* **Practical -3**

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**User Interface Layout**

1. **creating a new layout resource file called rainbow.xml. Within this XML file, add a vertically-oriented linear layout control that fills the entire screen. Next, add seven TextView controls as child controls within the linear layout: one for each color in the spectrum. Set the text of each TextView control to the appropriate color string in the spectrum and the background color to the appropriate color value. Also, set each control’s layout\_width attribute to fill\_parent and its layout\_height attribute to wrap\_content.**

**code:**

<?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"

android:orientation="vertical"

android:layout\_gravity="center">

<TextView

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="RED"

android:gravity="center"

android:layout\_weight="1"

android:background="#d50000"

android:textSize="20sp"

android:textColor="@color/white"

/>

<TextView

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="ORANGE"

android:gravity="center"

android:layout\_weight="1"

android:background="#ff6d00"

android:textSize="20sp"

android:textColor="@color/white"

/>

<TextView

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="YELLOW"

android:gravity="center"

android:layout\_weight="1"

android:background="#ffea00"

android:textSize="20sp"

android:textColor="@color/white"

/>

<TextView

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="GREEN"

android:gravity="center"

android:layout\_weight="1"

android:textSize="20sp"

android:textColor="@color/white"

android:background="#00c853"

/>

<TextView

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="BLUE"

android:gravity="center"

android:layout\_weight="1"

android:background="#2962ff"

android:textSize="20sp"

android:textColor="@color/white"

/>

<TextView

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="INDIGO"

android:gravity="center"

android:layout\_weight="1"

android:background="#304ffe"

android:textSize="20sp"

android:textColor="@color/white"

/>

<TextView

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="VIOLATE"

android:gravity="center"

android:layout\_weight="1"

android:background="#aa00ff"

android:textSize="20sp"

android:textColor="@color/white"

/>

</LinearLayout>

**OUTPUT:**



**Rainbow.xml (Relative Layout):**

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

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent">

<TextView

android:id="@+id/txRed"

android:layout\_width="match\_parent"

android:layout\_height="100dp"

android:background="#d50000"

android:gravity="center"

android:text="RED"

android:textColor="@color/white"

android:textSize="20sp"

android:layout\_alignParentTop="true"

android:layout\_alignParentStart="true"

android:layout\_alignParentEnd="true" />

<TextView

android:id="@+id/txOrange"

android:layout\_width="match\_parent"

android:layout\_height="100dp"

android:text="INDIGO"

android:gravity="center"

android:background="#304ffe"

android:textSize="20sp"

android:textColor="@color/white"

android:layout\_below="@+id/txBlue"

android:layout\_alignParentStart="true"

android:layout\_alignParentEnd="true"

/>

<TextView

android:id="@+id/txViolate"

android:layout\_width="match\_parent"

android:layout\_height="100dp"

android:text="VIOLATE"

android:gravity="center"

android:background="#aa00ff"

android:textSize="20sp"

android:textColor="@color/white"

android:layout\_below="@+id/txIndigo"

android:layout\_alignParentStart="true"

android:layout\_alignParentEnd="true"/>

</RelativeLayout>

**OUTPUT**



**Q-2) Create application to view the fruits images in Grid View in android application. When you click on image it should display that image in Fullscreen.**

* **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">

<GridView

android:id="@+id/grFruits"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:numColumns="2"

android:columnWidth="120dp"

android:gravity="center"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.5"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.5" />

</androidx.constraintlayout.widget.ConstraintLayout>

* **MainActivity.java:**

package com.itcraftsolution.androidtest;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.AdapterView;

import android.widget.GridView;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

GridView gridView = findViewById(R.id.grFruits);

gridView.setAdapter(new ImageAdapter(this));

gridView.setOnItemClickListener(new AdapterView.OnItemClickListener() {

@Override

public void onItemClick(AdapterView<?> parent, View view, int position, long id) {

Intent intent = new Intent(MainActivity.this, ImageDetailActivity.class);

intent.putExtra("pos", position);

startActivity(intent);

}

});

}

}

* **activity\_image\_detail.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=".ImageDetailActivity">

<ImageView

android:id="@+id/igFullViewImage"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.5"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.5" />

</androidx.constraintlayout.widget.ConstraintLayout>

* **ImageDetailActivity.java:**

package com.itcraftsolution.androidtest;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.widget.ImageView;

public class ImageDetailActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_image\_detail);

int pos = getIntent().getIntExtra("pos", 0);

ImageView imageView = findViewById(R.id.igFullViewImage);

imageView.setImageResource(new ImageAdapter(this).thumbImages[pos]);

}

}

ImageAdapter.java:

package com.itcraftsolution.androidtest;

import android.content.Context;

import android.view.View;

import android.view.ViewGroup;

import android.widget.BaseAdapter;

import android.widget.GridView;

import android.widget.ImageView;

public class ImageAdapter extends BaseAdapter {

private Context context;

public ImageAdapter(Context context) {

this.context = context;

}

@Override

public int getCount() {

return thumbImages.length;

}

@Override

public Object getItem(int position) {

return null;

}

@Override

public long getItemId(int position) {

return 0;

}

@Override

public View getView(int position, View convertView, ViewGroup parent) {

ImageView imageView = new ImageView(context);

imageView.setLayoutParams(new GridView.LayoutParams(200, 200));

imageView.setScaleType(ImageView.ScaleType.CENTER\_CROP);

imageView.setPadding(8,8,8,8);

imageView.setImageResource(thumbImages[position]);

return imageView;

}

public Integer[] thumbImages = {

R.drawable.apple,R.drawable.mango,

R.drawable.watermelon,R.drawable.pineapple,

R.drawable.strawberry,R.drawable.bananas,

R.drawable.orange, R.drawable.apple,R.drawable.mango,

R.drawable.watermelon,R.drawable.pineapple,

R.drawable.strawberry,R.drawable.bananas,

R.drawable.orange

};

}

**OUTPUT**

