

Designer Can Code

Lecture 1
By Tom Lau

Who Am I

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Take Home

Android

Take Home

- Basic Knowledge of Android APP
- How to create a Android layout using xml
- Basic Android programming concept
- Drawing basic graphic by xml
- Basic Android Animation

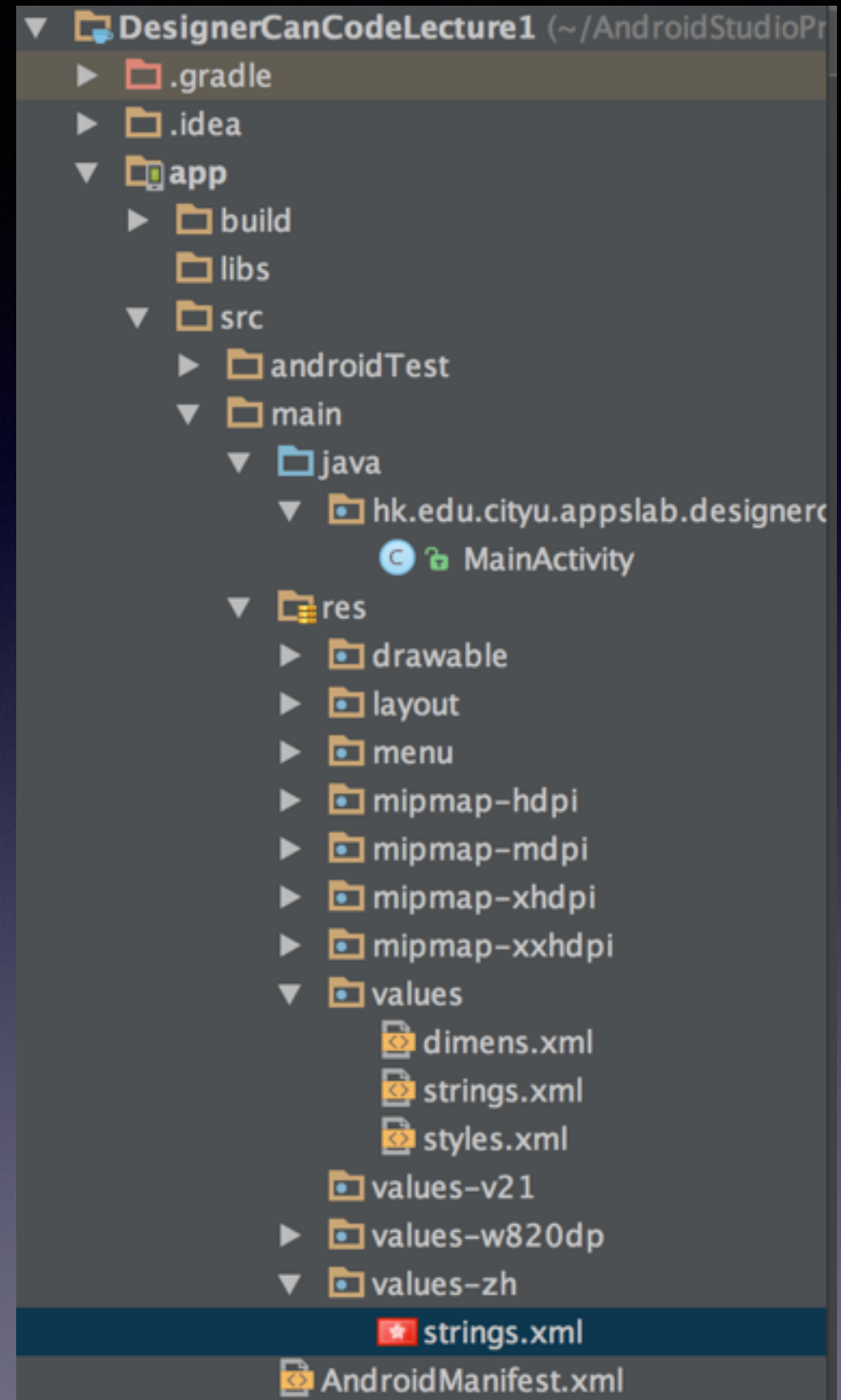
Basic Knowledge of Android APP



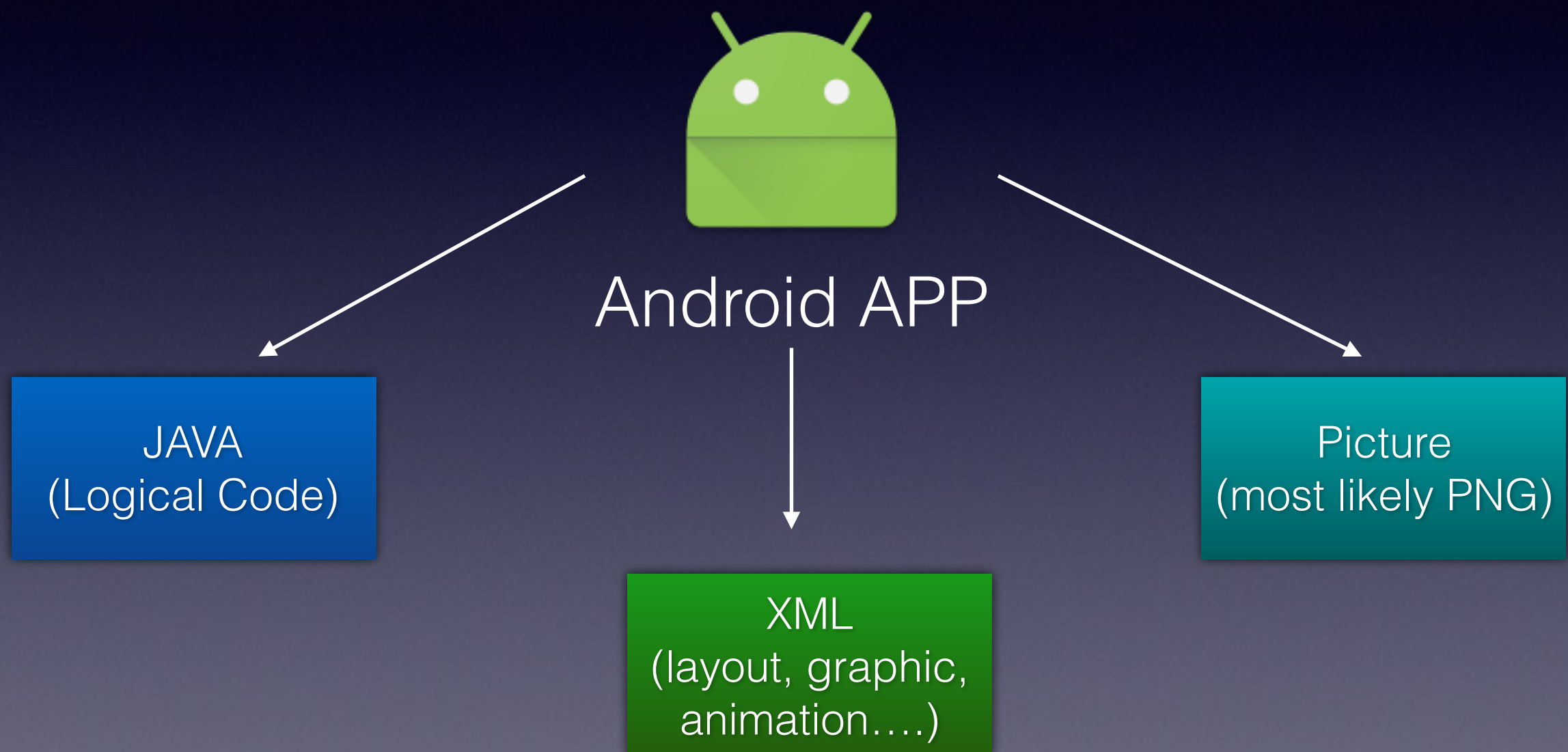
Android Studio is an
Integrated **D**evelopment **E**nvironment.

Android Studio Project

- Each App can consider as a project
- Different resources should put it different folder
- Qualifier(post fix) are help the system to select the right folder

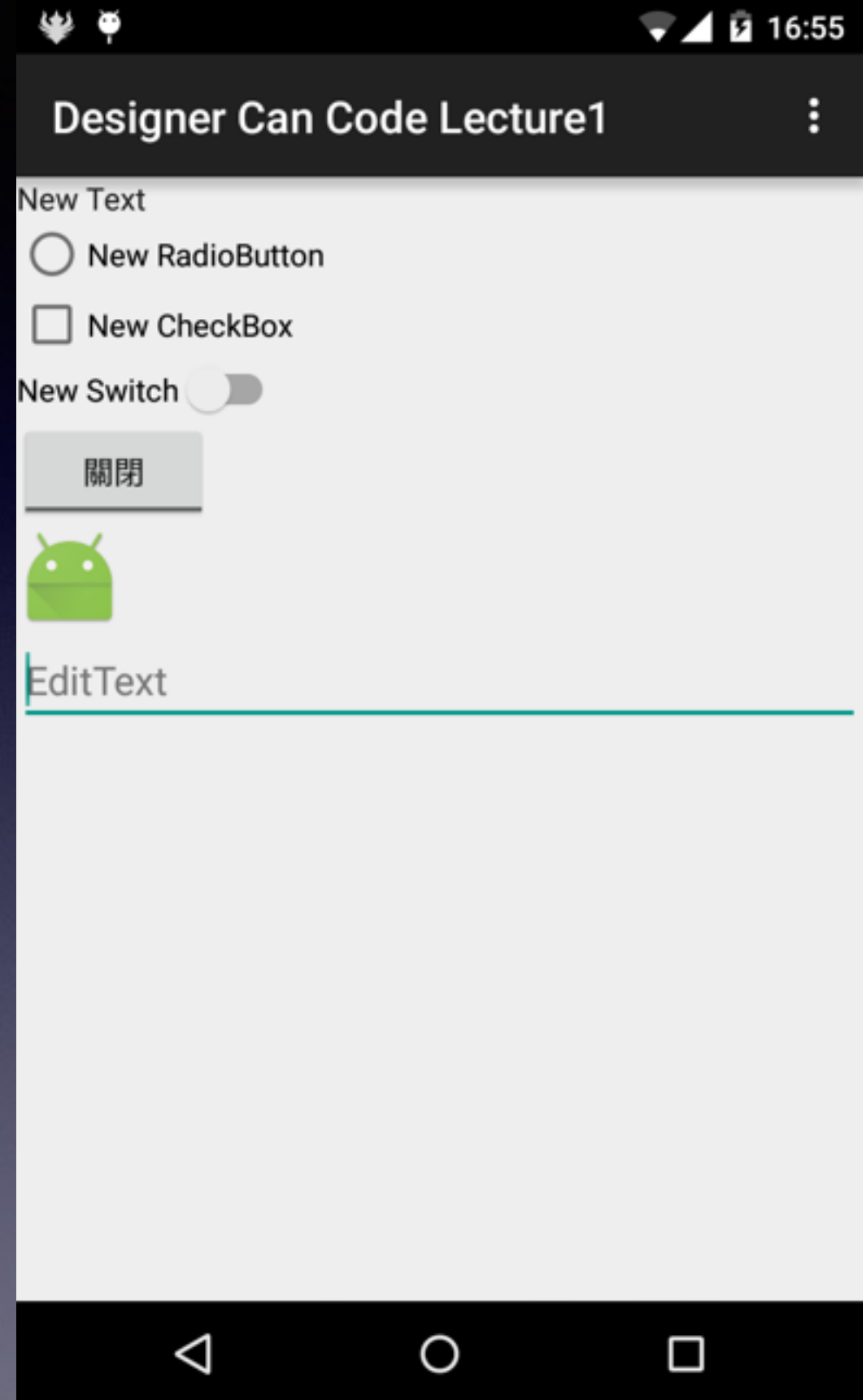


Basic Knowledge of Android APP



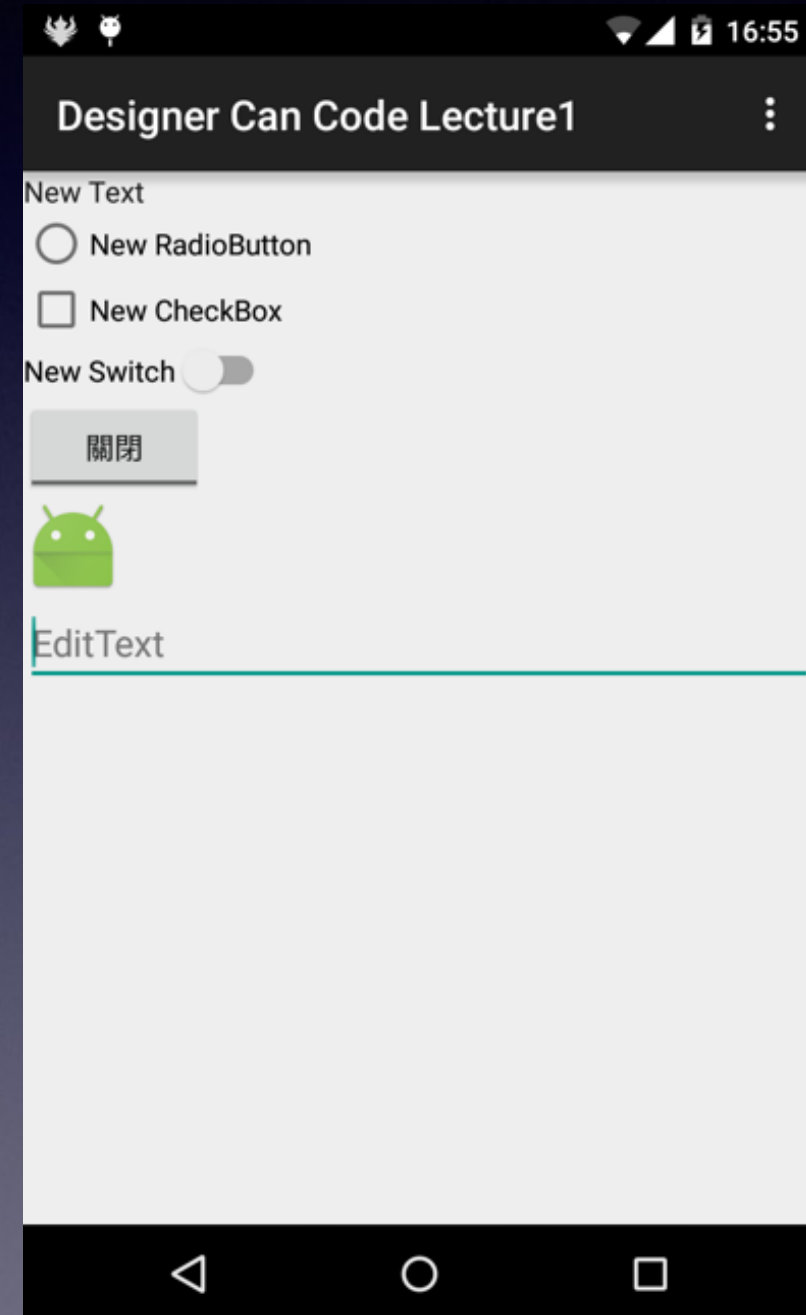
Android Layout

Every thing that on the
layout we call it **View**



View

- Every thing that on the screen we call it **View**
- For each View, width and height properties are needed
- For setting width or height, we can use match_parent, wrap_content and x dp

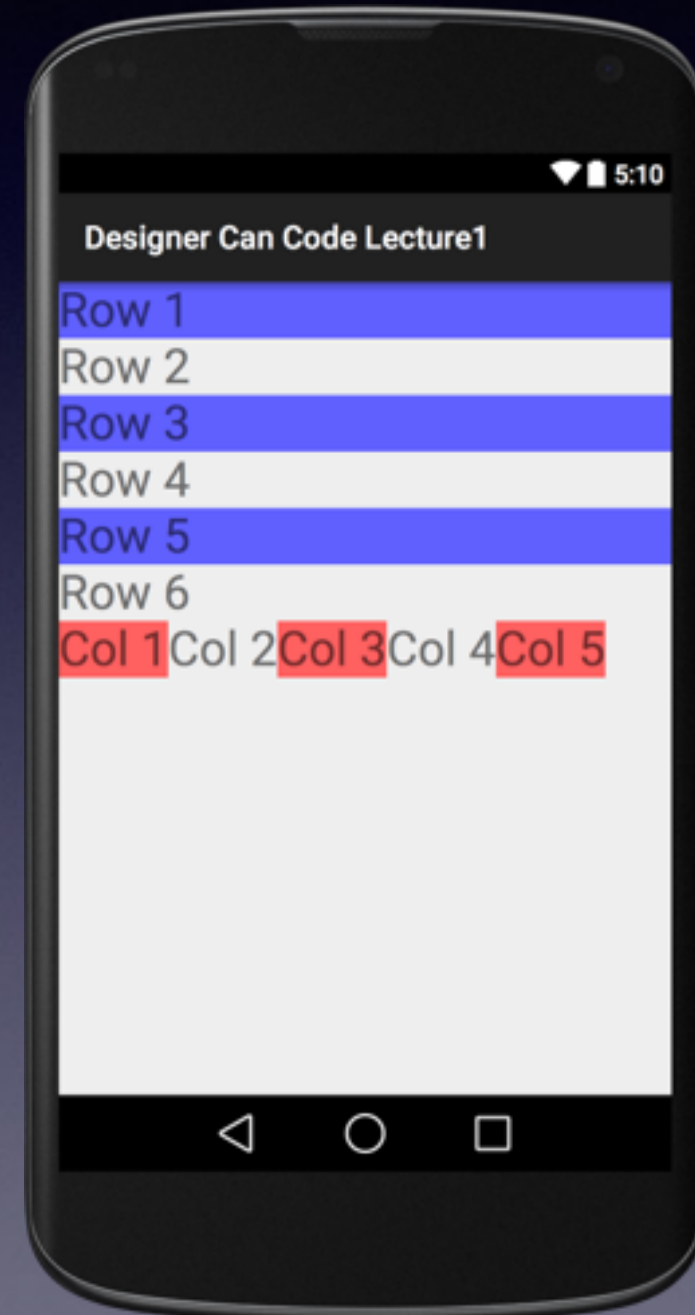


Layout

- Layout is a view that contain views so that the position of view can be controlled
- In this lecture, `LinearLayout` and `RelativeLayout` will be used.

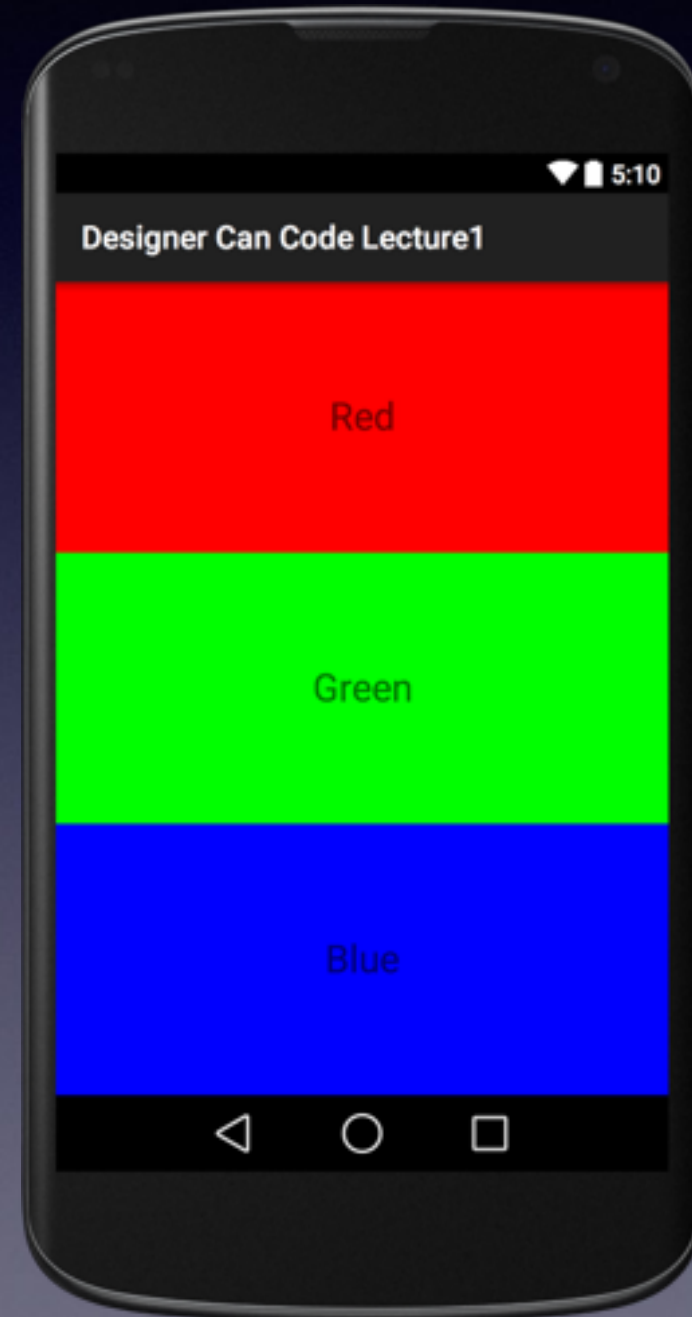
LinearLayout

- It show the view as a stack
- It can set the orientation to show the child views vertically or horizontally

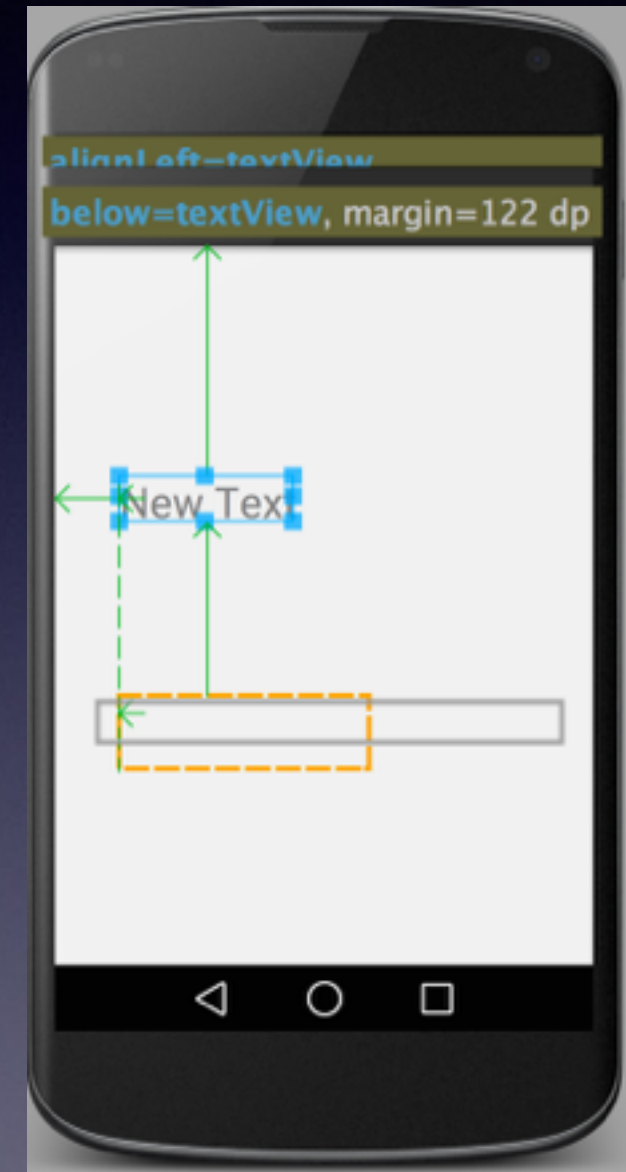
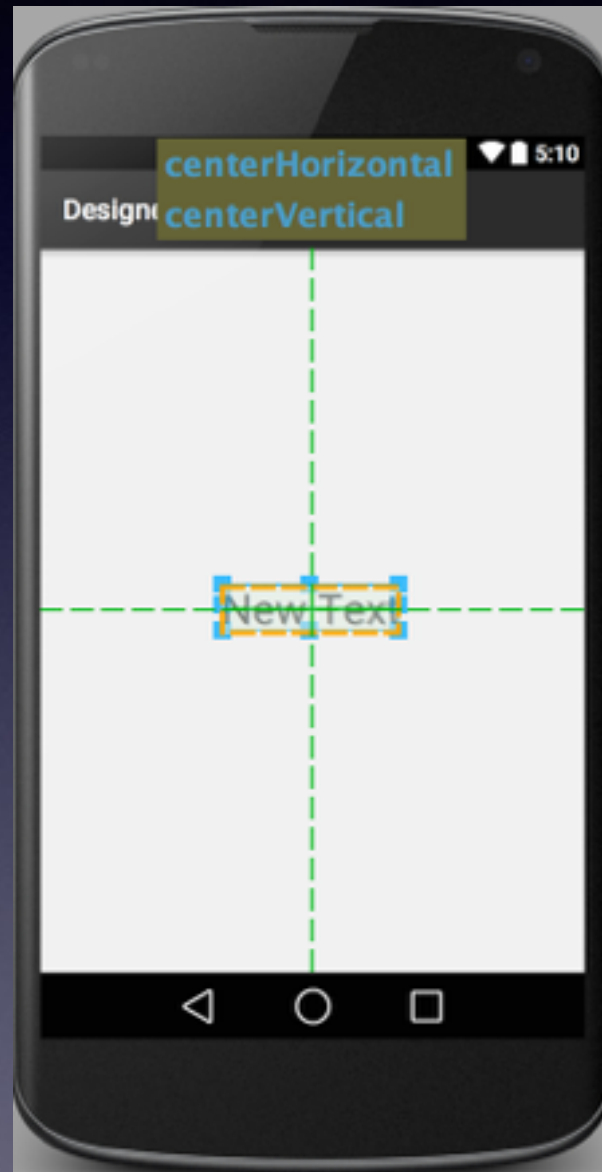
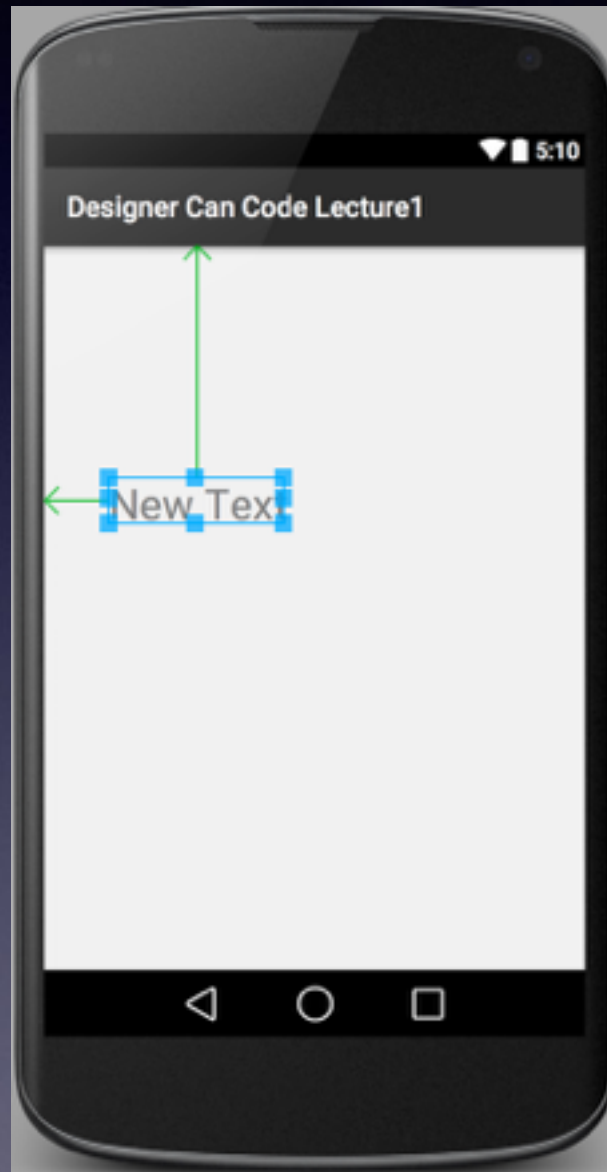


LinearLayout

- In LinearLayout, a property, weight, allocate the width or height.



RelativeLayout



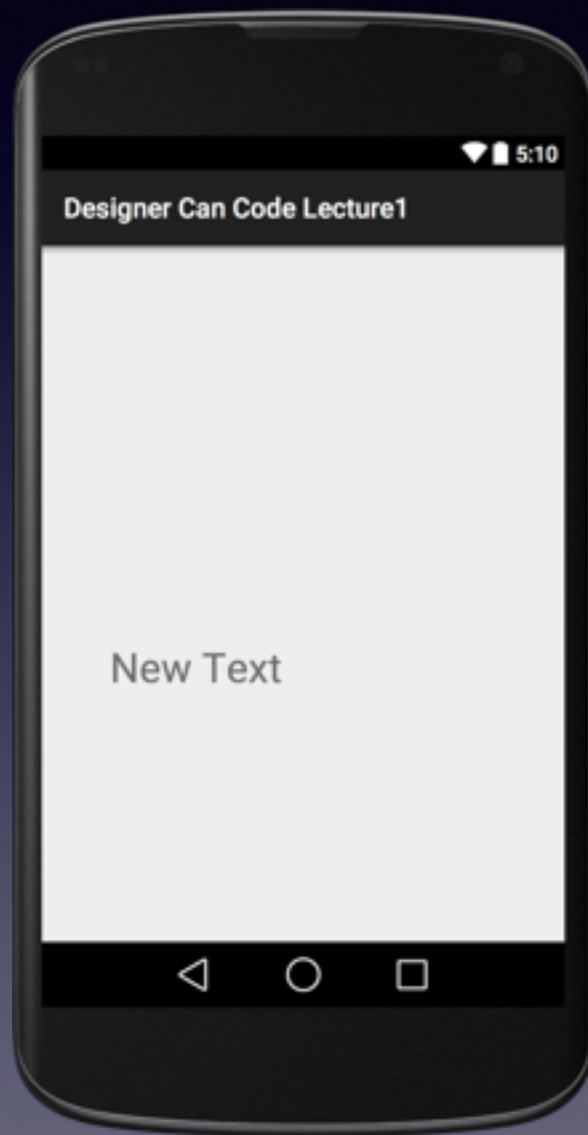
What is dp

Density-independent pixel (dp)

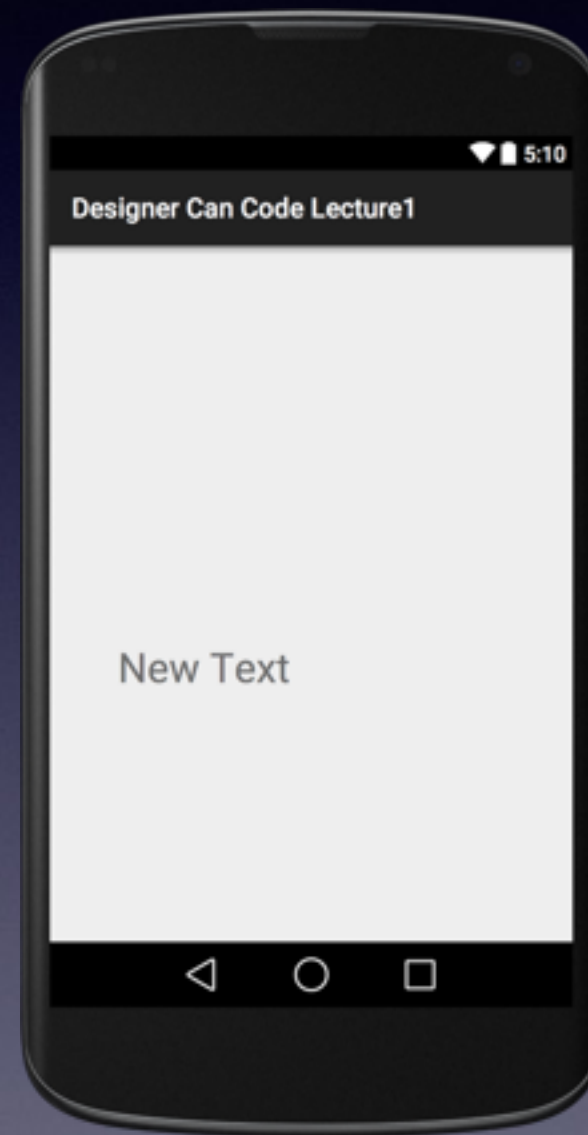
A virtual pixel unit that you should use when defining UI layout, to express layout dimensions or position in a density-independent way.

The density-independent pixel is equivalent to one physical pixel on a 160 dpi screen, which is the baseline density assumed by the system for a "medium" density screen. At runtime, the system transparently handles any scaling of the dp units, as necessary, based on the actual density of the screen in use. The conversion of dp units to screen pixels is simple: $px = dp * (dpi / 160)$. For example, on a 240 dpi screen, 1 dp equals 1.5 physical pixels. You should always use dp units when defining your application's UI, to ensure proper display of your UI on screens with different densities.

padding and margin

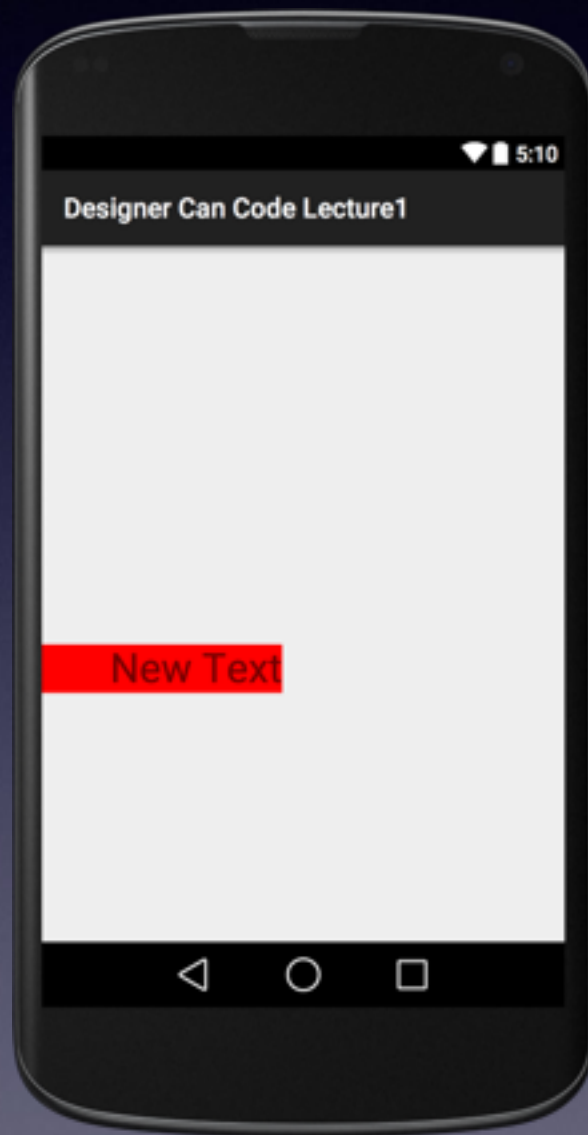


`paddingLeft = 50dp`

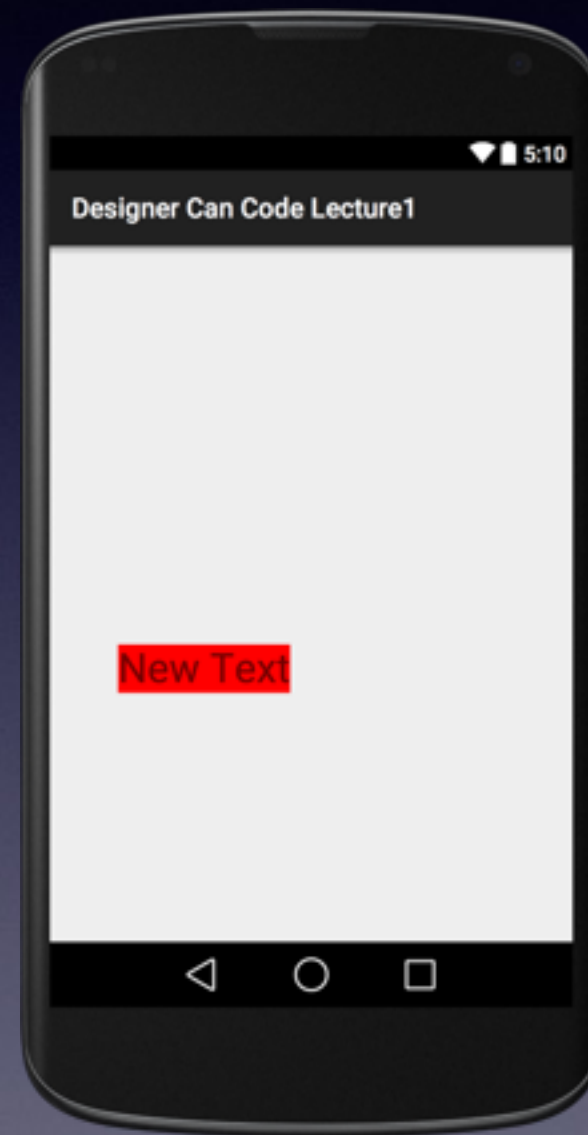


`marginLeft = 50dp`

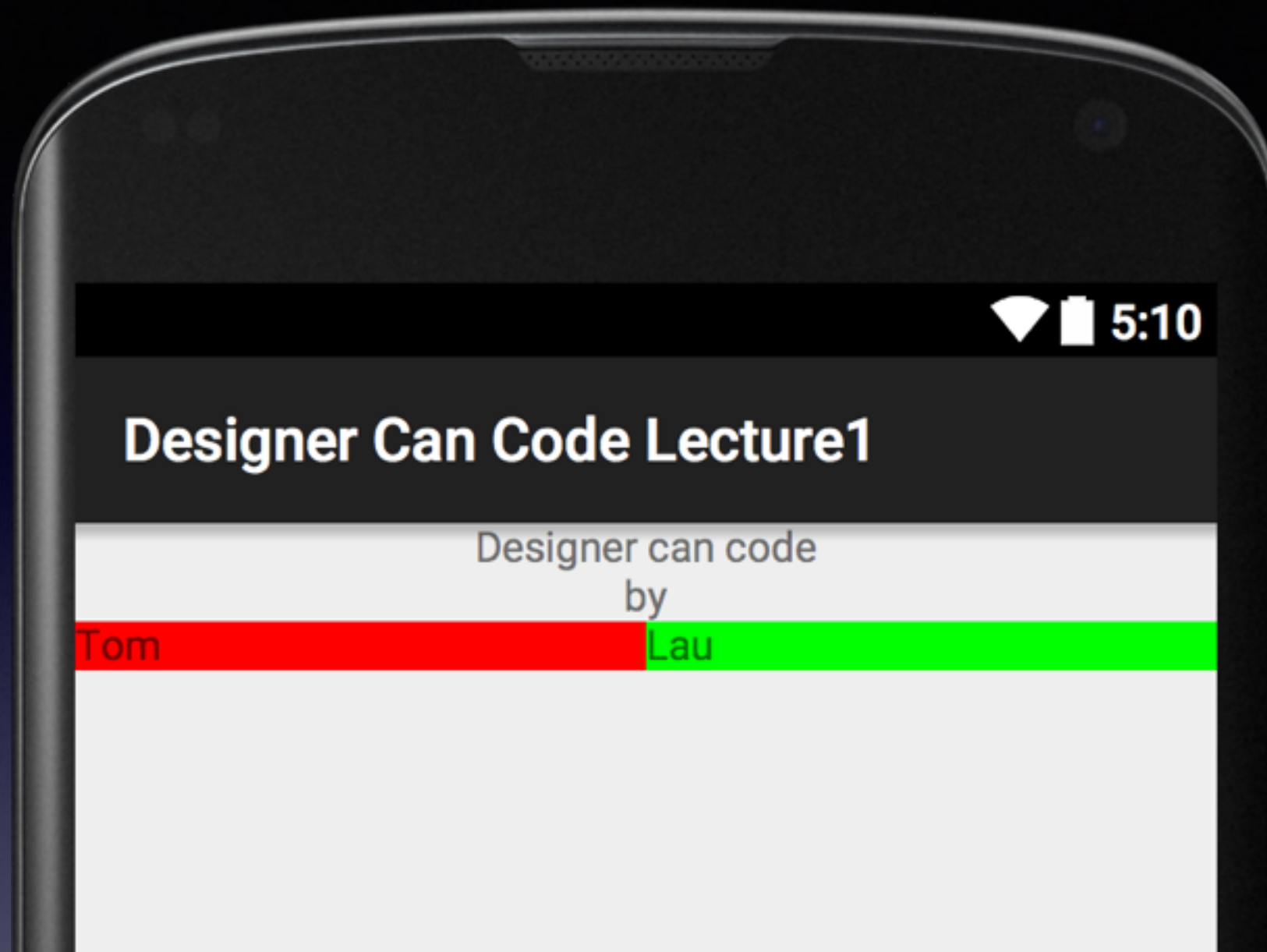
padding and margin



`paddingLeft = 50dp`
`background="#FF0000"`



`marginLeft = 50dp`
`background="#FF0000"`



Demo

Drag and Drop a simple layout

What is XML

- Extensible Markup Language (XML) is a markup language that defines a set of rules for encoding documents in a format which is both human-readable and machine-readable. It is defined by the W3C's XML 1.0 Specification and by several other related specifications, all of which are free open standards. (From Wikipedia)

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What is XML



What is XML

```
<TextView
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

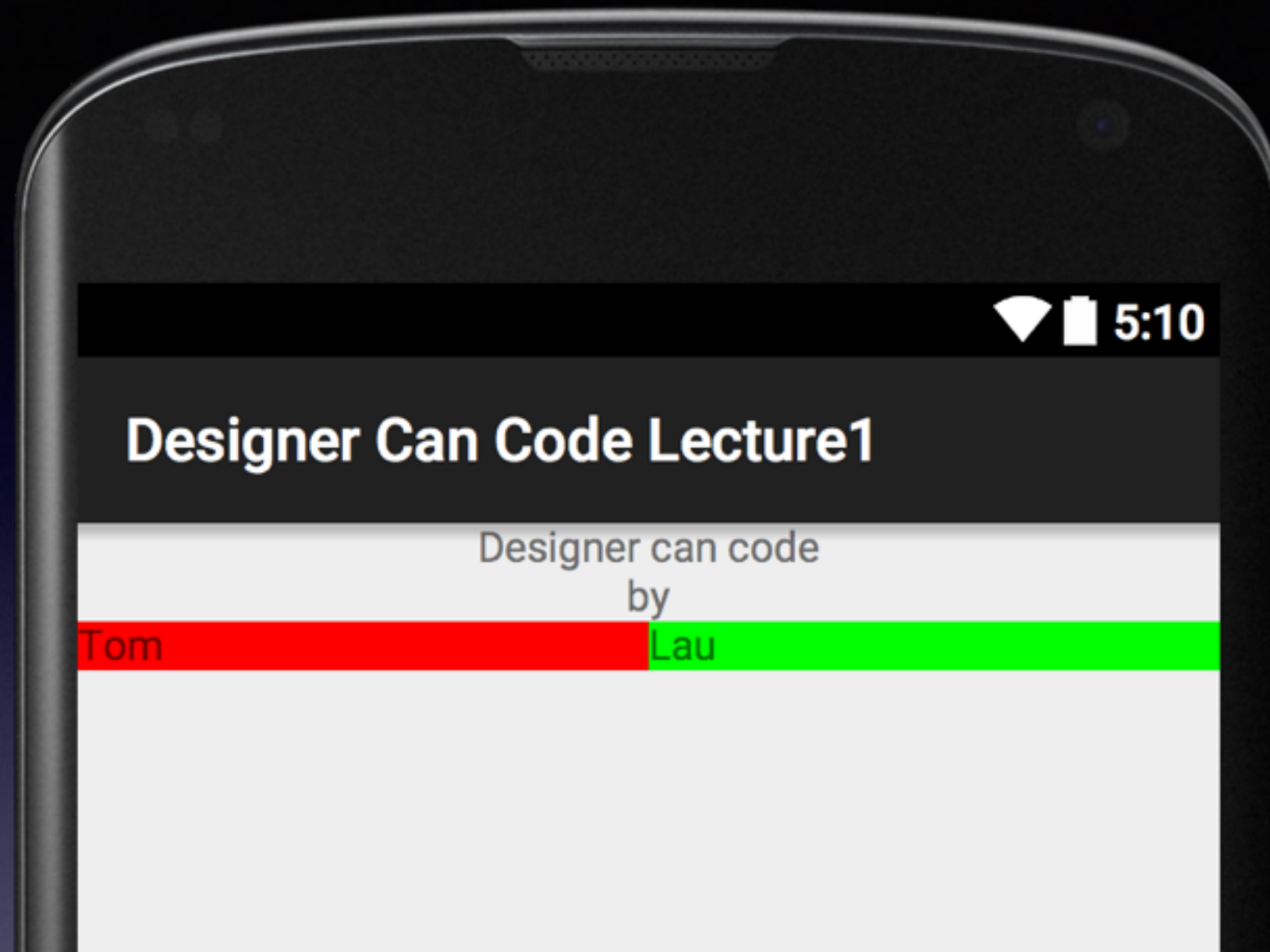
```
    android:text="Learning"/>
```

```
<TextView
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:text="Android"></TextView>
```

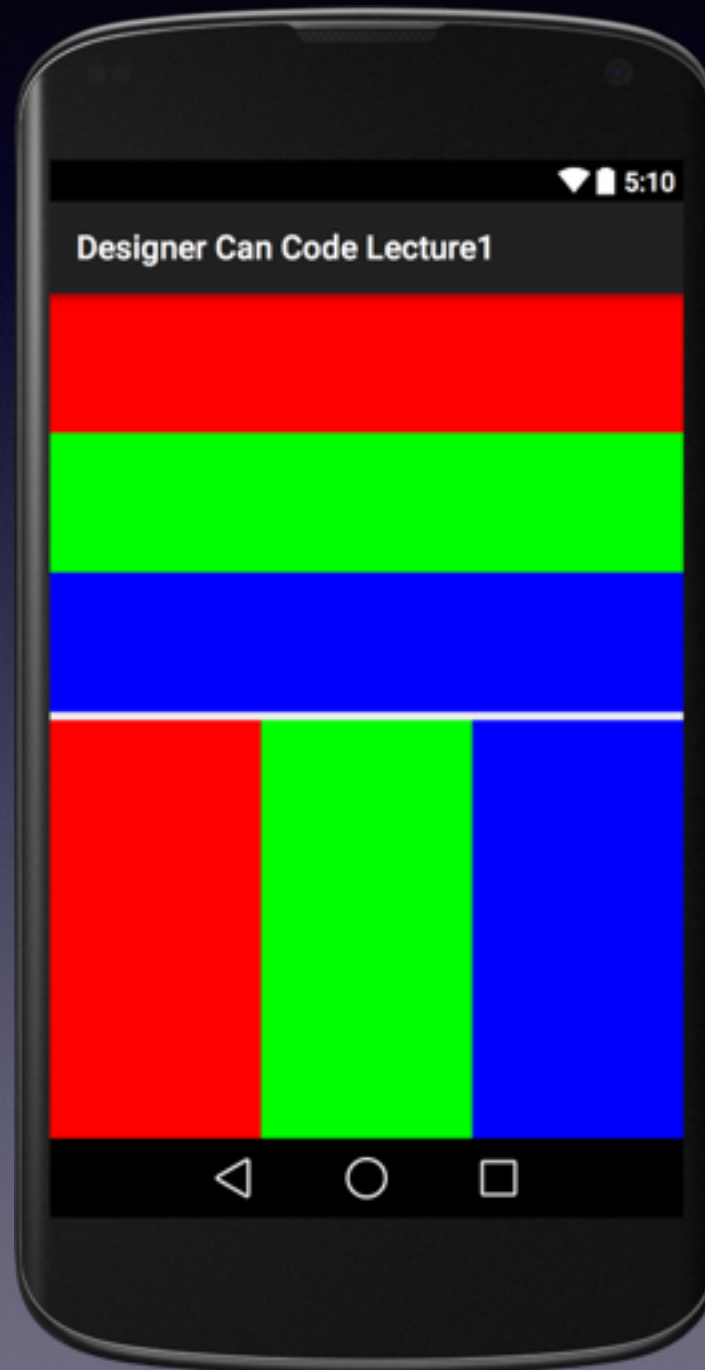


Demo

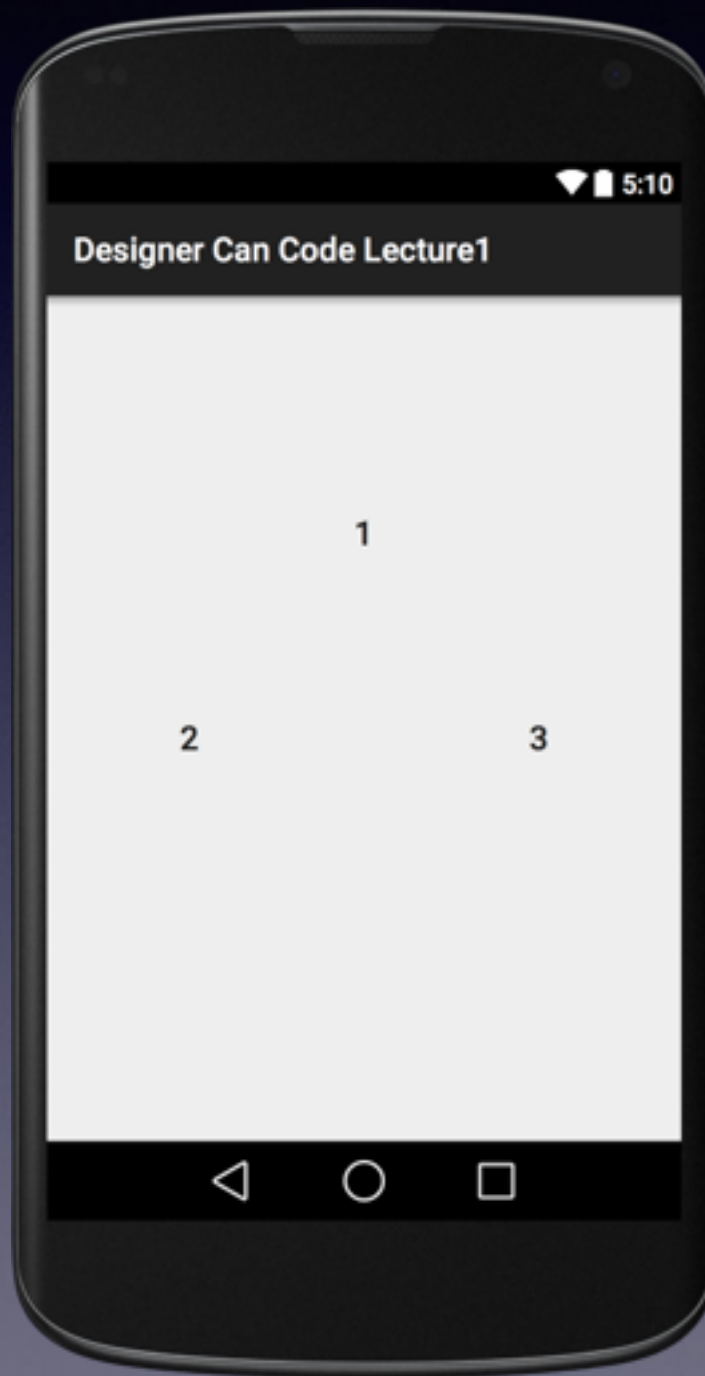
Write a simple layout by xml

Task 1

(LinearLayout only)



Task 2



Task 3

