



FEU-EAST ASIA COLLEGE
COLLEGE OF ENGINEERING • COLLEGE OF COMPUTER STUDIES

INFORMATION TECHNOLOGY EDUCATION DEPARTMENT

ITMA133

(MOBILE APPLICATIONS DEVELOPMENT 1)

EXERCISE

4

Orientation View Application

<STUDENT NAME>

<SECTION>

<DATE>

I. OBJECTIVES

At the end of this exercise, students must be able to:

Cognitive

- a.) Understand the topics they have learned from lesson 4.

Psychomotor:

- a.) Design a android interface using different layout view combination
- b.) Design android application that will support different layout orientation.
- c.) Apply linear layout with vertical and horizontal orientation.
- d.) Apply portrait and landscape layout.
- e.) Construct different xml layout for design.
- f.) Construct layout views that will suit the orientation.

Affective

- a.) Appreciate the concept behind this exercise.

II. BACKGROUND INFORMATION

In order to accomplish this exercise, the student must have a clear understanding of the following topics:

- xml layout structure
- standard android layout design
- layout container

III. LABORATORY PROCEDURE

Overview

This programming exercise demonstrates the use different android layout views to further create good user interface design also to demonstrate the shifting of layout from portrait to landscape and vice versa.

TASK

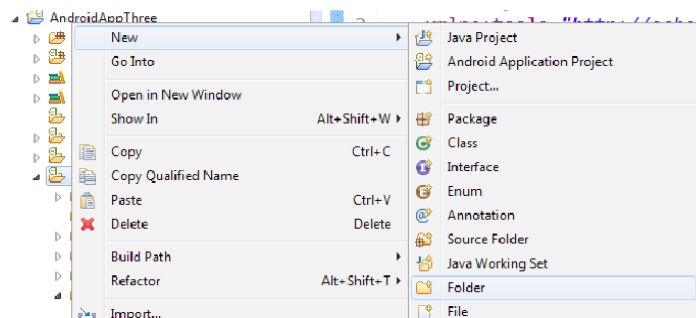
1. Create a new Android Project.

Project Name: AndroidAppFour

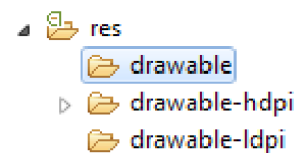
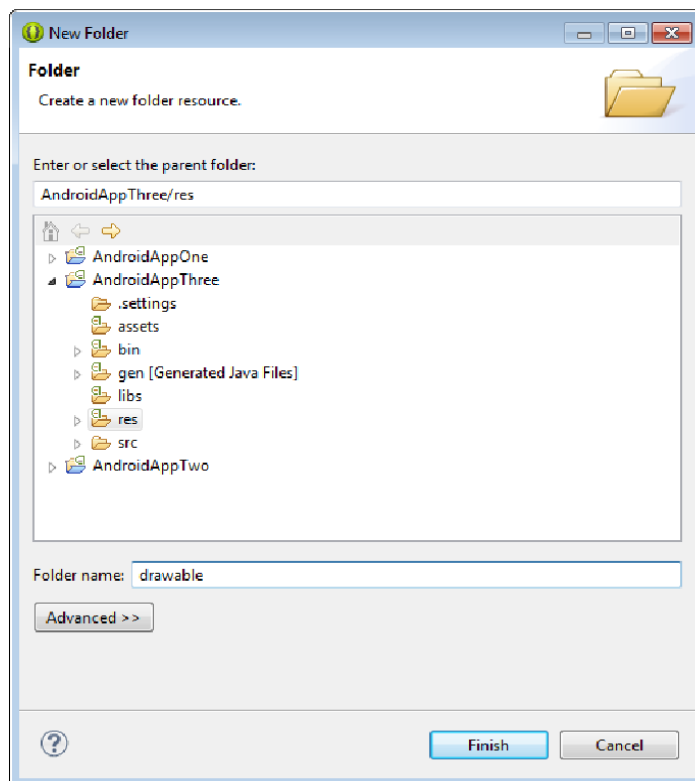
Activity Name (Main): MainActivity

2. Create design in portrait view

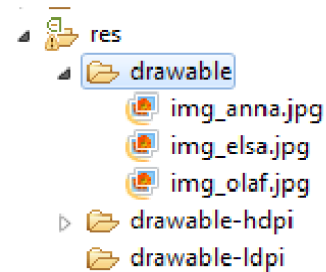
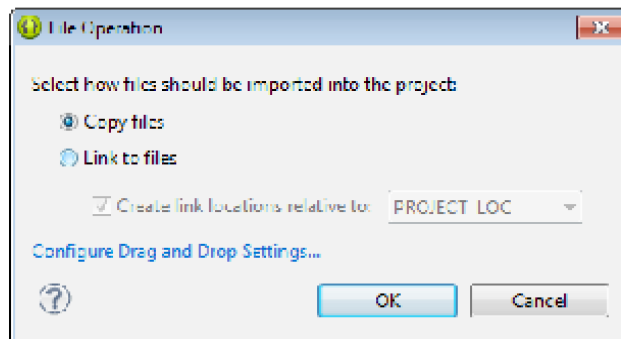
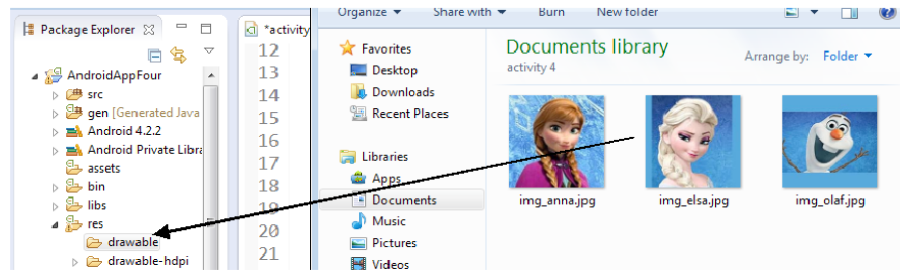
- a. Create a new folder named as drawable inside the res folder. (right-click res folder – select new – select folder)



- b. Name the folder as drawable then click finish.



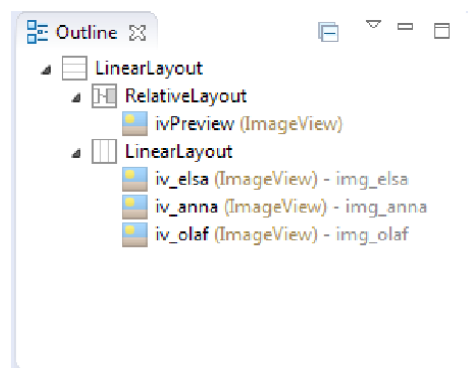
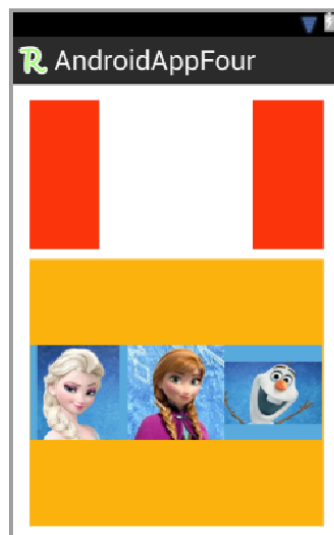
- c. Drag and drop the images file from the assets/image/activity4 folder to res/drawable folder on your project (select copy files).



3. Create the design in portrait view.
 - a. Add xml statement for string value reference as shown below.
(res/values/strings.xml)

```
<string name="img_preview">Image Preview</string>
<string name="img_elsa">Elsa</string>
<string name="img_anna">Anna</string>
<string name="img_olaf">Olaf</string>
```

- b. Design the layout (activity_main.xml) as shown below.



activity_main.xml

```
<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"
    android:orientation="vertical"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    tools:context=".MainActivity" >

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:background="#fc2a08"
        >

        <ImageView
            android:id="@+id/ivPreview"
            android:layout_width="150dp"
            android:layout_height="150dp"
            android:layout_centerHorizontal="true"
            android:layout_centerVertical="true"
            android:contentDescription="@string/img_preview"
            android:background="#FFF" />

    </RelativeLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="1"
        android:background="#fca908"
        android:layout_marginTop="10dp"
        android:gravity="center">

        <ImageView
            android:id="@+id/iv_elsa"
            android:layout_width="95dp"
            android:layout_height="95dp"
            android:contentDescription="@string/img_anna"
            android:onClick="changeImage"
            android:src="@drawable/img_elsa" />

        <ImageView
            android:id="@+id/iv_anna"
            android:layout_width="95dp"
            android:layout_height="95dp"
            android:contentDescription="@string/img_elsa"
            android:onClick="changeImage"
            android:src="@drawable/img_anna" />

    </LinearLayout>

</LinearLayout>
```

```

        <ImageView
            android:id="@+id/iv_olaf"
            android:layout_width="95dp"
            android:layout_height="95dp"
            android:contentDescription="@string/img_olaf"
            android:onClick="changeImage"
            android:src="@drawable/img_olaf" />

    </LinearLayout>
</LinearLayout>

```

4. Write the java code for the application as shown below.

MainActivity.java

```

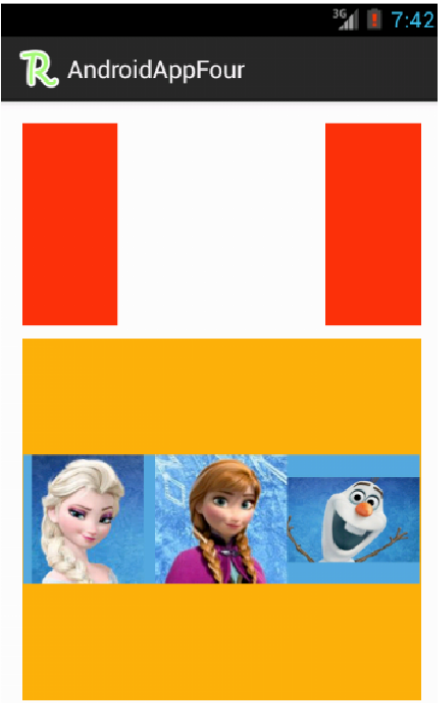
package com.example.androidappfour;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;
import android.app.Activity;

public class MainActivity extends Activity {
    ImageView ivPreview;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ivPreview = (ImageView) findViewById(R.id.ivPreview);
    }
    public void changeImage(View v){
        switch(v.getId()){
            case R.id.iv_anna:
                ivPreview.setBackgroundResource(R.drawable.img_anna);
                break;
            case R.id.iv_elsa:
                ivPreview.setBackgroundResource(R.drawable.img_elsa);
                break;
            case R.id.iv_olaf:
                ivPreview.setBackgroundResource(R.drawable.img_olaf);
                break;
        }
    }
}

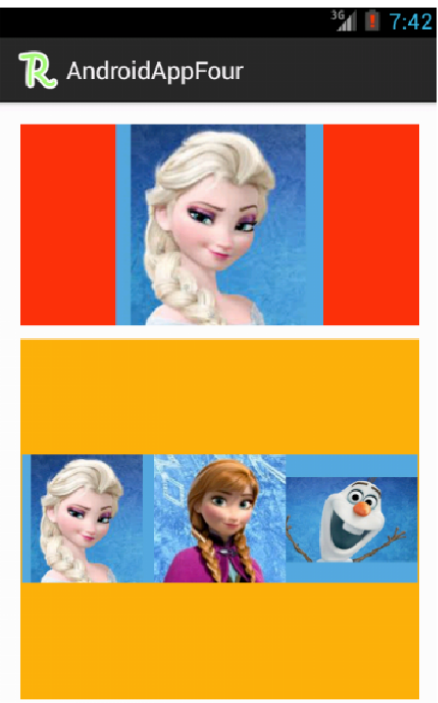
```

5. Run and test the application

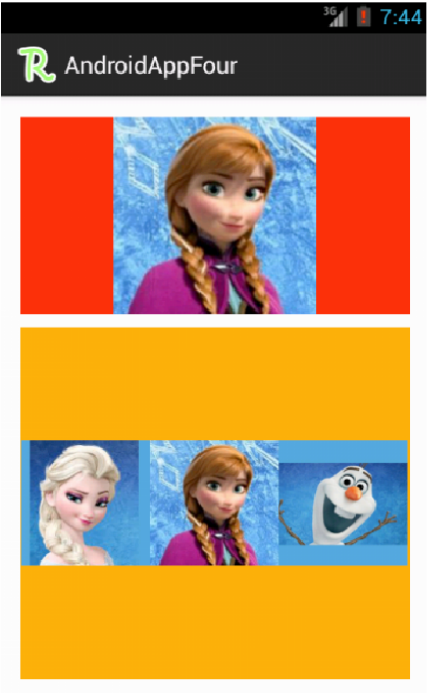
Program Output 1 (Plain):



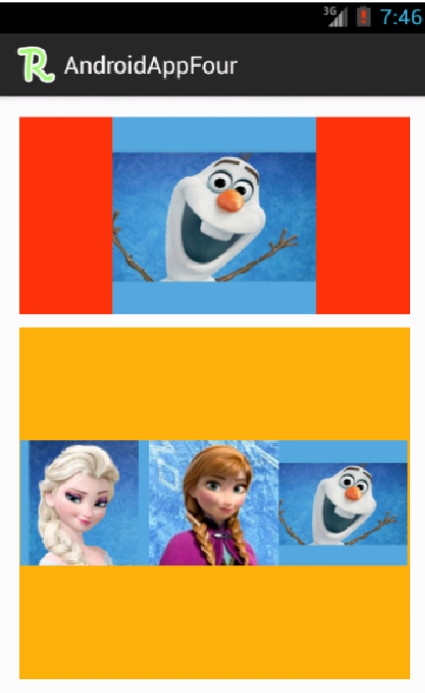
Program Output 2 (Anna):



Program Output 3: (Elsa)

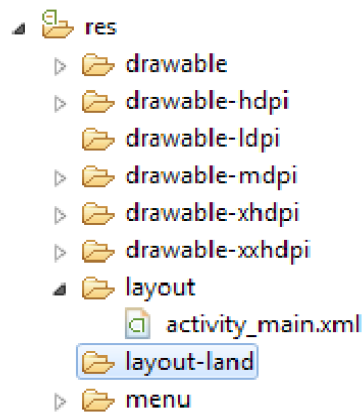


Program Output 4: (Olaf)

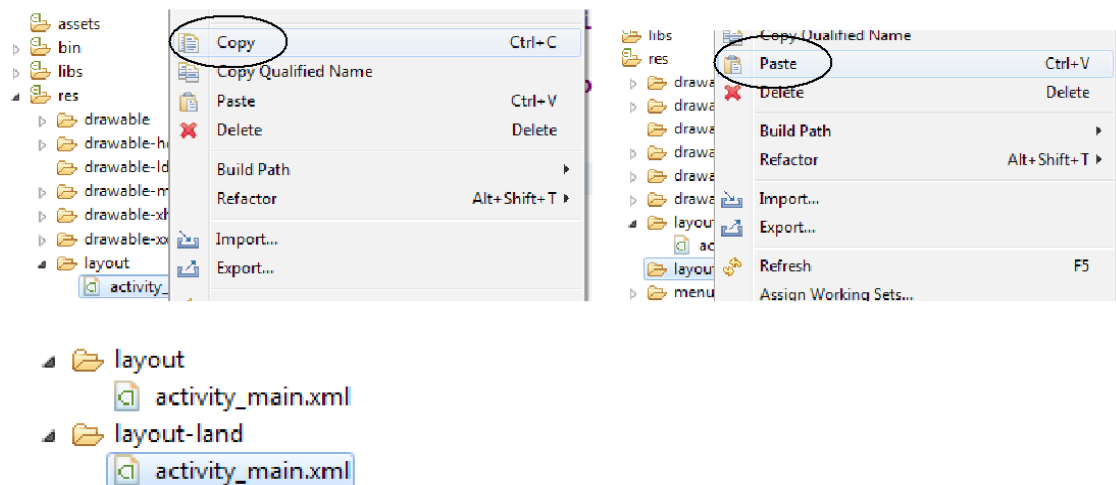


6. Create the design in landscape view

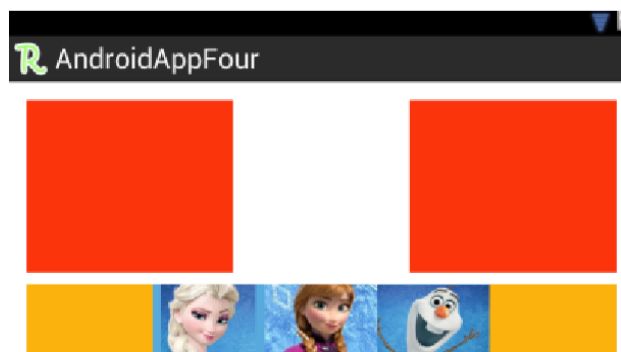
- a. Add a new folder named layout-land inside in res folder.



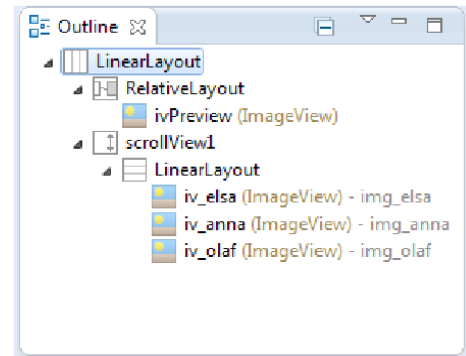
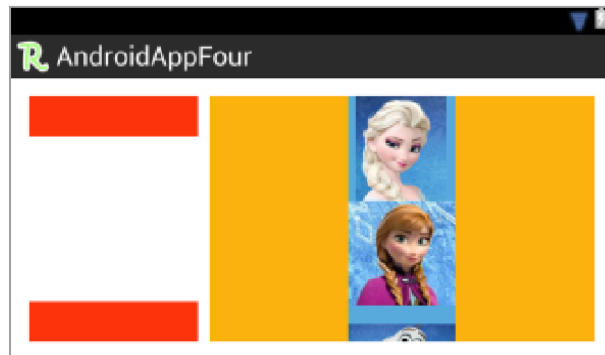
- b. Copy the file activity_main.xml from layout folder and paste it to layout-land folder.



- c. Open the activity_main.xml in design view from layout-land folder



- d. Create the design view in landscape mode and modify the xml code as shown below.



activity_main.xml

```
<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"
    android:orientation="horizontal"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:baselineAligned="false"
    tools:context=".MainActivity" >

    <RelativeLayout
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:background="#fc2a08"
        >

        <ImageView
            android:id="@+id/ivPreview"
            android:layout_width="150dp"
            android:layout_height="150dp"
            android:layout_centerHorizontal="true"
            android:layout_centerVertical="true"
            android:contentDescription="@string/img_preview"
            android:background="#FFF" />

    </RelativeLayout>

    <ScrollView
        android:id="@+id/scrollView1"
        android:layout_width="0dp"
        android:layout_height="match_parent"
        android:layout_weight="1"
        android:layout_marginLeft="10dp"
        android:background="#fca908"
        >
```

```

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:gravity="center"
    android:orientation="vertical" >

    <ImageView
        android:id="@+id/iv_elsa"
        android:layout_width="95dp"
        android:layout_height="95dp"
        android:contentDescription="@string/img_anna"
        android:onClick="changeImage"
        android:src="@drawable/img_elsa" />

    <ImageView
        android:id="@+id/iv_anna"
        android:layout_width="95dp"
        android:layout_height="95dp"
        android:contentDescription="@string/img_elsa"
        android:onClick="changeImage"
        android:src="@drawable/img_anna" />

    <ImageView
        android:id="@+id/iv_olaf"
        android:layout_width="95dp"
        android:layout_height="95dp"
        android:contentDescription="@string/img_olaf"
        android:onClick="changeImage"
        android:src="@drawable/img_olaf" />

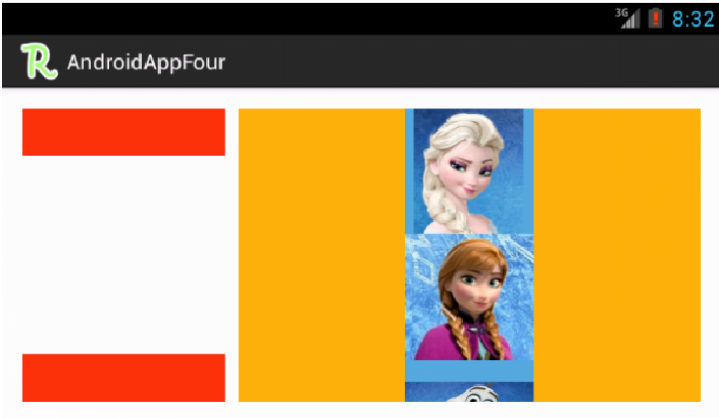
</LinearLayout>
</ScrollView>
</LinearLayout>

```

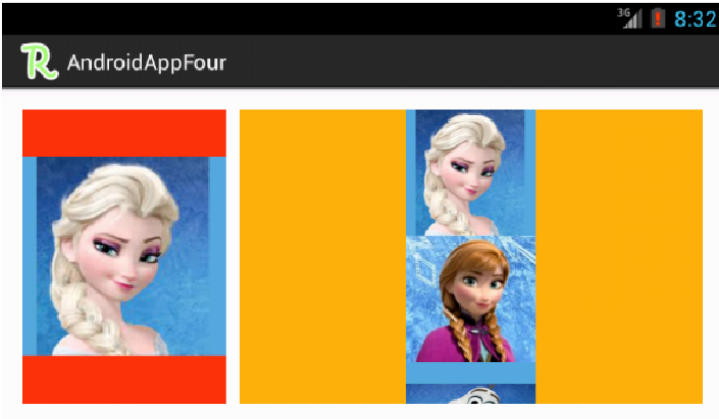
- e. Run and Test the application
(If running under AVD for windows press ctrl+F11 and for mac press ctrl+fn+F11)

Landscape Output

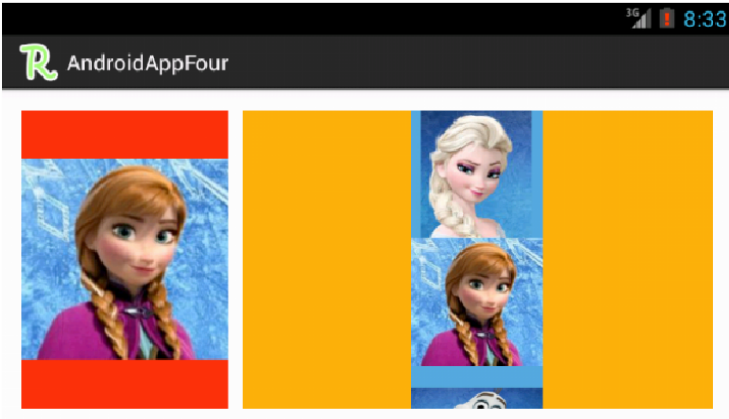
Program Output 1: (Plain)



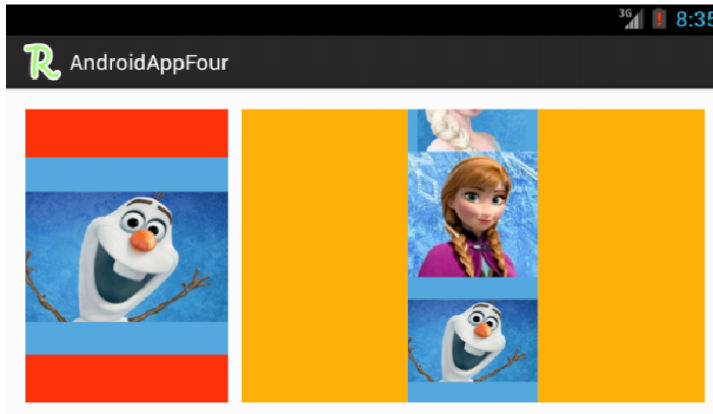
Program Output 2: (Elsa)



Program Output 3: (Plain)



Program Output 4: (Elsa)



IV. QUESTION AND ANSWER

1. What are the major difference between relative layout and linear layout?

2. If the developer wants to lock the orientation layout for any device, what are the things to be done?

3. Nine-patch is one of the essential in android design. State the importance of nine-patch.

V. REFERENCE

<http://www.developer.android.com>