Ex. No: 1

Android Application that uses GUI components, Font and Colors

Code for Activity_main.xml:

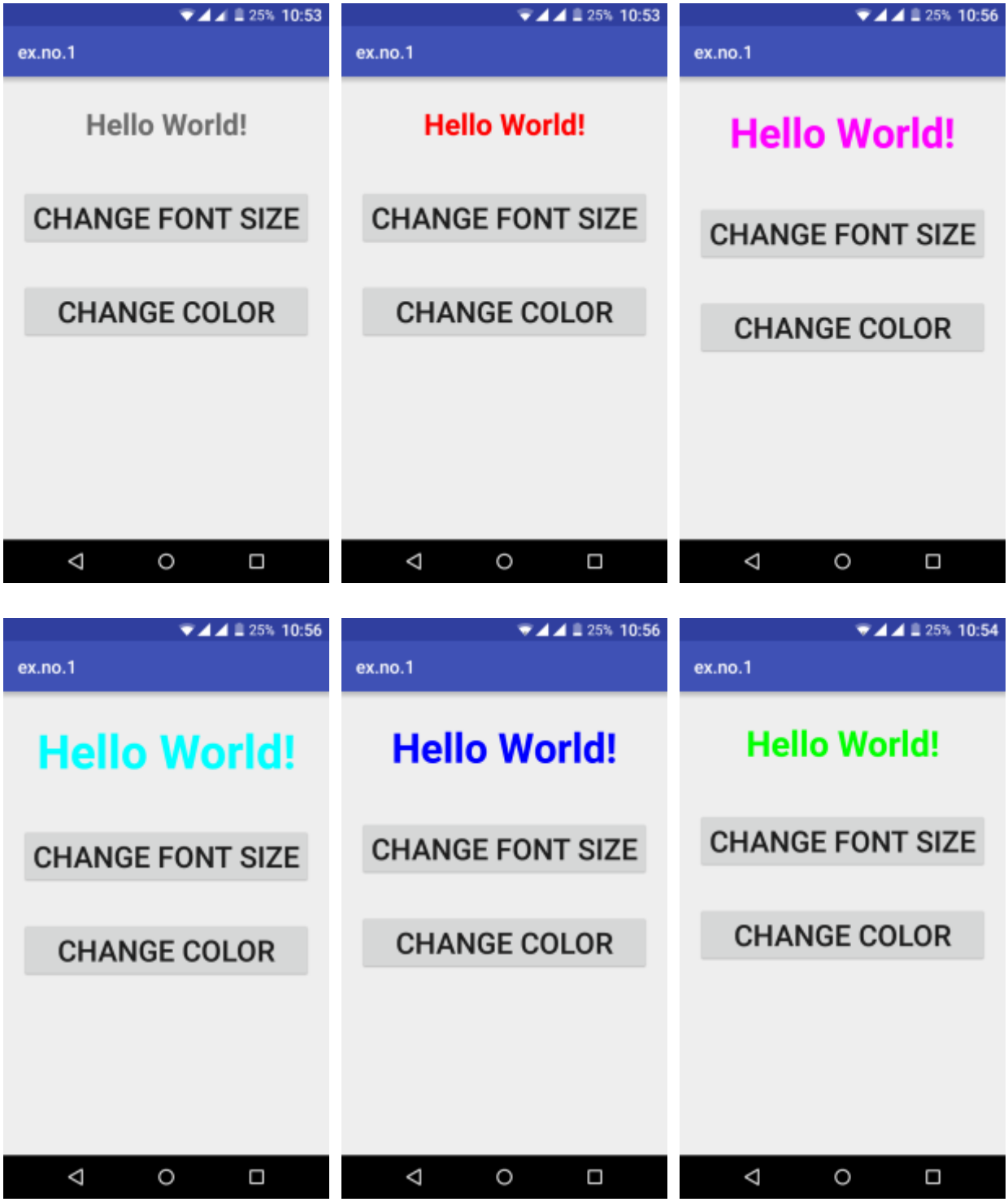
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
android:orientation="vertical"
android:layout_width="match_parent"
android:layout_height="match_parent">

<TextView
android:id="@+id/textView"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="30dp"
android:gravity="center"
android:text="Hello World!"
android:textSize="25sp"
android:textStyle="bold" />

<Button
android:id="@+id/button1"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="20dp"
android:gravity="center"
android:text="Change font size"
android:textSize="25sp" />
<Button
android:id="@+id/button2"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="20dp"
android:gravity="center"
android:text="Change color"
android:textSize="25sp" />
</LinearLayout>
```

Code for MainActivity.java:

```
package com.example.exno1;

import android.graphics.Color;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity
{
int ch=1;
float font=30;
@Override
protected void onCreate(Bundle savedInstanceState)
{
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
final TextView t= (TextView) findViewById(R.id.textView);
Button b1= (Button) findViewById(R.id.button1);
```

```
b1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
t.setTextSize(font);
font = font + 5;
if (font == 50)
font = 30;
}
});
Button b2= (Button) findViewById(R.id.button2);
b2.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
switch (ch) {
case 1:
t.setTextColor(Color.RED);
break;
case 2:
t.setTextColor(Color.GREEN);
break;
case 3:
t.setTextColor(Color.BLUE);
break;
case 4:
t.setTextColor(Color.CYAN);
break;
case 5:
t.setTextColor(Color.YELLOW);
break;
case 6:
t.setTextColor(Color.MAGENTA);
break;
}
ch++;
if (ch == 7)
ch = 1;
}
});
}
}
```

Output:



Result:

Thus, a Simple Android Application that uses GUI components, Font and Colors is developed and executed successfully.

Ex. No:2

Android Application for Layout Managers and Event Listeners

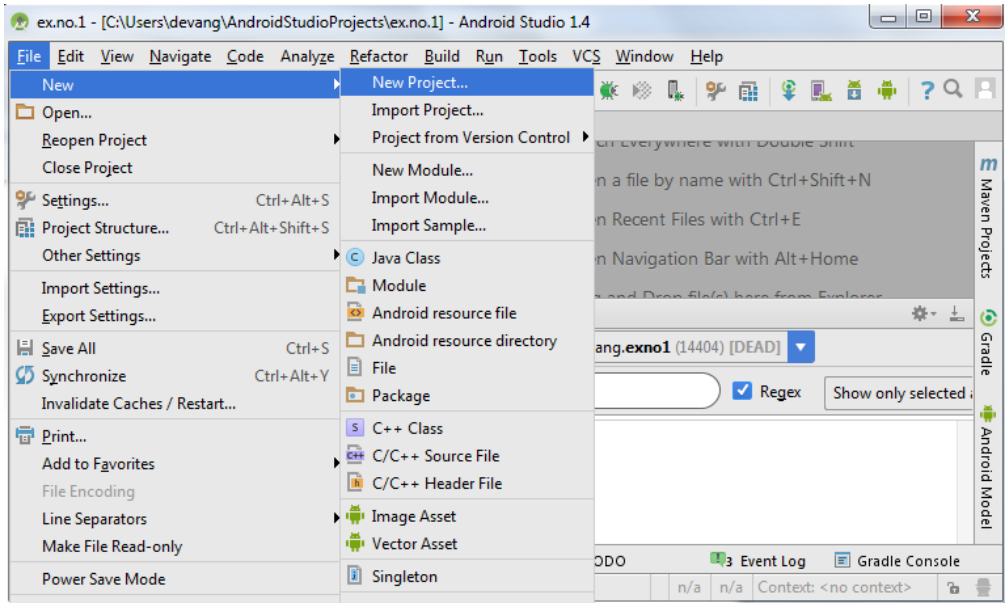
Aim:

To develop a Simple Android Application that uses Layout Managers and Event Listeners.

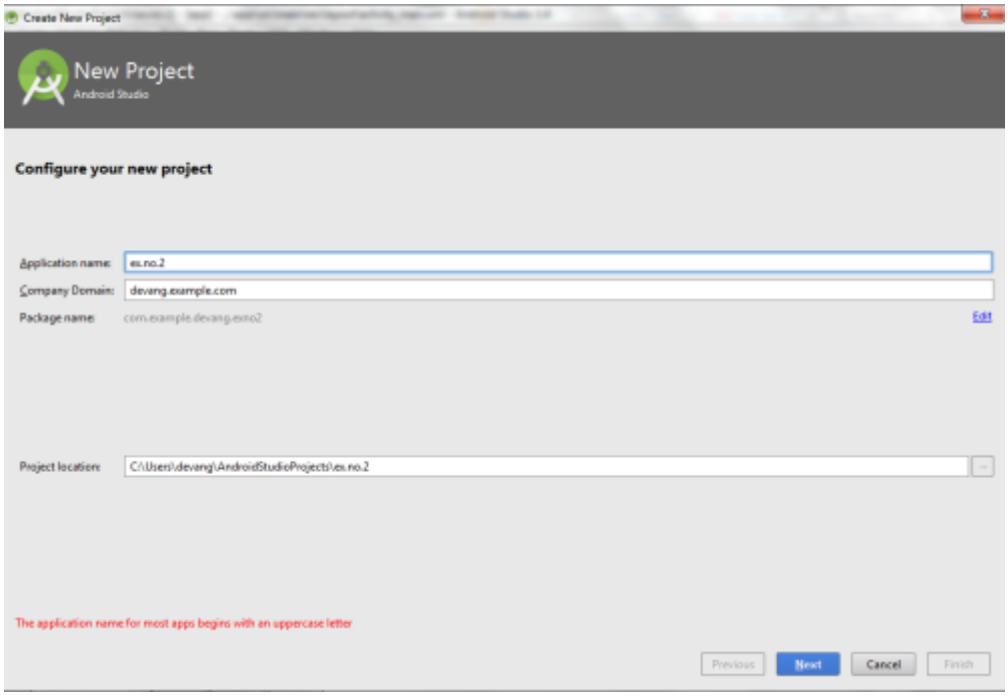
Procedure:

Creating a New project:

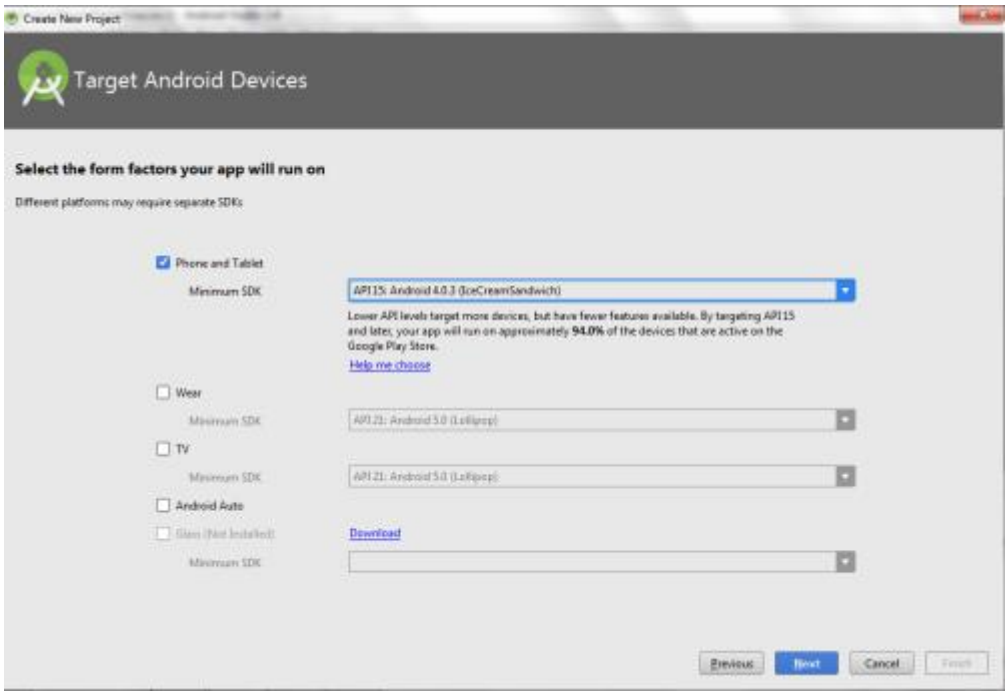
- Open Android Stdio and then click on **File -> New -> New project.**



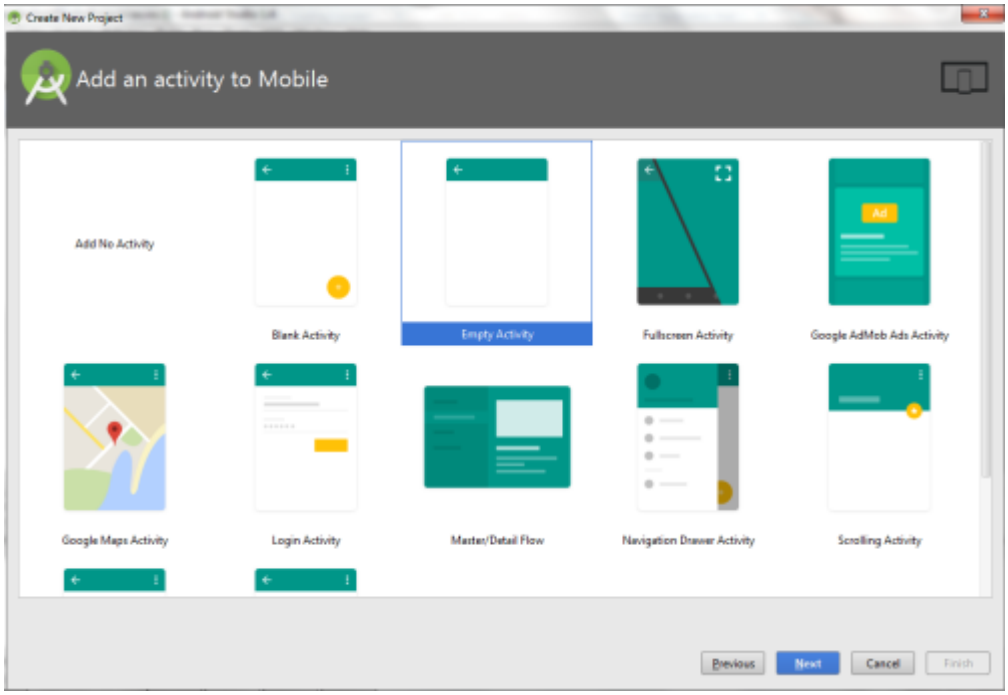
- Then type the Application name as "**ex.no.2"** and click **Next.**



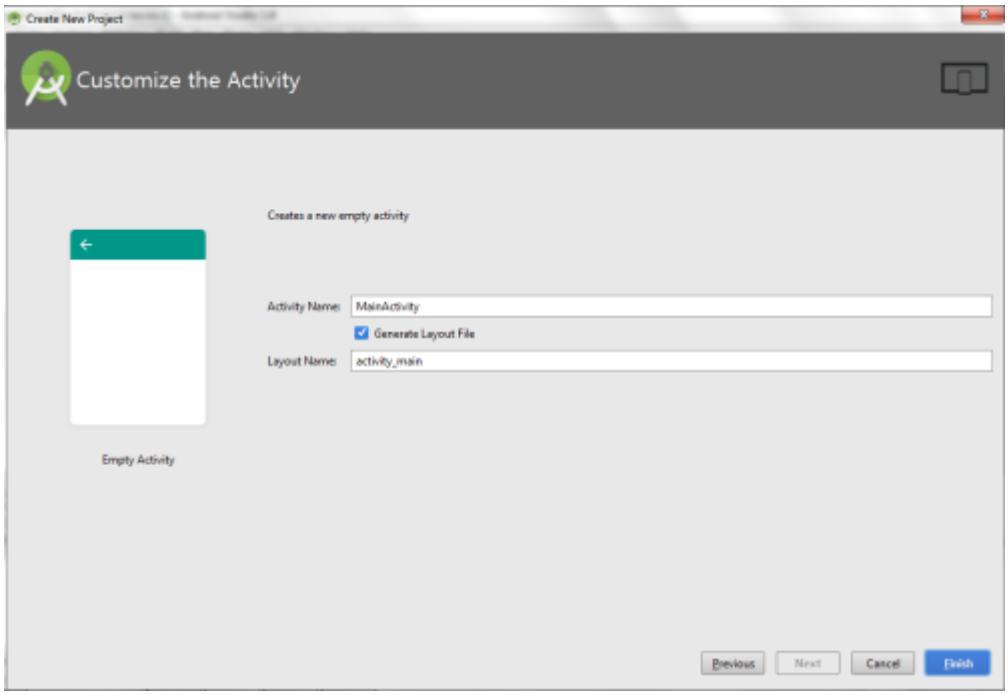
- Then select the **Minimum SDK** as shown below and click **Next**.



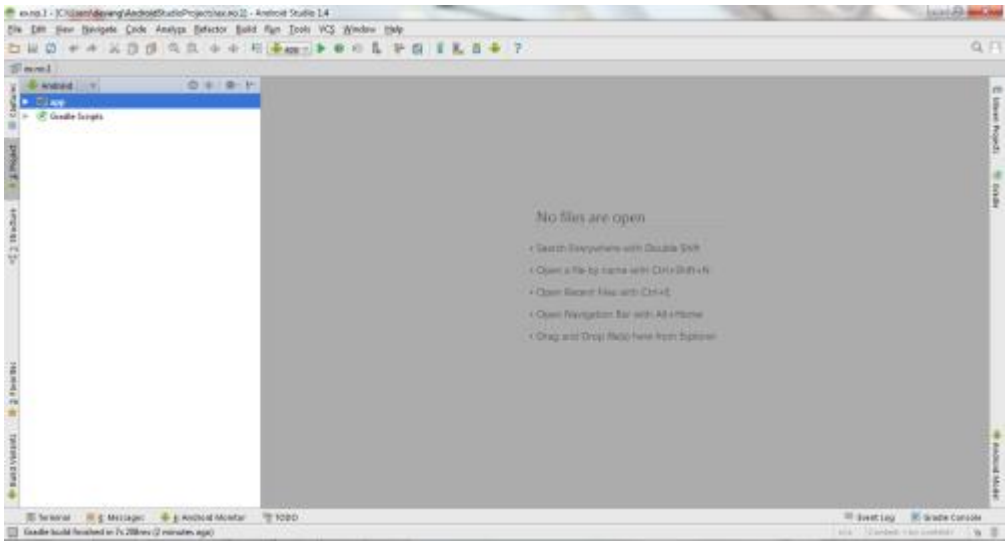
- Then select the **Empty Activity** and click **Next.**



- Finally click F**inish**.

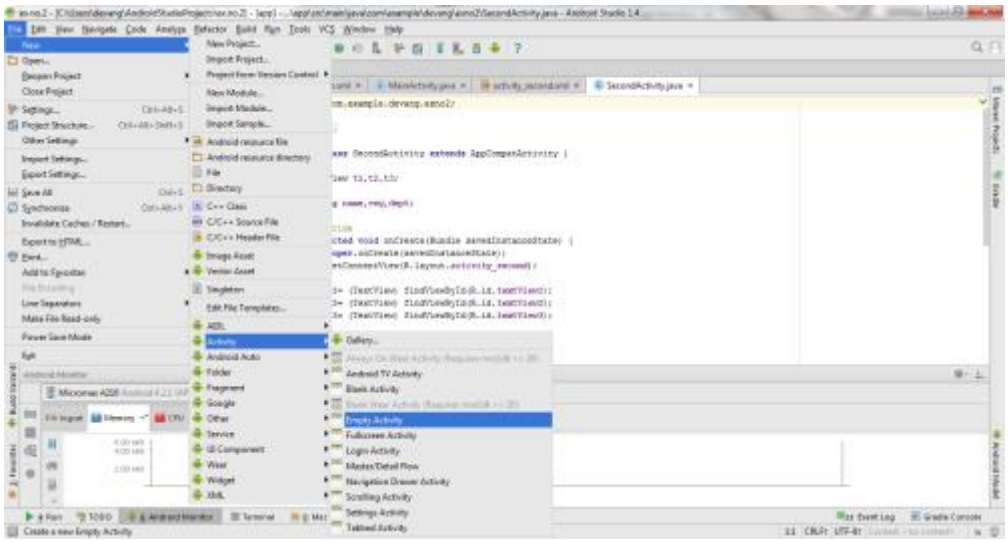


- It will take some time to build and load the project.
- After completion it will look as given below.

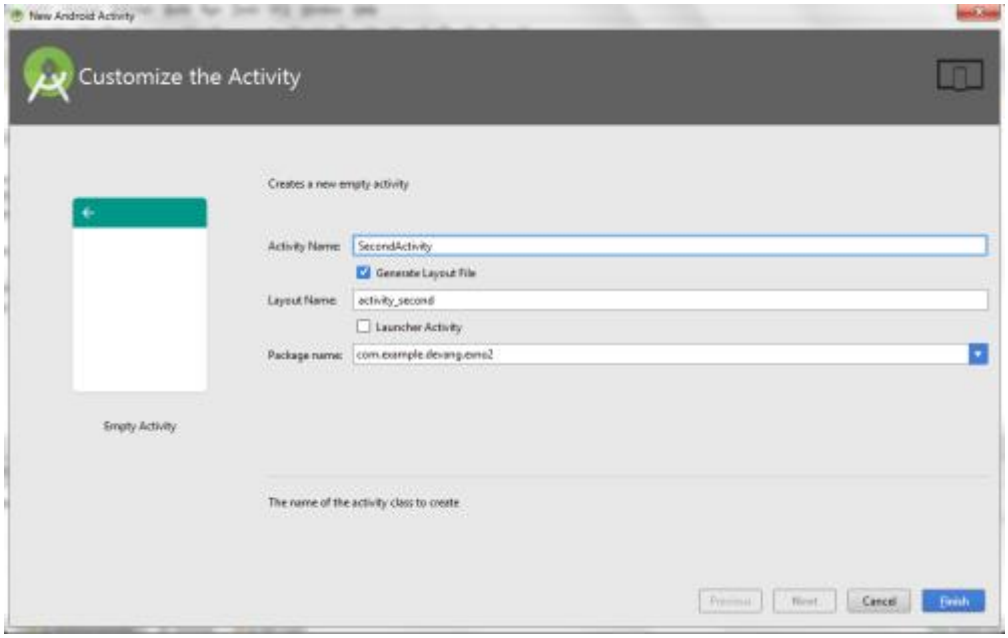


Creating Second Activity for the Android Application:

- Click on **File -> New -> Activity -> Empty Activity.**



- Type the Activity Name as **SecondActivity** and click **Finish** button.

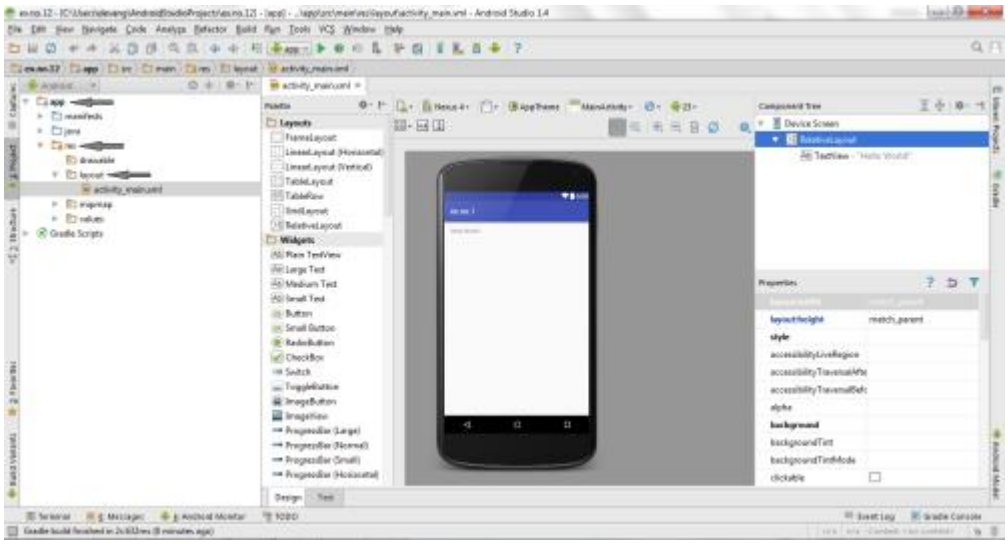


- Thus Second Activity For the application is created.

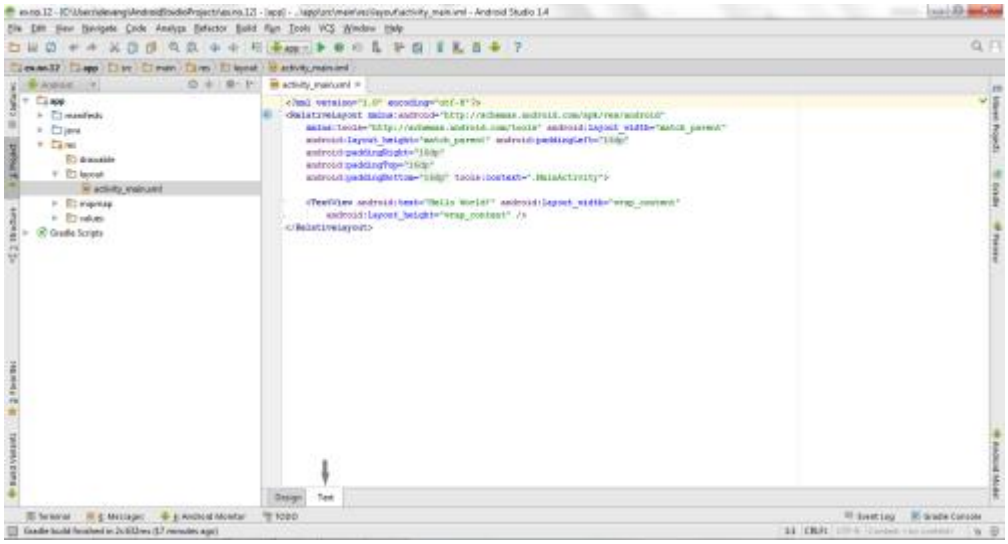
Designing layout for the Android Application:

Designing Layout for Main Activity:

- Click on **app -> res -> layout -> activity_main.xml.**



- Now click on **Text** as shown below.



- Then delete the code which is there and type the code as given below.

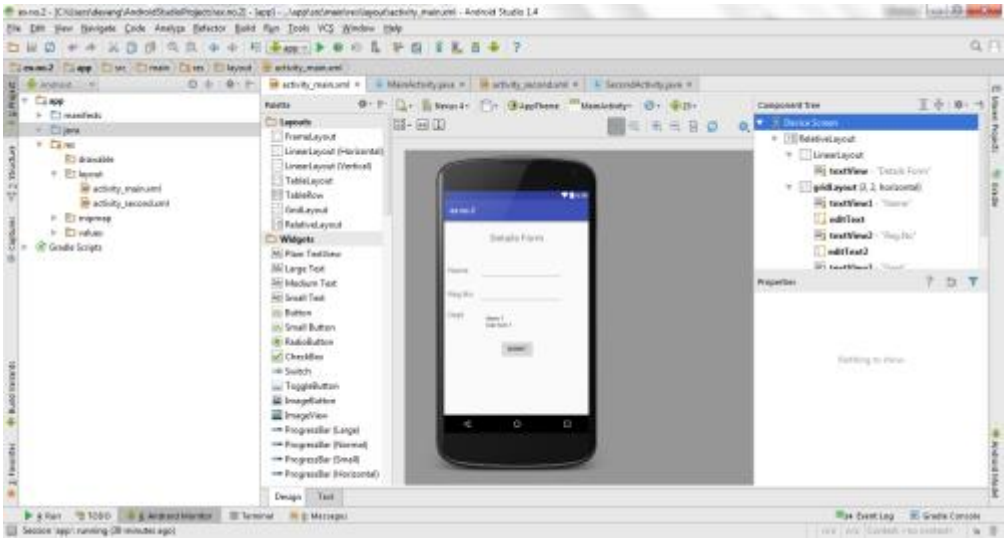
Code for Activity_main.xml:

```
<?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">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="100dp">
        <TextView
            android:id="@+id/textView"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_margin="30dp"
            android:text="Details Form"
            android:textSize="25sp"
            android:gravity="center"/>
    </LinearLayout>
```

```
<GridLayout
    android:id="@+id/gridLayout"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_marginTop="100dp"
    android:layout_marginBottom="200dp"
    android:columnCount="2"
    android:rowCount="3">
    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="0"
        android:layout_column="0"
        android:text="Name"
        android:textSize="20sp"
        android:gravity="center"/>

    <EditText
        android:id="@+id/editText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="0"
        android:layout_column="1"
        android:ems="10"/>

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="1"
        android:layout_column="0"
        android:text="Reg.No"
        android:textSize="20sp"
        android:gravity="center"/>

    <EditText
        android:id="@+id/editText2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="1"
        android:layout_column="1"
        android:inputType="number"
        android:ems="10"/>

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="2"
        android:layout_column="0"
        android:text="Dept"
        android:textSize="20sp"
        android:gravity="center"/>

    <Spinner
        android:id="@+id/spinner"
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:layout_row="2"
        android:layout_column="1"
        android:spinnerMode="dropdown"/>

    </GridLayout>

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:layout_centerInParent="true"
        android:layout_marginBottom="150dp"
        android:text="Submit"/>

</RelativeLayout>
```

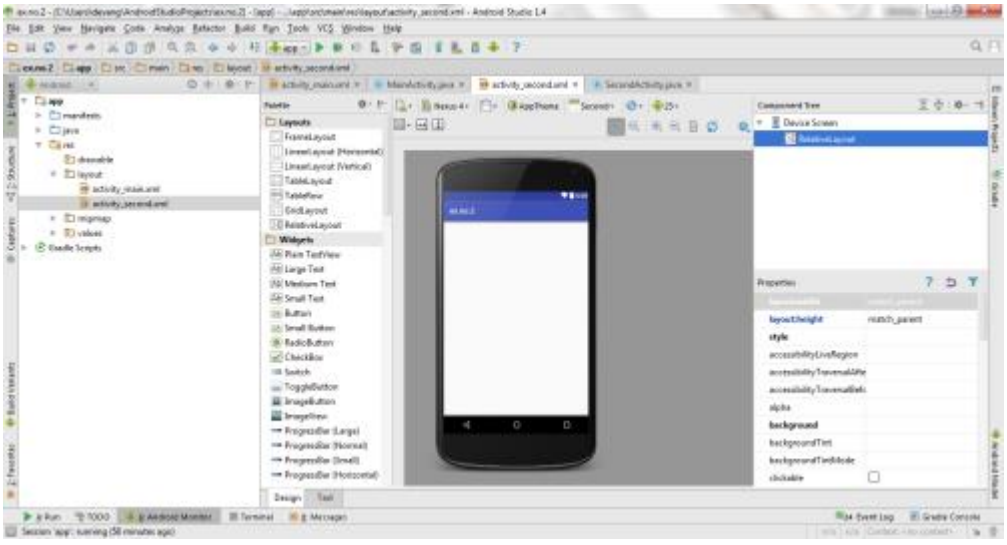
- Now click on Design and your activity will look as given below.



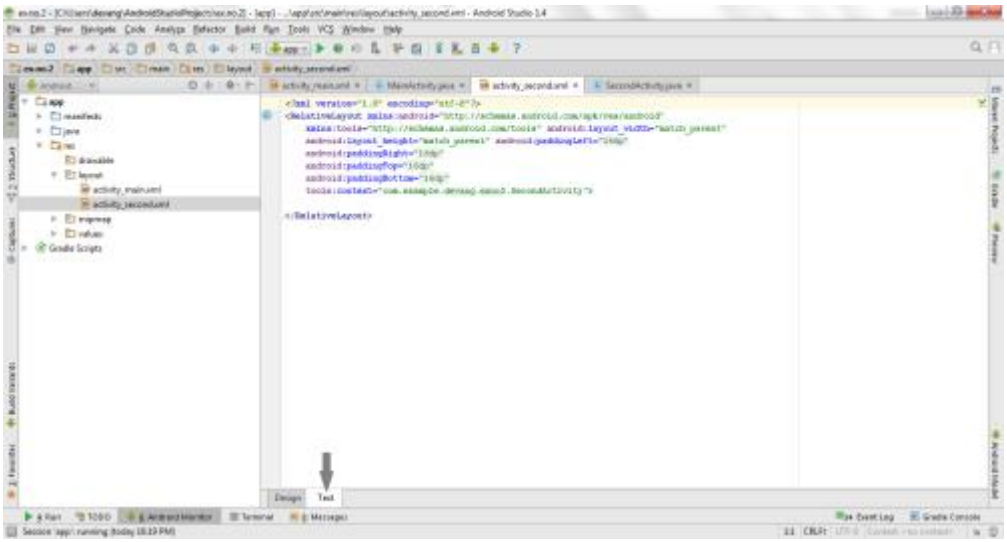
- So now the designing part of Main Activity is completed.

Designing Layout for Second Activity:

- Click on **app -> res -> layout -> activity_second.xml.**



- Now click on **Text** as shown below.

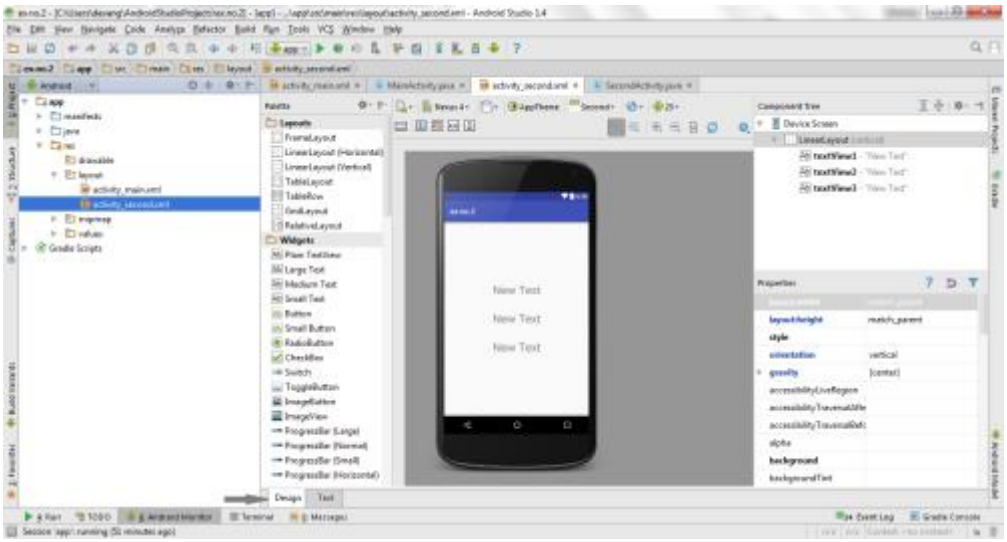


- Then delete the code which is there and type the code as given below.

Code for Activity_second.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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="com.example.devang.exno2.SecondActivity"
    android:orientation="vertical"
    android:gravity="center">

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="20dp"
        android:text="New Text"
        android:textSize="30sp"/>

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="20dp"
        android:text="New Text"
        android:textSize="30sp"/>

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="20dp"
        android:text="New Text"
        android:textSize="30sp"/>

</LinearLayout>
```

- Now click on Design and your activity will look as given below.

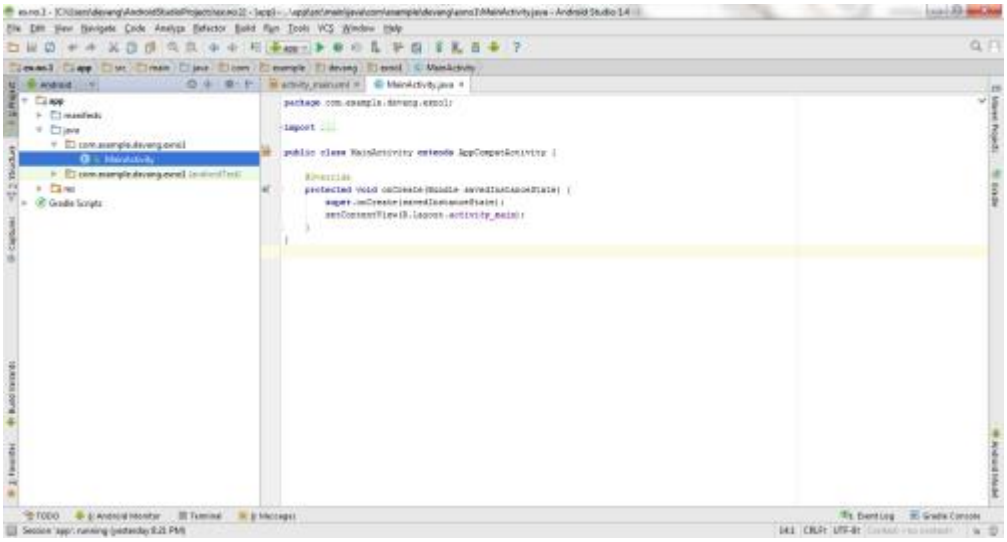


- So now the designing part of Second Activity is also completed.

Java Coding for the Android Application:

Java Coidng for Main Activity:

- Click on **app -> java -> com.example.exno2 -> MainActivity.**



- Then delete the code which is there and type the code as given below.

Code for MainActivity.java:

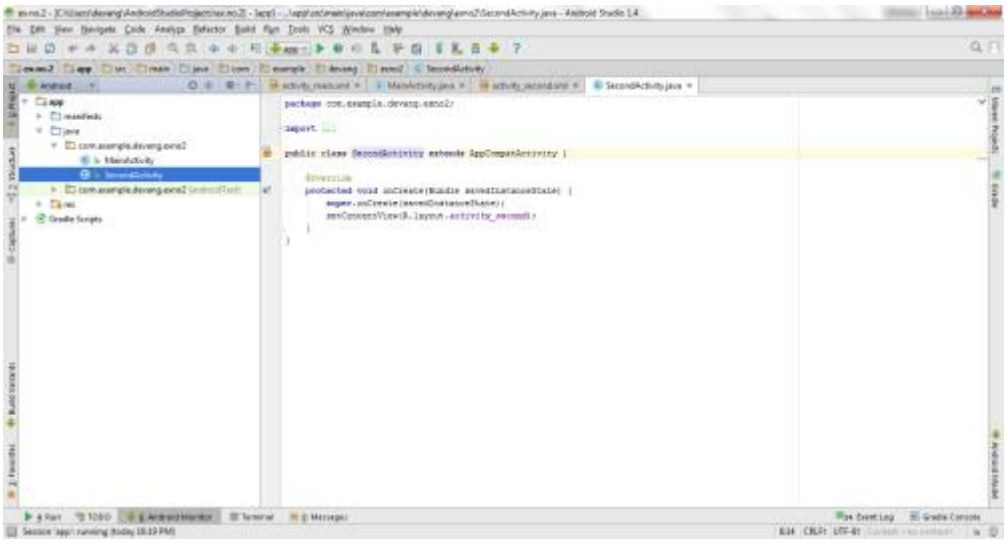
```
package com.example.exno2;

import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Spinner;

public class MainActivity extends AppCompatActivity {
```

```
    //Defining the Views
    EditText e1,e2;
    Button bt;
    Spinner s;

    //Data for populating in Spinner
    String [] dept_array={"CSE","ECE","IT","Mech","Civil"};

    String name,reg,dept;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        //Referring the Views
        e1= (EditText) findViewById(R.id.editText);
        e2= (EditText) findViewById(R.id.editText2);

        bt= (Button) findViewById(R.id.button);

        s= (Spinner) findViewById(R.id.spinner);

        //Creating Adapter for Spinner for adapting the data from array to Spinner
        ArrayAdapter adapter= new
ArrayAdapter(MainActivity.this,android.R.layout.simple_spinner_item,dept_array);
        s.setAdapter(adapter);

        //Creating Listener for Button
        bt.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

                //Getting the Values from Views(Edittext & Spinner)
                name=e1.getText().toString();
                reg=e2.getText().toString();
                dept=s.getSelectedItem().toString();

                //Intent For Navigating to Second Activity
                Intent i = new Intent(MainActivity.this,SecondActivity.class);

                //For Passing the Values to Second Activity
                i.putExtra("name_key", name);
                i.putExtra("reg_key",reg);
                i.putExtra("dept_key", dept);

                startActivity(i);

            }
        });
    }
}
```

- So now the Coding part of Main Activity is completed.

Java Coding for Second Activity:

- Click on **app -> java -> com.example.exno2 -> SecondActivity.**



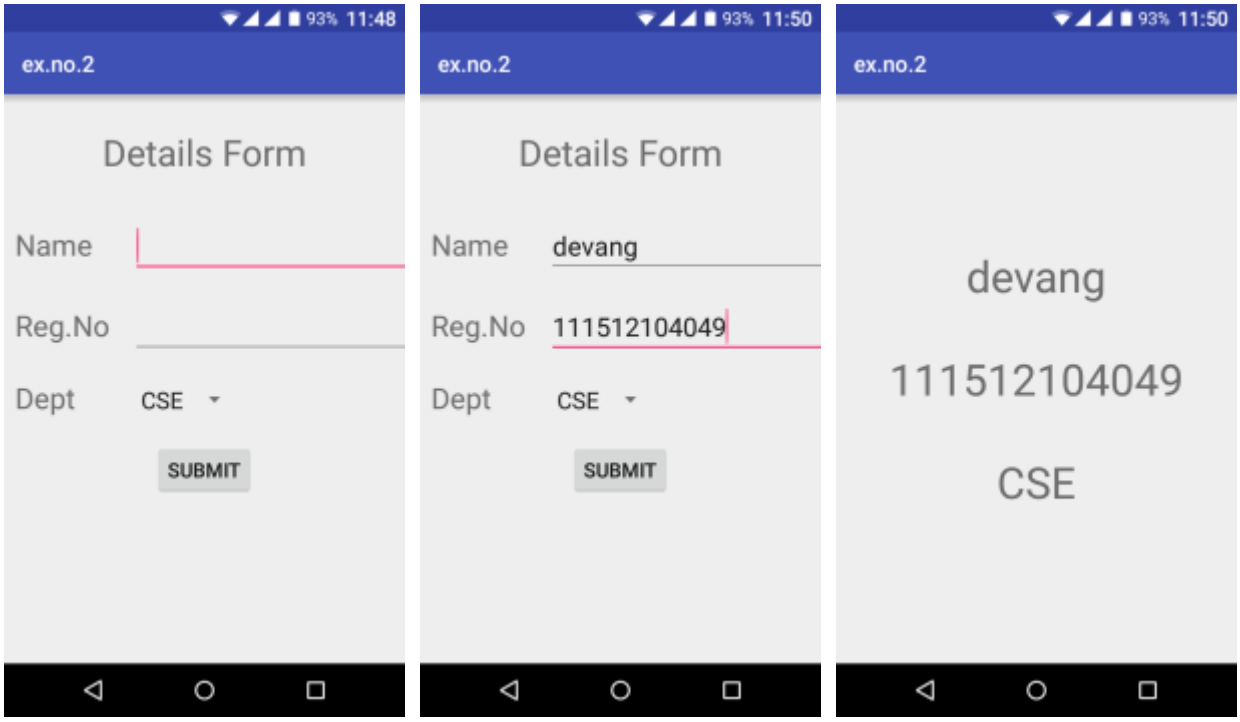
- Then delete the code which is there and type the code as given below.

Code for SecondActivity.java:

?

```
package com.example.exno2;

import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;

public class SecondActivity extends AppCompatActivity {

    TextView t1,t2,t3;

    String name,reg,dept;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);

        t1= (TextView) findViewById(R.id.textView1);
        t2= (TextView) findViewById(R.id.textView2);
        t3= (TextView) findViewById(R.id.textView3);

        //Getting the Intent
        Intent i = getIntent();

        //Getting the Values from First Activity using the Intent received
        name=i.getStringExtra("name_key");
        reg=i.getStringExtra("reg_key");
        dept=i.getStringExtra("dept_key");

        //Setting the Values to Intent
        t1.setText(name);
        t2.setText(reg);
        t3.setText(dept);

    }
}
```

Output:



Result:

Thus, a Simple Android Application that uses Layout Managers and Event Listeners is developed and executed successfully.

Ex.NO:3

Simple Android Application for Native Calculator

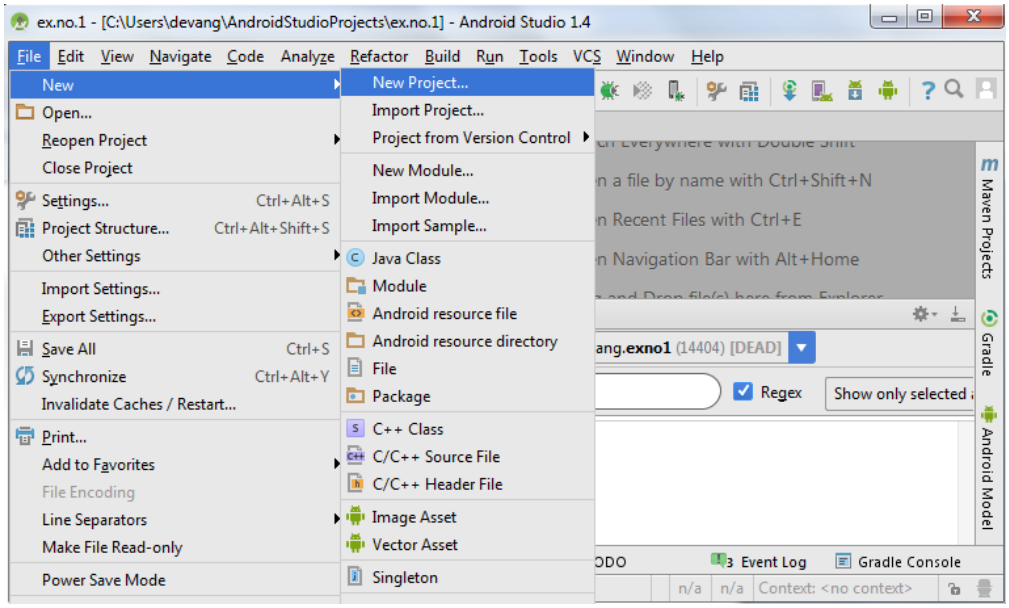
Aim:

To develop a Simple Android Application for Native Calculator.

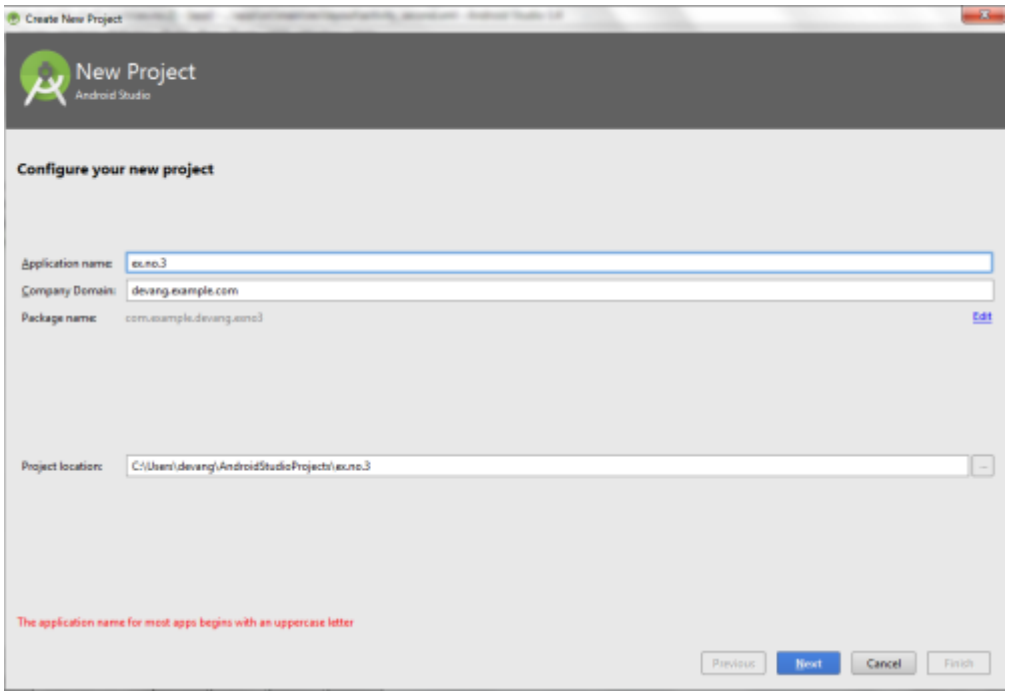
Procedure:

Creating a New project:

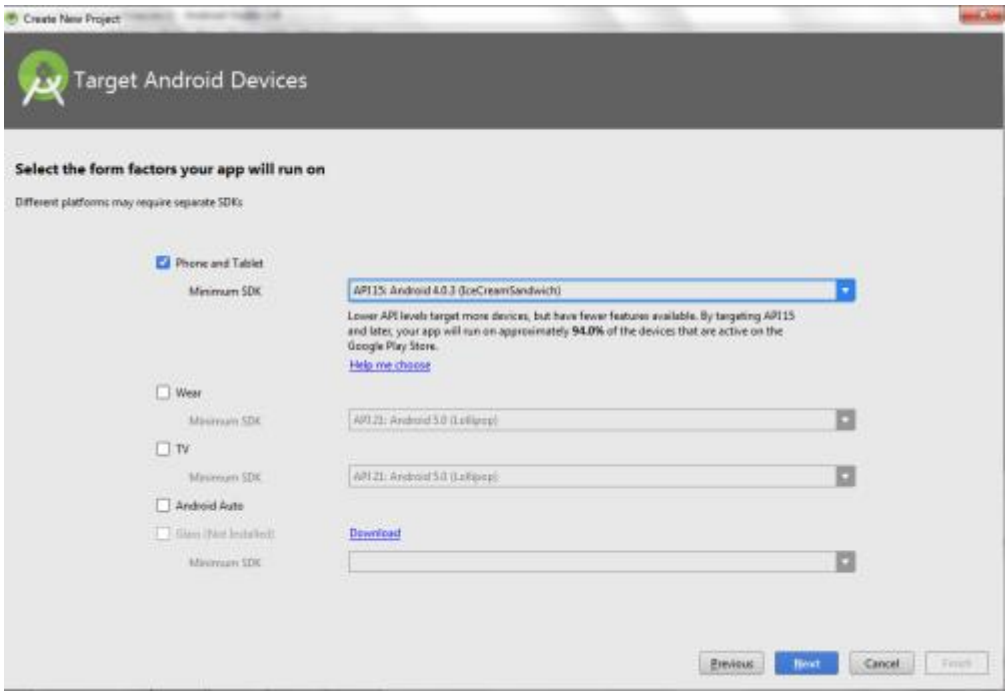
- Open Android Stdio and then click on **File -> New -> New project.**



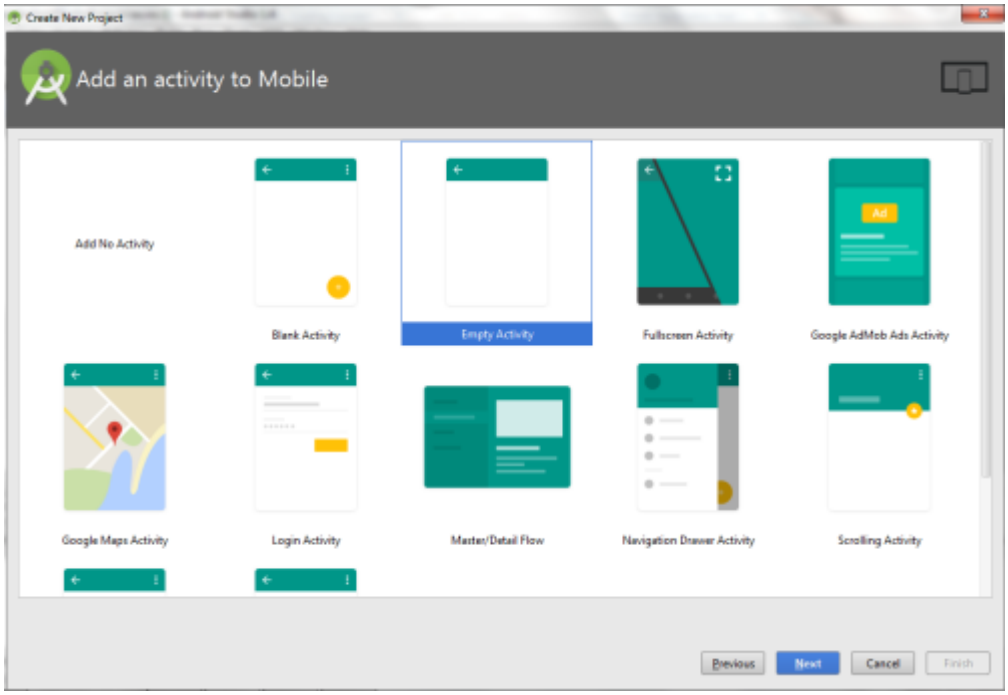
- Then type the Application name as "**ex.no.3"** and click **Next.**



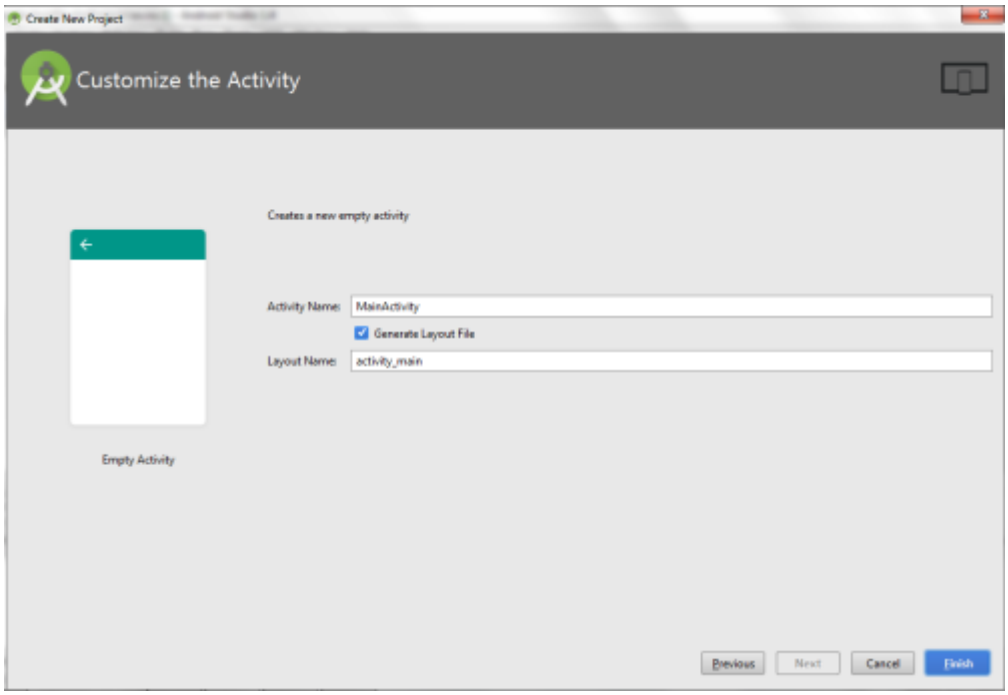
- Then select the **Minimum SDK** as shown below and click **Next**.



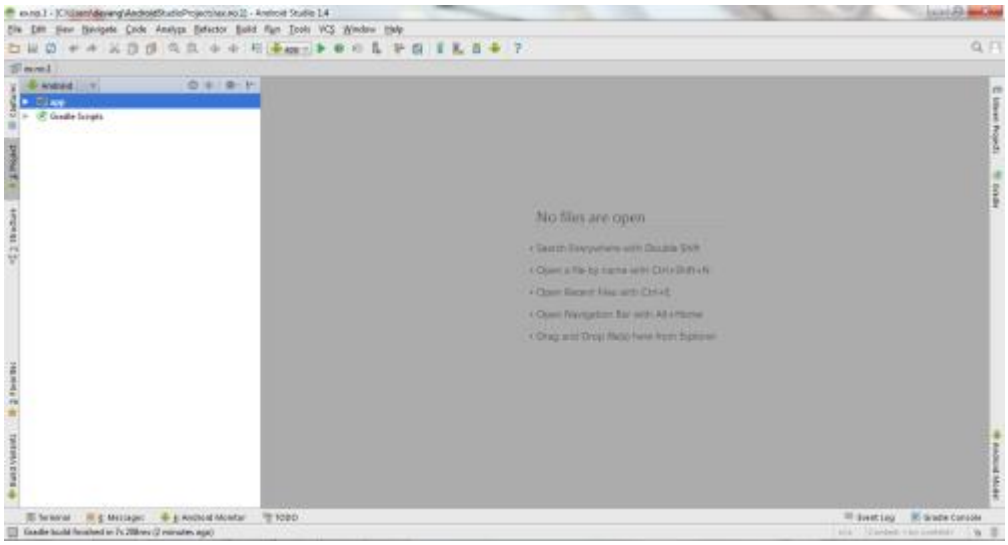
- Then select the **Empty Activity** and click **Next.**



- Finally click F**inish**.

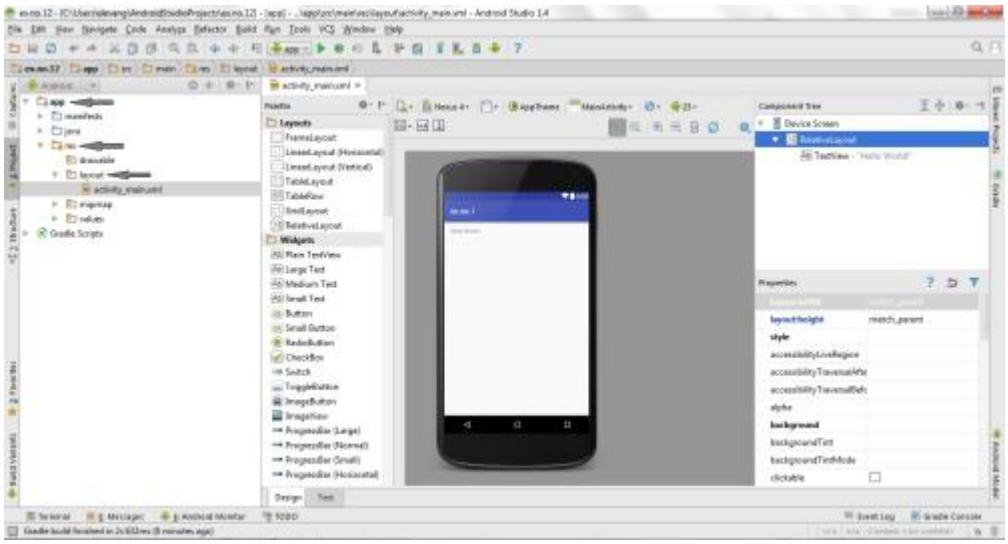


- It will take some time to build and load the project.
- After completion it will look as given below.

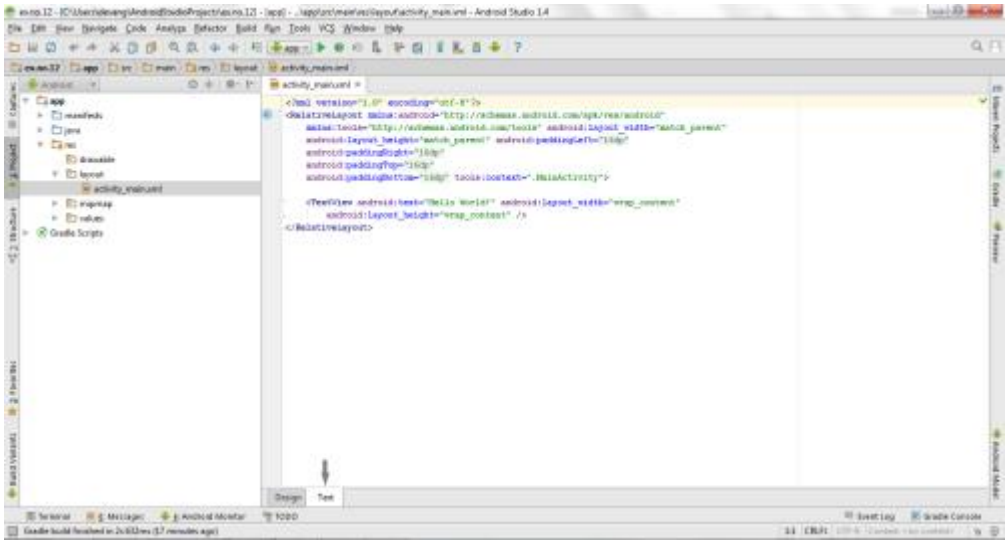


Designing layout for the Android Application:

- Click on **app -> res -> layout -> activity_main.xml.**



- Now click on **Text** as shown below.



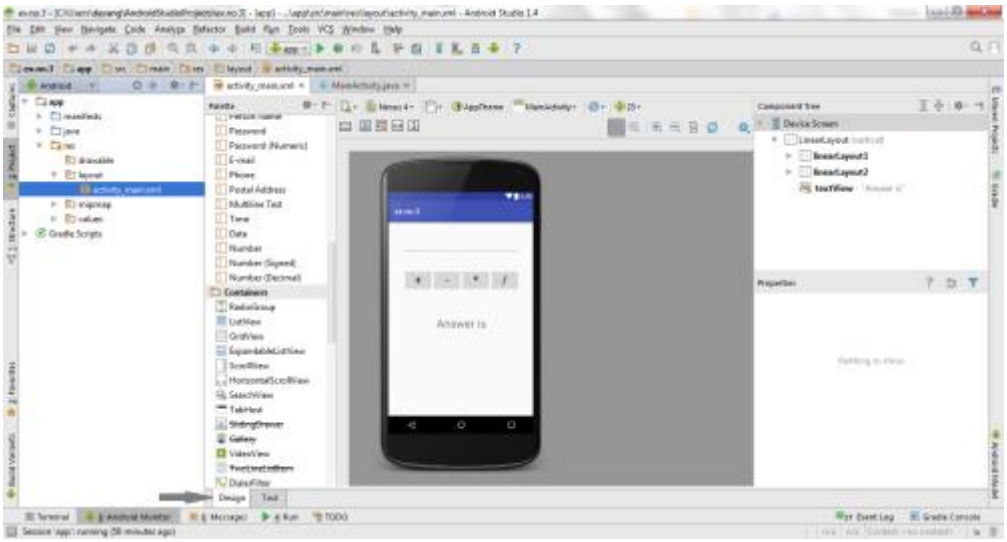
- Then delete the code which is there and type the code as given below.

Code for Activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   android:orientation="vertical"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:layout_margin="20dp">

   <LinearLayout
      android:id="@+id/linearLayout1"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_margin="20dp">

      <EditText
         android:id="@+id/editText1"
         android:layout_width="match_parent"
         android:layout_height="wrap_content"
         android:layout_weight="1"
         android:inputType="numberDecimal"
         android:textSize="20sp" />
```

```
    <EditText
        android:id="@+id/editText2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:inputType="numberDecimal"
        android:textSize="20sp" />

</LinearLayout>

<LinearLayout
    android:id="@+id/linearLayout2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="20dp">

    <Button
        android:id="@+id/Add"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="+"
        android:textSize="30sp"/>

    <Button
        android:id="@+id/Sub"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="-"
        android:textSize="30sp"/>

    <Button
        android:id="@+id/Mul"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="*"
        android:textSize="30sp"/>

    <Button
        android:id="@+id/Div"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="/"
        android:textSize="30sp"/>

</LinearLayout>

<TextView
    android:id="@+id/textView"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="50dp"
    android:text="Answer is"
    android:textSize="30sp"
    android:gravity="center"/>

</LinearLayout>
```

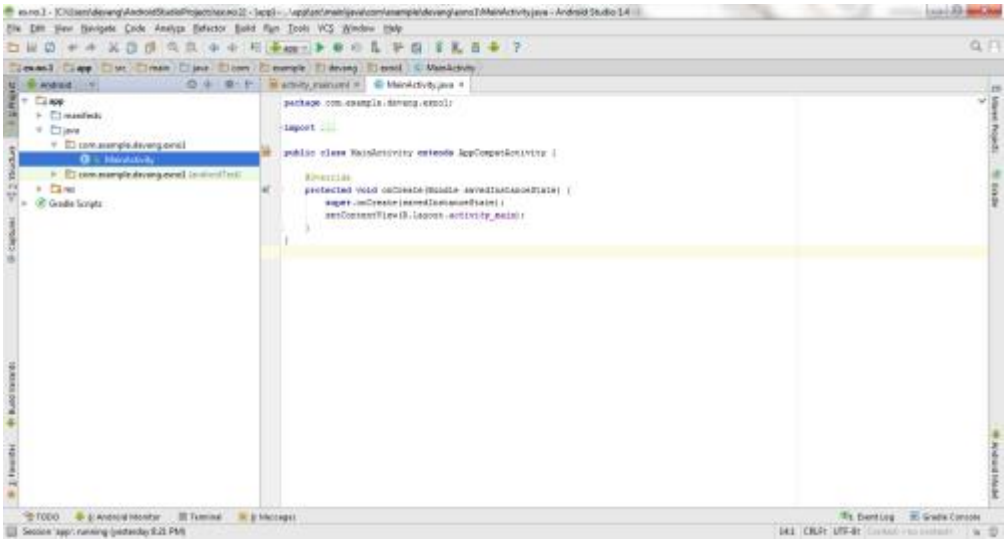
- Now click on Design and your application will look as given below.



- So now the designing part is completed.

Java Coding for the Android Application:

- Click on **app -> java -> com.example.exno3 -> MainActivity.**



- Then delete the code which is there and type the code as given below.

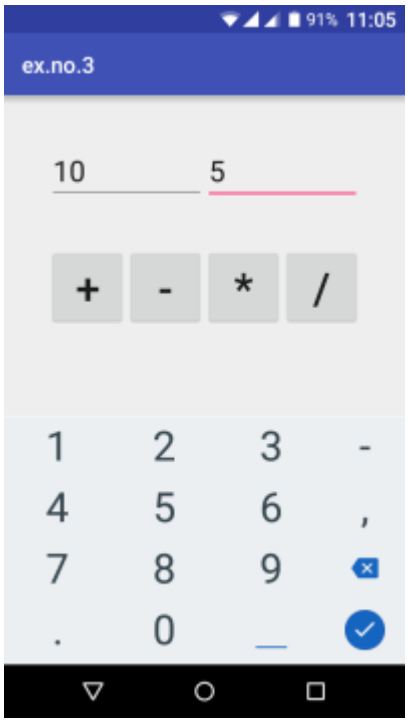
Code for MainActivity.java:

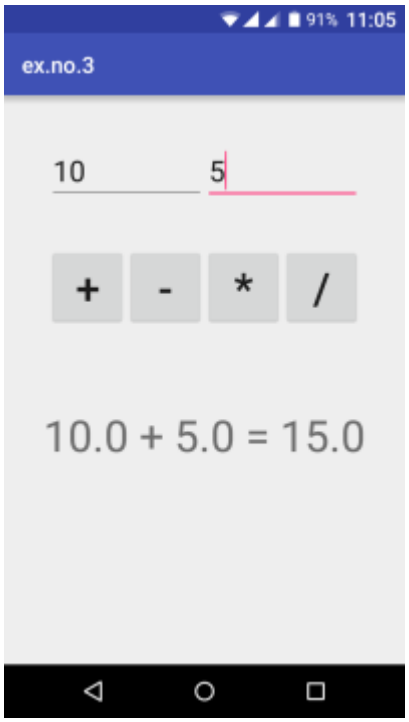
```
package com.example.devang.exno3;

import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.text.TextUtils;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity implements OnClickListener
{
   //Defining the Views
   EditText Num1;
   EditText Num2;
```

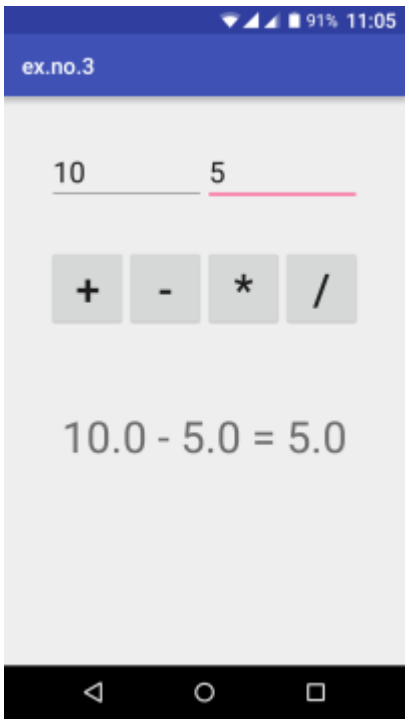
```
Button Add;
Button Sub;
Button Mul;
Button Div;
TextView Result;

@Override
public void onCreate(Bundle savedInstanceState)
{
   super.onCreate(savedInstanceState);
   setContentView(R.layout.activity_main);

   //Referring the Views
   Num1 = (EditText) findViewById(R.id.editText1);
   Num2 = (EditText) findViewById(R.id.editText2);
   Add = (Button) findViewById(R.id.Add);
   Sub = (Button) findViewById(R.id.Sub);
   Mul = (Button) findViewById(R.id.Mul);
   Div = (Button) findViewById(R.id.Div);
   Result = (TextView) findViewById(R.id.textView);

   // set a listener
   Add.setOnClickListener(this);
   Sub.setOnClickListener(this);
   Mul.setOnClickListener(this);
   Div.setOnClickListener(this);
}

@Override
public void onClick (View v)
{

   float num1 = 0;
   float num2 = 0;
   float result = 0;
   String oper = "";

   // check if the fields are empty
   if (TextUtils.isEmpty(Num1.getText().toString()) || TextUtils.isEmpty(Num2.getText().toString()))
         return;

   // read EditText and fill variables with numbers
   num1 = Float.parseFloat(Num1.getText().toString());
   num2 = Float.parseFloat(Num2.getText().toString());

   // defines the button that has been clicked and performs the corresponding operation
   // write operation into oper, we will use it later for output
   switch (v.getId())
   {
      case R.id.Add:
         oper = "+";
         result = num1 + num2;
         break;
      case R.id.Sub:
         oper = "-";
         result = num1 - num2;
         break;
      case R.id.Mul:
         oper = "*";
         result = num1 * num2;
         break;
      case R.id.Div:
         oper = "/";
         result = num1 / num2;
```

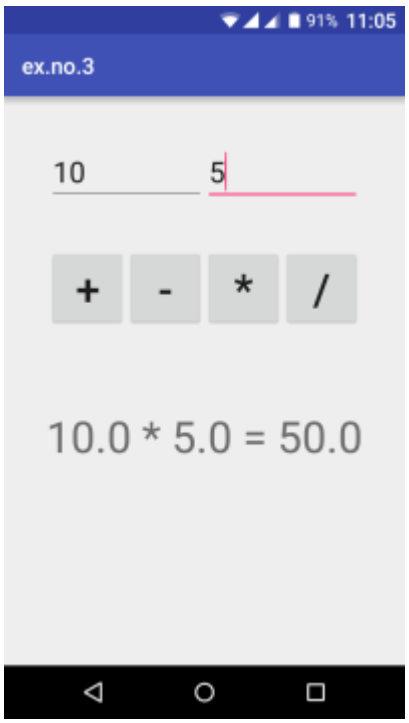
```
            break;
        default:
            break;
    }
    // form the output line
    Result.setText(num1 + " " + oper + " " + num2 + " = " + result);
  }
}
```

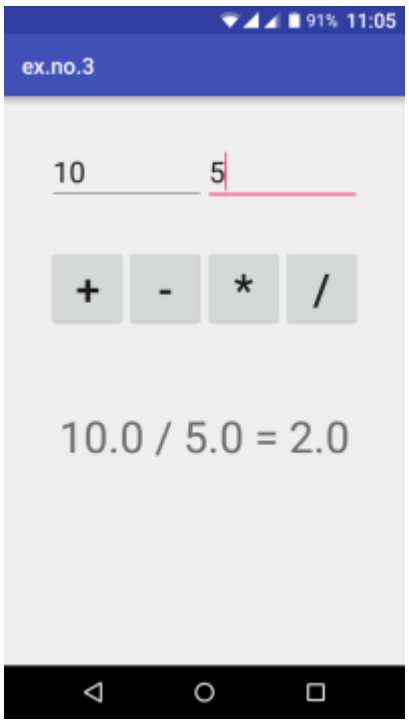
Output:











Result:

Thus a Simple Android Application for Native Calculator is developed and executed successfully.

EX NO: 4

Create an android application using Activities, Indents,Fragments, and Notifications.

MAINACTIVITY

JAVA

```
package com.example.exercise2;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;

public class MainActivity extends AppCompatActivity
  {@Override

  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    Button btn = (Button) findViewById(R.id.btn);
    btn.setOnClickListener(new View.OnClickListener() {

      @Override

      public void onClick(View v) {

        startActivity(new Intent(MainActivity.this, SecondActivity.class));

      }

    });

  }

}
```

XML

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

<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"

 xmlns:app="http://schemas.android.com/apk/res-auto"
```

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

 android:layout_width="match_parent"
 android:layout_height="match_parent"
 tools:context=".MainActivity">

 <RelativeLayout
  android:layout_width="match_parent"
  android:layout_height="match_parent">

  <Button
   android:id="@+id/btn"

   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:text="Go to another activity"
   android:layout_centerVertical="true"
   android:layout_centerHorizontal="true" />

   </RelativeLayout>

   <TextView
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:text="Hello World!"

     app:layout_constraintBottom_toBottomOf="parent"
     app:layout_constraintEnd_toEndOf="parent"
     app:layout_constraintStart_toStartOf="parent"
     app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

SECONDACTIVITY

JAVA

```
package com.example.exercise2;
```

```
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class SecondActivity extends AppCompatActivity
   {@Override

   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_second);

   }

}
```

XML

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

<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"

   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context=".SecondActivity">

   <RelativeLayout
      android:layout_width="match_parent"
      android:layout_height="match_parent">

   <fragment
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"

      android:name="com.example.exercise2.TopFragment"
      android:id="@+id/fragment"
      android:layout_alignParentTop="true"
      android:layout_centerHorizontal="true"
      tools:layout="@layout/fragment_top" />
```

```
    <fragment
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"

        android:name="com.example.exercise2.BottomFragment"
        android:id="@+id/fragment2"
        android:layout_alignParentBottom="true"
        android:layout_centerHorizontal="true"
        tools:layout="@layout/fragment_bottom" />

</RelativeLayout>

</androidx.constraintlayout.widget.ConstraintLayout>
```

BOTTOMFRAGMENT

JAVA

```
package com.example.exercise2;
import android.os.Bundle;

import androidx.fragment.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;

import android.view.ViewGroup;

public class BottomFragment extends Fragment {
    @Override

    public View onCreateView(LayoutInflater inflater, ViewGroup container, Bundle
savedInstanceState) {

        View view = inflater.inflate(R.layout.fragment_bottom,container,false);return
        view;}}
```

XML

```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout 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=".BottomFragment">
    <LinearLayout android:layout_width="match_parent"
        android:layout_height="match_parent">

        <TextView android:layout_width="wrap_content"
            android:layout_height="wrap_content"

            android:textAppearance="?android:attr/textAppearanceLarge"
            android:text="This is the Bottom Fragment"
            android:id="@+id/textView"

            android:layout_gravity="center" />
    </LinearLayout>
    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"

        />
</FrameLayout>
```

<u>TOPFRAGMENT</u>

JAVA

```
package com.example.exercise2;
```

```
import android.os.Bundle;

import androidx.fragment.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;

import android.view.ViewGroup;

public class TopFragment extends Fragment{
   @Override

   public View onCreateView(LayoutInflater inflater, ViewGroup container, Bundle
savedInstanceState) {

      View view = inflater.inflate(R.layout.fragment_top,container,false);
      return view;

   }

}
```

XML

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

<FrameLayout 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=".TopFragment">

   <LinearLayout
      android:layout_width="match_parent"
      android:layout_height="match_parent">

   <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"

      android:textAppearance="?android:attr/textAppearanceLarge"
      android:text="This is the Top Fragment"
```

```
        android:id="@+id/textView"
        android:layout_gravity="center" />

</LinearLayout>

    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"

         />

</FrameLayout>
```

OUTPUT:

Result:

Thus, a Simple Android Application for Activities, Indents,Fragments, and Notifications is developed and executed successfully.

EX NO: 5

Create an android application using Menus.

MAINACTIVITY

JAVA

```
package com.example.exercise3;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;

import android.view.Menu;
import android.view.MenuItem;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity
   {@Override

   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);

   }

   @Override

   public boolean onCreateOptionsMenu(Menu menu) {
      getMenuInflater().inflate(R.menu.options_menu, menu);
      return true;

   }

   @Override

   public boolean onOptionsItemSelected(MenuItem item) {
```

```
        Toast.makeText(this, "Selected Item: " +item.getTitle(),
Toast.LENGTH_SHORT).show();

        switch (item.getItemId()) {
            case R.id.search_item:

                return true;

            case R.id.upload_item:
                return true;

            case R.id.copy_item:
                return true;

            case R.id.print_item:
                return true;

            case R.id.share_item:
                return true;

            case R.id.bookmark_item:
                return true;

            default:

                return super.onOptionsItemSelected(item);


        }

    }

}
```

XML

```
<?xml version="1.0" encoding="utf-
8"?><androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"

    xmlns:app="http://schemas.android.com/apk/res-auto"

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

    android:layout_width="match_parent"
```

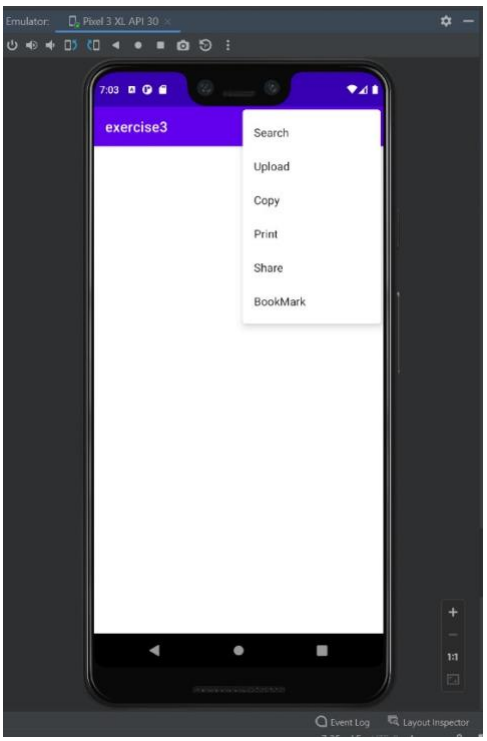
```
    android:layout_height="match_parent"
    tools:context=".MainActivity">

</androidx.constraintlayout.widget.ConstraintLayout>
```

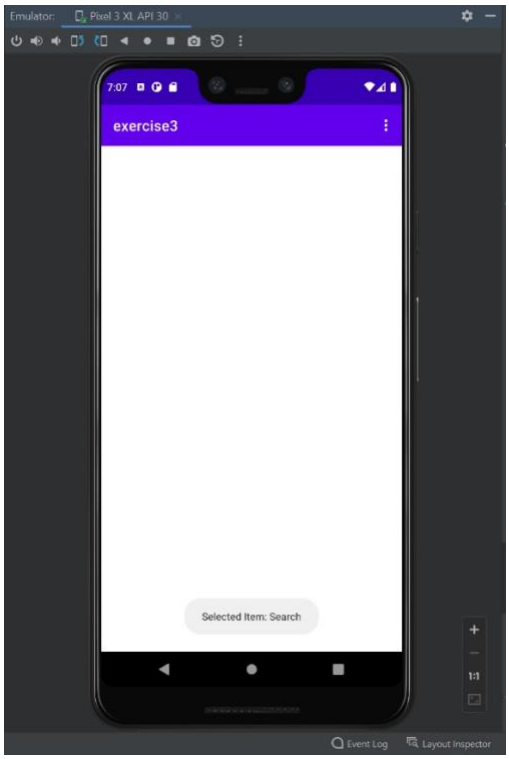
RESOURSE:

MENU_XML

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android" >
    <item android:id="@+id/search_item"
        android:title="Search" />

    <item android:id="@+id/upload_item"
        android:title="Upload" />

    <item android:id="@+id/copy_item"
        android:title="Copy" />

    <item android:id="@+id/print_item"
        android:title="Print" />

    <item android:id="@+id/share_item"
        android:title="Share" />

    <item android:id="@+id/bookmark_item"
        android:title="BookMark" />

</menu>
```

OUTPUT:





Result:

Thus, a Simple Android Application for menu design is developed and executed successfully.

EX NO: 6

Create an android application Storage, Media andAnimations.

MAINACTIVITY

JAVA

```
package com.example.exercise3;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;

import android.view.View;

import android.view.animation.Animation;
import android.view.animation.AnimationUtils;
import android.widget.Button;

import android.widget.ImageView;

public class MainActivity extends AppCompatActivity
  {ImageView imageView;

  Button blinkBTN, rotateBTN, fadeBTN, moveBTN, slideBTN, zoomBTN,
  stopBTN;@Override

  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main); imageView
    = findViewById(R.id.imageview); blinkBTN =
    findViewById(R.id.BTNblink);

    rotateBTN =
    findViewById(R.id.BTNrotate);fadeBTN =
    findViewById(R.id.BTNfade); moveBTN =
    findViewById(R.id.BTNmove); slideBTN =
    findViewById(R.id.BTNslide); zoomBTN =
    findViewById(R.id.BTNzoom); stopBTN =
    findViewById(R.id.BTNstop);

    blinkBTN.setOnClickListener(new View.OnClickListener()
      {@Override

      public void onClick(View v)
        {Animation animation =
```

```
AnimationUtils.loadAnimation(getApplicationContext(), R.anim.blinkanimation);
            imageView.startAnimation(animation);

          }

        });

        rotateBTN.setOnClickListener(new View.OnClickListener()
          {@Override

          public void onClick(View v)
            {Animation animation =

AnimationUtils.loadAnimation(getApplicationContext(), R.anim.rotateanimation);
            imageView.startAnimation(animation);

          }

        });

        fadeBTN.setOnClickListener(new View.OnClickListener()
          {@Override

          public void onClick(View v)
            {Animation animation =

AnimationUtils.loadAnimation(getApplicationContext(), R.anim.fadeanimation);
            imageView.startAnimation(animation);

          }

        });

        moveBTN.setOnClickListener(new View.OnClickListener()
          {@Override

          public void onClick(View v)
            {Animation animation =

AnimationUtils.loadAnimation(getApplicationContext(), R.anim.moveanimation);
            imageView.startAnimation(animation);

          }

        });

        slideBTN.setOnClickListener(new View.OnClickListener()
          {@Override

          public void onClick(View v)
            {Animation animation =
```

```
        AnimationUtils.loadAnimation(getApplicationContext(), R.anim.slideanimation);
                imageView.startAnimation(animation);

            }

        });

        zoomBTN.setOnClickListener(new View.OnClickListener()
            {@Override

            public void onClick(View v)
                {Animation animation =

        AnimationUtils.loadAnimation(getApplicationContext(), R.anim.zoomanimation);
                imageView.startAnimation(animation);

            }

        });

        stopBTN.setOnClickListener(new View.OnClickListener() {
            @Override

            public void onClick(View v) {
                imageView.clearAnimation();

            }

        });

    }

}
```

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">


    <ImageView

        android:id="@+id/imageview"

        android:layout_width="200dp"
```

```
    android:layout_height="200dp"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="40dp"

    android:contentDescription="@string/app_name"
    android:src="@drawable/car" />

<LinearLayout android:id="@+id/linear1"
    android:layout_width="match_parent"

    android:layout_height="wrap_content"
    android:layout_below="@id/imageview"
    android:layout_marginTop="30dp"
    android:orientation="horizontal"
    android:weightSum="3">

    <Button
        android:id="@+id/BTNblink"

        style="@style/TextAppearance.AppCompat.Widget.Button"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"

        android:layout_weight="1"
        android:padding="3dp"
        android:text="@string/blink"
        android:textColor="@color/white" />

    <Button
        android:id="@+id/BTNrotate"

        style="@style/TextAppearance.AppCompat.Widget.Button"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
```

```
        android:layout_weight="1"
        android:padding="3dp"
        android:text="@string/clockwise"
        android:textColor="@color/white" />

    <Button
        android:id="@+id/BTNfade"

        style="@style/TextAppearance.AppCompat.Widget.Button"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"

        android:layout_weight="1"
        android:padding="3dp"
        android:text="@string/fade"

        android:textColor="@color/white" />
</LinearLayout>
<LinearLayout android:id="@+id/linear2"
    android:layout_width="match_parent"

    android:layout_height="wrap_content"
    android:layout_below="@id/linear1"
    android:layout_marginTop="30dp"
    android:orientation="horizontal"
    android:weightSum="3">

    <Button
        android:id="@+id/BTNmove"

        style="@style/TextAppearance.AppCompat.Widget.Button"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
```

```
        android:layout_weight="1"
        android:padding="3dp"
        android:text="@string/move"
        android:textColor="@color/white" />

    <Button
        android:id="@+id/BTNslide"

        style="@style/TextAppearance.AppCompat.Widget.Button"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"

        android:layout_weight="1"
        android:padding="3dp"
        android:text="@string/slide"

        android:textColor="@color/white" />
    <Button
        android:id="@+id/BTNzoom"

        style="@style/TextAppearance.AppCompat.Widget.Button"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"

        android:layout_weight="1"
        android:padding="3dp"
        android:text="@string/zoom"
        android:textColor="@color/white" />

</LinearLayout>

<Button
    android:id="@+id/BTNstop"

    android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
    android:layout_below="@id/linear2"
    android:layout_marginLeft="30dp"
    android:layout_marginTop="30dp"
    android:layout_marginRight="30dp"
    android:text="@string/stop_animation" />

</RelativeLayout>
```

OTHER LAYOUT XML

1) Blink Animation

```
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
  <alpha android:fromAlpha="0.0"
    android:toAlpha="1.0"

    android:interpolator="@android:anim/accelerate_interpolator"
    android:duration="500"

    android:repeatMode="reverse"
    android:repeatCount="infinite"/>

</set>
```

2) Fade Animation

```
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android"
  android:interpolator="@android:anim/accelerate_interpolator">

  <alpha

    android:duration="1000"
    android:fromAlpha="0"
    android:toAlpha="1" />

  <alpha
```

```
    android:duration="1000"
    android:fromAlpha="1"
    android:startOffset="2000"
    android:toAlpha="0" />

</set>
```

3) Move Animation

```
<?xml version="1.0" encoding="utf-8"?>
<set
  xmlns:android="http://schemas.android.com/apk/res/android"
  android:interpolator="@android:anim/linear_interpolator"
  android:fillAfter="true">

  <translate
    android:fromXDelta="0%p"

    android:toXDelta="75%p"
    android:duration="700" />

</set>
```

4) Rotate Animation

```
<?xml version="1.0" encoding="utf-8"?>
<set
   xmlns:android="http://schemas.android.com/apk/res/android">
  <rotate
    android:duration="6000"
    android:fromDegrees="0"
    android:pivotX="50%"
    android:pivotY="50%"
    android:toDegrees="360" />

  <rotate
    android:duration="6000"
```

```
    android:fromDegrees="360"
    android:pivotX="50%"
    android:pivotY="50%"
    android:startOffset="5000"
    android:toDegrees="0" />

</set>
```

5) Slide Animation

```
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android"
    android:fillAfter="true" >

   <scale
      android:duration="500"
      android:fromXScale="1.0"
      android:fromYScale="1.0"

      android:interpolator="@android:anim/linear_interpolator"
      android:toXScale="1.0"

      android:toYScale="0.0" />
</set>
```

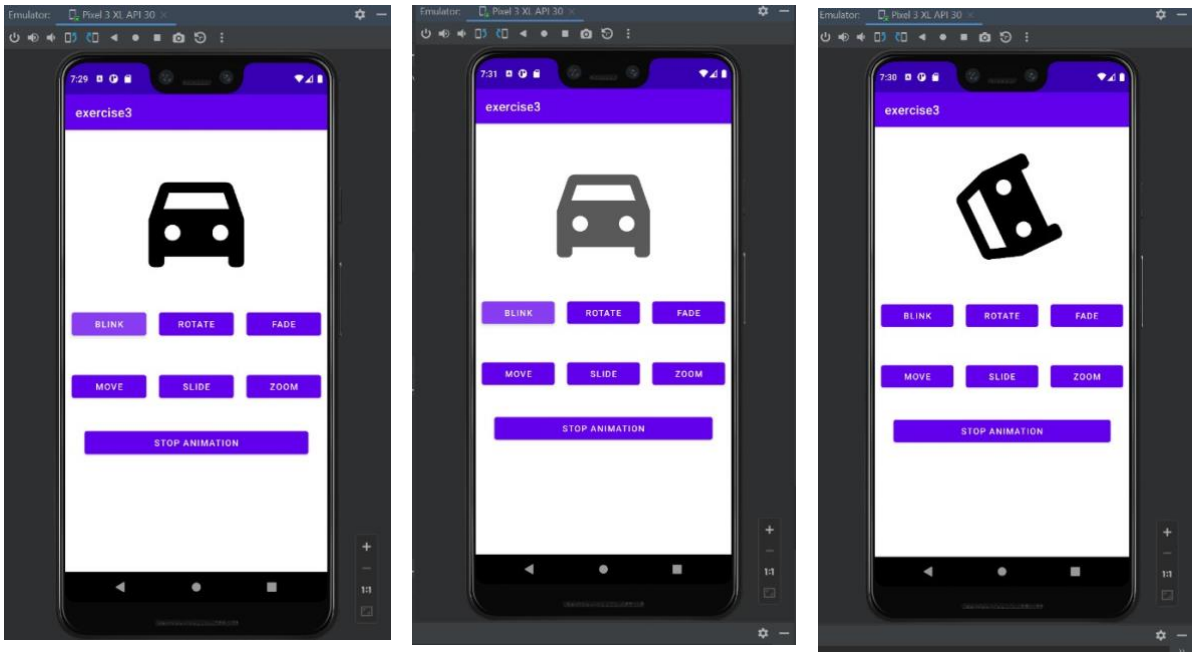
6) Zoom Animation

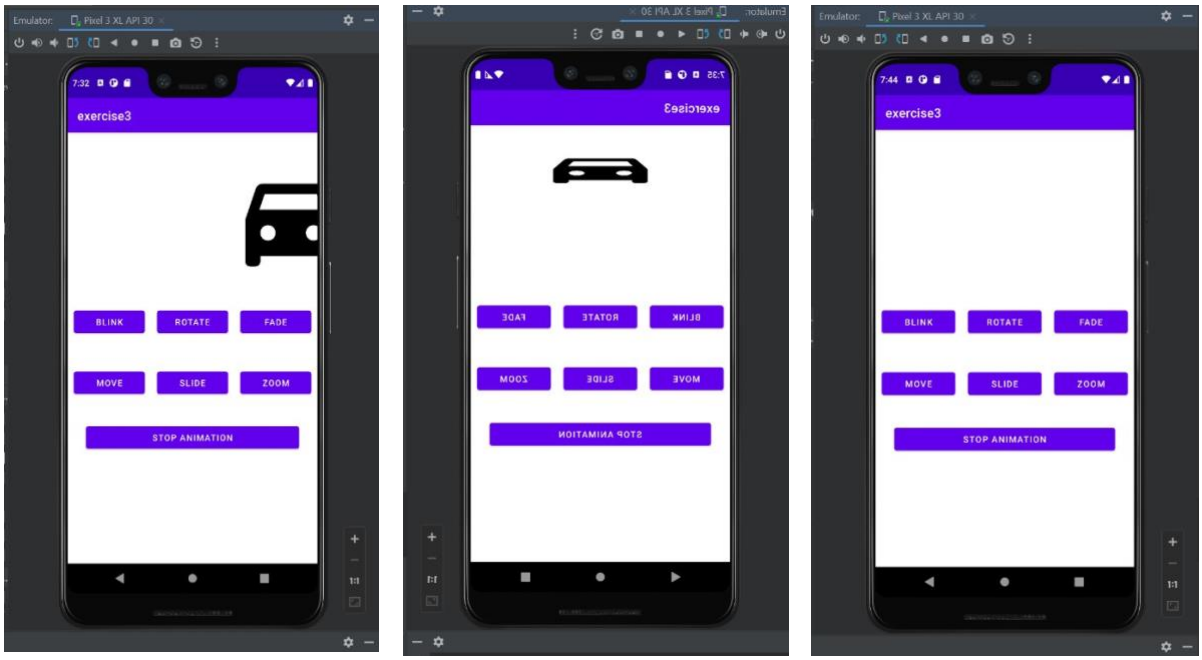
```
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android"
   android:fillAfter="true" >

   <scale
      android:duration="500"
      android:fromXScale="1.0"
      android:fromYScale="1.0"

      android:interpolator="@android:anim/linear_interpolator"
      android:toXScale="1.0"
```

```
        android:toYScale="0.0" />

</set>
```

DRAWABLE PICTURE

OUTPUT:





Result:

Thus, a Simple Android Application for Storage, Media and Animations is developed and executed successfully.

7. Create an android application using Location and Google Map.

MainActivity.java

```
package com.example.exercise5;

import
androidx.fragment.app.FragmentActivity;
import android.os.Bundle;

import com.google.android.gms.maps.*;

import com.google.android.gms.maps.model.LatLng;

import com.google.android.gms.maps.model.MarkerOptions;
import
com.example.exercise5.databinding.ActivityMapsBinding;

public class MapsActivity extends FragmentActivity implements
  OnMapReadyCallback {private GoogleMap mMap;

  private ActivityMapsBinding
  binding;@Override

  protected void onCreate(Bundle
    savedInstanceState) {
    super.onCreate(savedInstanceState);

    binding =
    ActivityMapsBinding.inflate(getLayoutInflater());
    setContentView(binding.getRoot());

    SupportMapFragment mapFragment = (SupportMapFragment)
    getSupportFragmentManager()

        .findFragmentById(R.id.m
    ap);
```

```
        mapFragment.getMapAsync(th
        is);

    }
    @Override
    public void onMapReady(GoogleMap
        googleMap) {mMap = googleMap;

        LatLng sydney = new LatLng(-34, 151);
        mMap.addMarker(new MarkerOptions().position(sydney).title("Marker in Sydney"));
        mMap.moveCamera(CameraUpdateFactory.newLatLng(sydney));

    }
}
```

activity_maps.xml

```
<?xml version="1.0" encoding="utf-8"?>
<fragment
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:map="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/map"
    android:name="com.google.android.gms.maps.SupportMapFragm
    ent" android:layout_width="match_parent"
    android:layout_height="match_parent"

    tools:context=".MapsActivity" />
```

Output:


Philippines
Indonesia
Banda Sea
Arafura Sea
Papua New Guinea
NT
WA
Australia
QLD
SA
NSW
VIC
TAS
Great Australian Bight
Tasman
Google

8. Create an android application using Database Framework.

MainActivity.java

```
package com.example.exercise6;

import android.app.Activity;

import android.app.AlertDialog.Builder;import
android.content.Context;

import android.database.Cursor;

import android.database.sqlite.SQLiteDatabase;import
android.os.Bundle;

import android.view.View;

import android.view.View.OnClickListener;import
android.widget.Button;

import android.widget.EditText;

public class MainActivity extends Activity implementsOnClickListener

{

    EditText Rollno,Name,Marks;

    Button Insert,Delete,Update,View,ViewAll;
    SQLiteDatabase db;

    @Override

    public void onCreate(Bundle savedInstanceState)

    {

        super.onCreate(savedInstanceState); setContentView(R.layout.activity_main);

        Rollno=(EditText)findViewById(R.id.Rollno);
        Name=(EditText)findViewById(R.id.Name);
        Marks=(EditText)findViewById(R.id.Marks);
        Insert=(Button)findViewById(R.id.Insert);
        Delete=(Button)findViewById(R.id.Delete);
        Update=(Button)findViewById(R.id.Update);
        View=(Button)findViewById(R.id.View);
        ViewAll=(Button)findViewById(R.id.ViewAll);

        Insert.setOnClickListener(this);
        Delete.setOnClickListener(this);
        Update.setOnClickListener(this);
```

```
        View.setOnClickListener(this);
        ViewAll.setOnClickListener(this);

        // Creating database and table db=openOrCreateDatabase("StudentDB",

    Context.MODE_PRIVATE, null);

        db.execSQL("CREATE TABLE IF NOT EXISTS student(rollno
    VARCHAR,name VARCHAR,marks VARCHAR);");

}

public void onClick(View view)

{

        // Inserting a record to the Student tableif(view==Insert)

        {

                // Checking for empty fields if(Rollno.getText().toString().trim().length()==0||

                                Name.getText().toString().trim().length()==0||
                                Marks.getText().toString().trim().length()==0)

                {

                        showMessage("Error", "Please enter all values");return;

                }

               db.execSQL("INSERT INTO student
               VALUES('"+Rollno.getText()+"','"+Name.getText()+

                                "','"+Marks.getText()+"');");
                 showMessage("Success", "Record added");
                 clearText();

        }

        // Deleting a record from the Student table
        if(view==Delete)

        {

                // Checking for empty roll number
                if(Rollno.getText().toString().trim().length()==0)

                {

                        showMessage("Error", "Please enter Rollno");return;

                }
```

```
        Cursor c=db.rawQuery("SELECT * FROM student WHERE
        rollno='"+Rollno.getText()+"'", null);

          if(c.moveToFirst())

          {

                db.execSQL("DELETE FROM student WHERE
               rollno='"+Rollno.getText()+"'");
               showMessage("Success", "Record Deleted");

          }

          else

          {

               showMessage("Error", "Invalid Rollno");

          }

          clearText();

}

// Updating a record in the Student table
if(view==Update)

{

          // Checking for empty roll number
          if(Rollno.getText().toString().trim().length()==0)

          {

               showMessage("Error", "Please enter Rollno");return;

          }

        Cursor c=db.rawQuery("SELECT * FROM student WHERE
        rollno='"+Rollno.getText()+"'", null);

          if(c.moveToFirst()) {

                db.execSQL("UPDATE student SET name='" + Name.getText() +
                "',marks='" + Marks.getText() +

                          "' WHERE rollno='"+Rollno.getText()+"'");
               showMessage("Success", "Record Modified");

          }

          else {
```

```
            showMessage("Error", "Invalid Rollno");

        }

        clearText();

}

// Display a record from the Student tableif(view==View)

{

        // Checking for empty roll number
        if(Rollno.getText().toString().trim().length()==0)

        {

            showMessage("Error", "Please enter Rollno");return;

        }

      Cursor c=db.rawQuery("SELECT * FROM student WHERE
      rollno='"+Rollno.getText()+"'", null);

        if(c.moveToFirst())

        {

            Name.setText(c.getString(1)); Marks.setText(c.getString(2));

        }

        else

        {

            showMessage("Error", "Invalid Rollno");clearText();

        }

}

// Displaying all the records
if(view==ViewAll)

{

        Cursor c=db.rawQuery("SELECT * FROM student", null);
        if(c.getCount()==0)

        {

            showMessage("Error", "No records found");return;
```

```
                }

                StringBuffer buffer=new StringBuffer();
                while(c.moveToNext())

                {

                    buffer.append("Rollno: "+c.getString(0)+"\n"); buffer.append("Name:
                    "+c.getString(1)+"\n"); buffer.append("Marks: "+c.getString(2)+"\n\n");

                }

                showMessage("Student Details", buffer.toString());

            }

        }

        public void showMessage(String title,String message)

        {

            Builder builder=new Builder(this);
            builder.setCancelable(true);
            builder.setTitle(title);
            builder.setMessage(message); builder.show();

        }

        public void clearText()

        {

            Rollno.setText("");

            Name.setText("");

            Marks.setText("");
            Rollno.requestFocus();

        }

    }
```

activity_main.xml

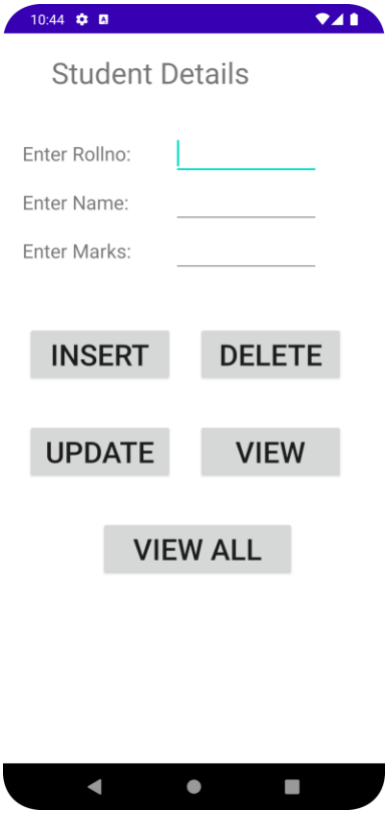
```
<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"

    xmlns:app="http://schemas.android.com/apk/res-auto"
```

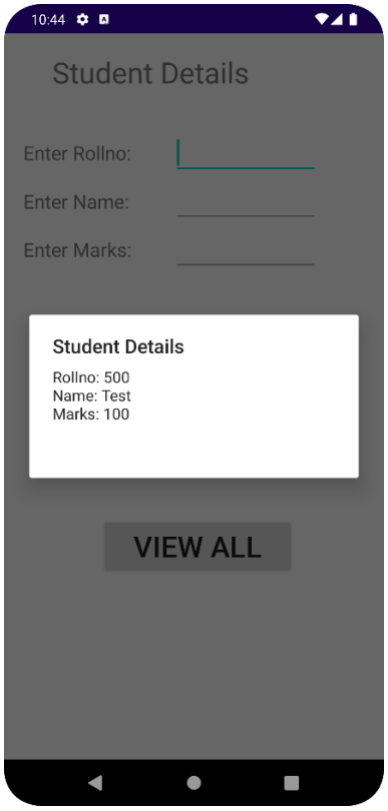
```
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent" tools:context=".MainActivity">



<AbsoluteLayout android:layout_width="match_parent"
    android:layout_height="match_parent">

    <TextView

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="50dp"
        android:layout_y="20dp" android:text="Student
        Details" android:textSize="30sp" />

    <TextView

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="20dp"
        android:layout_y="110dp" android:text="Enter
        Rollno:" android:textSize="20sp" />

    <EditText

        android:id="@+id/Rollno"
        android:layout_width="150dp"
        android:layout_height="wrap_content"
        android:layout_x="175dp"
        android:layout_y="100dp"
        android:inputType="number"
        android:textSize="20sp" />

    <TextView

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="20dp"
        android:layout_y="160dp" android:text="Enter
        Name:" android:textSize="20sp" />

    <EditText

        android:id="@+id/Name"
        android:layout_width="150dp"
        android:layout_height="wrap_content"
        android:layout_x="175dp"
        android:layout_y="150dp"
        android:inputType="text"
        android:textSize="20sp" />
```

```
<TextView

    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_x="20dp"
    android:layout_y="210dp" android:text="Enter
    Marks:" android:textSize="20sp" />

<EditText

    android:id="@+id/Marks"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="175dp"
    android:layout_y="200dp"
    android:inputType="number"
    android:textSize="20sp" />

<Button

    android:id="@+id/Insert"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="25dp"
    android:layout_y="300dp" android:text="Insert"
    android:textSize="30dp" />

<Button

    android:id="@+id/Delete"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="200dp"
    android:layout_y="300dp" android:text="Delete"
    android:textSize="30dp" />

<Button

    android:id="@+id/Update"
    android:layout_width="150dp"

    android:layout_height="wrap_content"
    android:layout_x="25dp"
    android:layout_y="400dp"
    android:text="Update" android:textSize="30dp"
    />

<Button

    android:id="@+id/View"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="200dp"
```

```
            android:layout_y="400dp" android:text="View"
            android:textSize="30dp" />

        <Button

            android:id="@+id/ViewAll"
            android:layout_width="200dp"
            android:layout_height="wrap_content"
            android:layout_x="100dp"
            android:layout_y="500dp" android:text="View
            All" android:textSize="30dp" />

    </AbsoluteLayout>

</androidx.constraintlayout.widget.ConstraintLayout>
```

Output


10:44
Student Details
Enter Rollno:
Enter Name:
Enter Marks:
INSERT
DELETE
UPDATE
VIEW
VIEW ALL


10:44
Student Details
Enter Rollno:
Enter Name:
Enter Marks:
Student Details
Rollno: 500
Name: Test
Marks: 100
VIEW ALL

9. Create an android application using Localization and Sensors.

MainActivity.java

```
package com.example.exercise7_1;

import android.app.Activity; import
android.graphics.Color; import
android.hardware.Sensor;

import android.hardware.SensorEvent;

import android.hardware.SensorEventListener;import
android.hardware.SensorManager; import
android.os.Bundle;

import android.view.View; import
android.widget.Toast;

public class MainActivity extends Activity implements
SensorEventListener{

        private SensorManager sensorManager;private
        boolean isColor = false; private View view;

        private long lastUpdate;

        @Override

        public void onCreate(Bundle savedInstanceState) {
                super.onCreate(savedInstanceState);
                setContentView(R.layout.activity_main);

                view = findViewById(R.id.textView); view.setBackgroundColor(Color.CYAN);

                sensorManager = (SensorManager)
getSystemService(SENSOR_SERVICE);

                lastUpdate = System.currentTimeMillis();

        }

        @Override
```

```
public void onAccuracyChanged(Sensor sensor, int accuracy) {}@Override

public void onSensorChanged(SensorEvent event) {

        if (event.sensor.getType() == Sensor.TYPE_ACCELEROMETER) {
                getAccelerometer(event);

        }

}

private void getAccelerometer(SensorEvent event) {float[] values =
        event.values;

        // Movement

        float x = values[0];float y
        =  values[1];  float  z  =
        values[2];

                float accelationSquareRoot = (x * x + y * y + z * z)

                                / (SensorManager.GRAVITY_EARTH *
             SensorManager.GRAVITY_EARTH);

        if (accelationSquareRoot >= 2)

        {

                if (isColor) {
                        view.setBackgroundColor(Color.MAGENTA);



                 } else {

                        view.setBackgroundColor(Color.BLUE);

                }

                isColor = !isColor;

        }

}
```

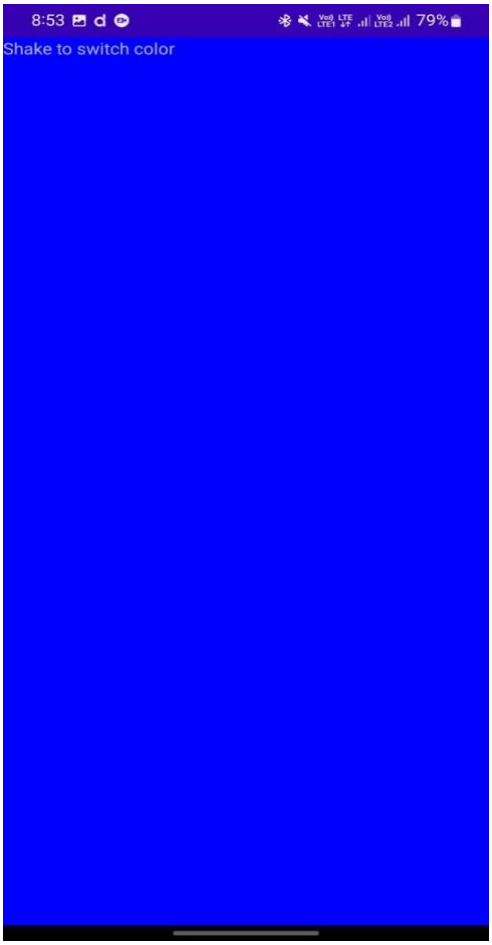
```
    @Override

    protected void onResume() {
        super.onResume();

       sensorManager.registerListener(this,sensorManager.getDefaultSe
      nsor(Sensor.TYPE_ACCELEROMETER),
      SensorManager.SENSOR_DELAY_NORMAL);

    }



    @Override

    protected void onPause() {

        super.onPause();
        sensorManager.unregisterListener(this);

    }

}
```

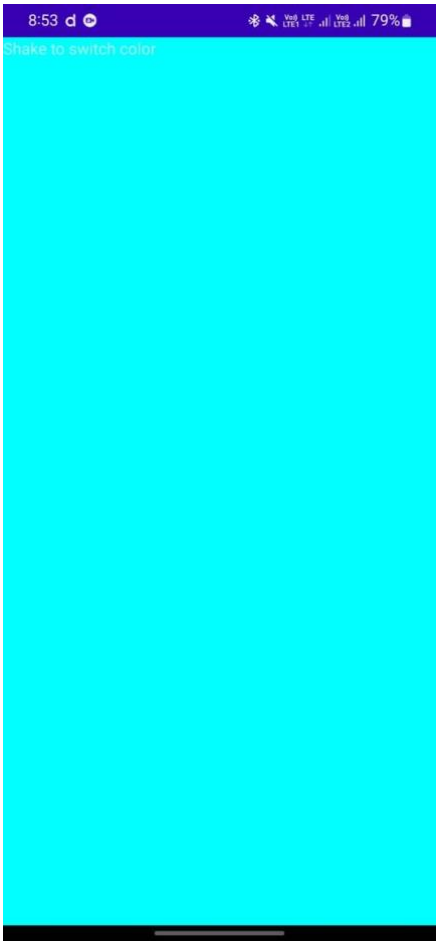
activity_main.xml

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

<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"

    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <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" >

        <TextView
```

```
            android:id="@+id/textView"
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:text="Shake to switch color" />

    </RelativeLayout>

</androidx.constraintlayout.widget.ConstraintLayout>
```

Output


8:53
79%
Shake to switch color


8:53
79%
Shake to switch color

MainActivity.java (default code)

```
package com.example.exercise7_2;

import androidx.appcompat.app.AppCompatActivity;import

android.os.Bundle;


public class MainActivity extends AppCompatActivity {



    @Override

    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

    }

}
```

activity_main.xml

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

<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"

    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
```

```
    <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
        android:orientation="vertical"android:layout_width="match_parent"
        android:layout_height="match_parent">
        <TextView
            android:id="@+id/textview1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="100dp"
            android:layout_gravity="center"
            android:textColor="#F1511B"
            android:textSize="30dp"
            android:textStyle="bold"
            android:text="@string/text"/>
    </LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

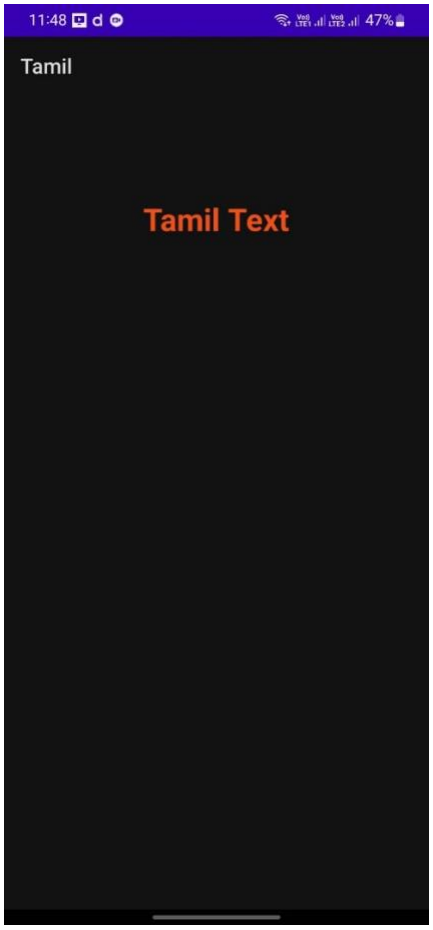
values\strings.xml

```
<resources>
    <string name="app_name">English</string>
    <string name="text">English Text</string>
</resources>
```

values-ta\strings.xml

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <string name="app_name">Tamil</string>
    <string name="text">Tamil Text</string>
</resources>
```

Output



Result:

Thus, a Simple Android Application for Localization and Sensors is developed and executed successfully.