Exercise:

1. **Write a program to show the following output. Use appropriate view for the same.**
   - **activity_main.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"
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**

```
package com.example.pr14;

import androidx.appcompat.app.
AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.*;
public class MainActivity extends
AppCompatActivity {
   String s[] = {"Android", "Java",
"Php", "Hadoop", "Sap", "Python",
"Ajax", "C++", "Ruby", "Rails",
".Net"};
   ListView l;
   protected void onCreate(Bundle
savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(
R.layout.activity_main);
      l = findViewById(R.id.list_view);
      ArrayAdapter<String> ad = new
ArrayAdapter<String>(this,
android.R.layout.simple_list_item_1, s);
      l.setAdapter(ad);
      l.setOnItemClickListener(new
AdapterView.OnItemClickListener()
      {
public void onItemClick(AdapterView
<?>  parent, View view, int position, long
id) {

Toast.makeText(MainActivity.this,
((TextView)view).getText().toString(),
Toast.LENGTH_SHORT).show();
         }
      });
   }
}
```

- **bg.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>
```

OUTPUT:

2. **Write a program to display an image using view and a button named as "Change Image" Once you click on button another image should get displayed.**
    - **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.co
m/tools"

android:layout_width="match_parent"

android:layout_height="match_parent"
   android:background="@drawable/bg"
   tools:context=".MainActivity">
   <ImageView
      android:id="@+id/i1"

android:layout_width="wrap_content"

android:layout_height="wrap_content"
```

```
android:layout_centerInParent="true"
      android:src="@drawable/riya">
   </ImageView>
   <Button
      android:id="@+id/b1"

android:layout_width="match_parent"

android:layout_alignBottom="@+id/i1"
      android:text="Change Image"

android:layout_marginBottom="80dp"

android:layout_height="wrap_content"
      >
   </Button>
</RelativeLayout>
```

- **acitivitymain.java**

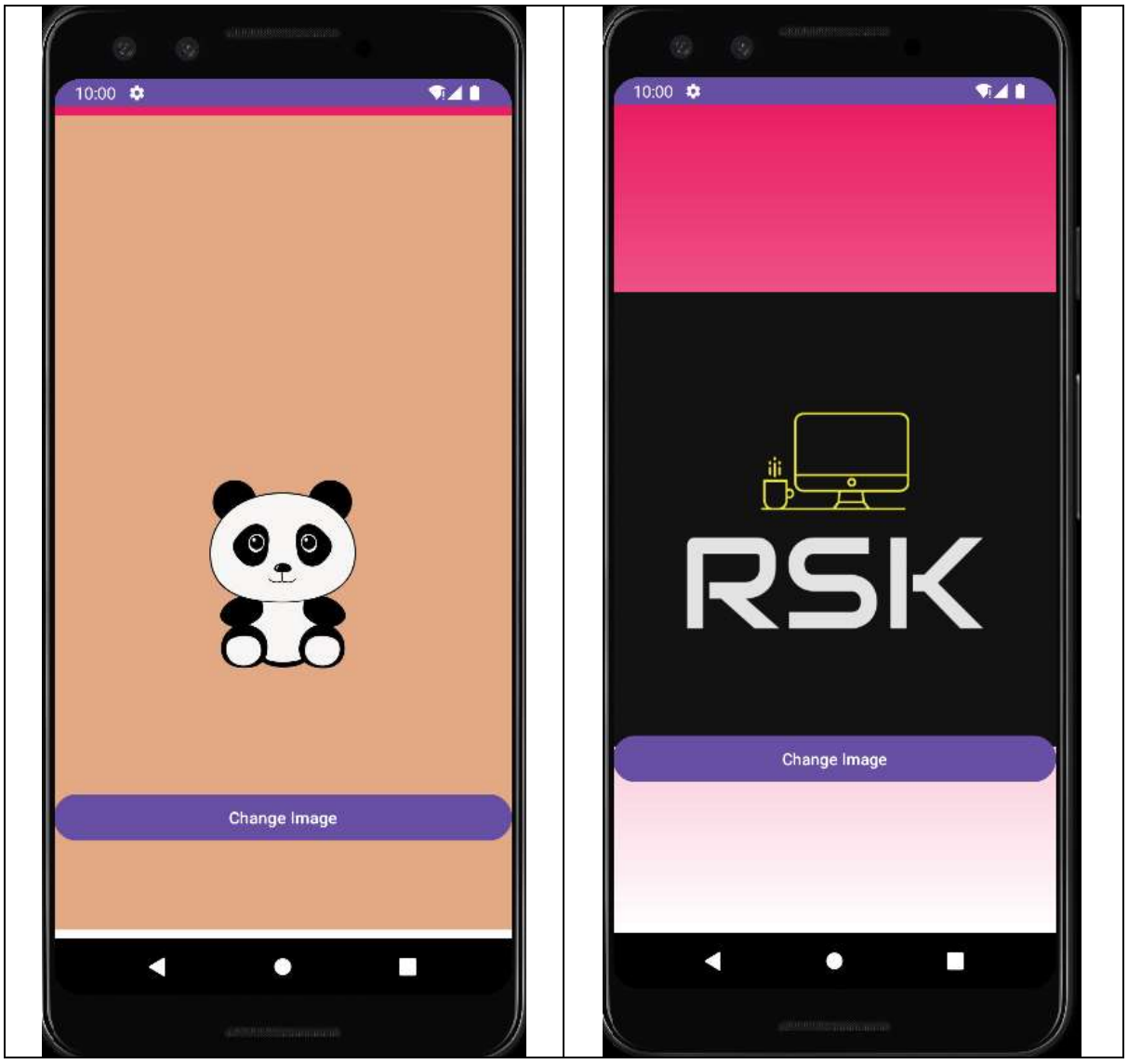
```
package com.example.pr14q2;
import androidx.appcompat.app.
AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ImageButton;
import android.widget.ImageView;
public class MainActivity extends
AppCompatActivity {
   Button button1;
   ImageView imageview1;
   int[] images = {R.drawable.riya,
R.drawable.logo1};
   int current_Index = 0;
   protected void onCreate(Bundle
savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
      button1 = findViewById(R.id.b1);
      imageview1 = findViewById(R.id.i1);
      button1.setOnClickListener(new
View.OnClickListener() {
public void onClick(View v) {
current_Index = (current_Index + 1) %
images.length;
```

```
imageview1.setImageResource(images[cu
rrent_Index]);
} });
}
}
```

- **bg.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:



3. **Write a program to display 15 buttons using grid view.**

- **activity_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
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:background="@drawable/bg"
   tools:context=".MainActivity">
   <GridView
      android:id="@+id/grid1"
android:layout_marginTop="230dp"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:numColumns="3">
   </GridView>
</LinearLayout>
```

- **acitivitymain.java**

```
package com.example.pr14q3;
import androidx.appcompat.app. AppCompatActivity;
import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.GridView;
public class MainActivity extends AppCompatActivity {
   GridView grid;
   String arr[]=new String[15];
[]menu={R.drawable.button,R.drawable.buttton2,R.drawable.nature,R.drawable.hotel1,R.dr
awable.r1,R.drawable.button,R.drawable.buttton2,R.drawable.nature,R.drawable.hotel1,R.d
rawable.r1,R.drawable.buttton2,R.drawable.button};
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
      grid=findViewById(R.id.grid1);
      for(int i=0;i<15;i++)
      {
         arr[i]=Integer.toString(i+1);
      }
      ArrayAdapter <String>ad=new
ArrayAdapter<String>(this,R.layout.button,R.id.b1,arr);
      grid.setAdapter(ad);
   }
}
```

- **bg.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>
```

- **button.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">
   <Button     android:id="@+id/b1"                android:layout_width="wrap_content"
      android:layout_height="wrap_content"     android:layout_marginLeft="20dp" >
   </Button></LinearLayout>
```

OUTPUT:

4. **Write a program to display a text view using vertical scroll view.**

- **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"
   tools:context=".MainActivity">
   <ScrollView
      android:layout_width="match_parent"
      android:layout_height="match_parent">
      <TextView
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:text="@string/long_text"
         android:layout_centerInParent="true"
         />
   </ScrollView>

</RelativeLayout>
```

- **acitivitymain.java**

```
package com.example.pr14q4;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      // getSupportActionBar().setTitle("Your Title");}}
```

- **bg.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>
```

- **string.xml**

```
<resources><string name="app_name">ScrollViewDemo</string>
   <string name="long_text">Software engineering is a branch of computer science that
involves the design, development, testing,
      and maintenance of software applications.Software engineers use engineering principles
and programming languages to build
      software solutions for end users.Software engineering can help to prevent security
breaches and protect sensitive data by
```

following the Software Development Life Cycle (SDLC) and performing security testing.Software engineer roles are expected
the average for all occupations. Software engineers earn among the highest salaries compared to other professions.</string></resources>

OUTPUT: