsoluteLayout>
```
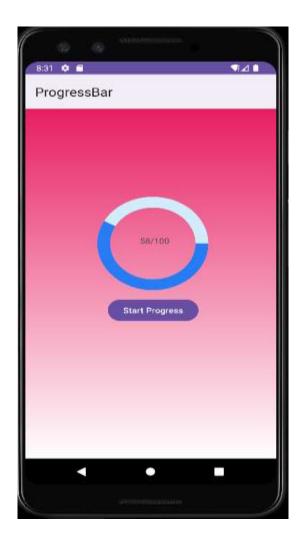
   - **acitivitymain.java**

```java
package com.example.pr13q1;
import androidx.appcompat.app.
AppCompatActivity;
import android.os.Bundle;
import android.os.Handler;
import android.view.View;
import android.widget.Button;
import android.widget.ProgressBar;
import android.widget.TextView;
public class MainActivity extends
AppCompatActivity {private
ProgressBar progressBar;
private int progressStatus = 0;
private TextView textView;
private Handler handler = new
Handler();private Button startButton;
   protected void onCreate(Bundle
savedInstanceState)
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
progressBar = findViewById (R.id.
progressBar);
textView = findViewById(R.id
.textView1);
startButton = findViewById(R.id.b1);
```

```java
startButton.setOnClickListener(new
View.OnClickListener() {
public void onClick(View v) {
new Thread(new Runnable() {
public void run() {
while (progressStatus < 100) {
progressStatus += 1;
handler.post(new Runnable() {
public void run() {
progressBar.setProgress(progressStatus);
textView.setText(progressStatus + "/" +
progressBar.getMax());
}});
try {Thread.sleep(200);
} catch (InterruptedException e) {
e.printStackTrace();}}}}).start();
     } });}}
```

- **bg.xml**

```xml
<?xml version="1.0" encoding="utf-8"?>
<shape xmlns:android="http://schemas.android.com/apk/res/android">
  <gradient android:type="linear" android:angle="100" android:startColor="#E91E63"
     android:endColor="@color/white"/>
</shape>
```

- **custom_progress.xml**

```xml
<?xml version="1.0" encoding="utf-8"?>
<layer-list
xmlns:android="http://schemas.android.
com/apk/res/android"><item
android:id="@android:id/background">
     <shape android:shape="ring"
        android:thickness="20dp"
        android:useLevel="false">
        <solid
android:color="#D2EDFC"/>
     </shape></item><item
android:id="@android:id/progress">
<shape android:shape="ring"
android:thickness="20dp">\
<solid android:color="#287CF6"/>
     </shape></item></layer-list>
```

OUTPUT:

2. Write a program for following output.
   - activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<AbsoluteLayout
xmlns:android="http://schemas.android.
com/apk/res/android"
xmlns:tools="http://schemas.android.co
m/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
    android:padding="16dp"
    android:background="@drawable/bg"
    tools:context=".MainActivity">
    <Button  android:id="@+id/b1"
        android:layout_width="200dp"
        android:layout_height="70dp"
        android:text="Start"
        android:layout_x="80dp"
        android:layout_y="400dp"
        android:textSize="25dp"
android:layout_centerInParent="true"/>
    <TextView
        android:id="@+id/textView"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
        android:layout_x="130dp"
        android:layout_y="500dp"
        android:textSize="30dp"
        android:text="0/100" />
</AbsoluteLayout>
```

   - acitivitymain.java

```java
package com.example.pr13q2;
import
androidx.appcompat.app.AppCompatAct
ivity;
import android.app.ProgressDialog;
import android.os.Bundle;
import android.os.Handler;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
public class MainActivity extends
AppCompatActivity {
    private ProgressDialog progressDialog;
    private int progressStatus = 0;
    private TextView textView;
    private Handler handler = new
Handler();
    private Button startButton;
    protected void onCreate(Bundle
savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
textView = findViewById(R.id.textView);
startButton = findViewById(R.id.b1);
startButton.setOnClickListener(new
View.OnClickListener() {
public void onClick(View v) {
progressDialog = new
ProgressDialog(MainActivity.this);
progressDialog.setMessage("Downloadin
g file...");
progressDialog.setCancelable(false);
progressDialog.setProgressStyle(Progress
Dialog.STYLE_HORIZONTAL);
progressDialog.setProgress(0);
progressDialog.setMax(100);
progressDialog.show();
new Thread(new Runnable() {
public void run() {while (progressStatus <
100) {progressStatus += 1;
handler.post(new Runnable() {
public void run() {
progressDialog.setProgress(progressStatu
s);
textView.setText(progressStatus + "/" +
progressDialog.getMax());}});
try {Thread.sleep(200);
                } catch
(InterruptedException e) {
e.printStackTrace();}}
progressDialog.dismiss();
}}).start();
}
});
}
}
```

```xml
<?xml version="1.0" encoding="utf-8"?>
< shapexmlns:android="http:// schemas.android.com/apk/res/android">
<gradient android:type="linear"
android:angle="100"android:startColor="#E91E63"android:endColor="@color/white"/>
</shape>
```

OUTPUT: