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
<?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
<?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
<?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() {

```java
@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
<?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