Android Graphical User Interface

Layouts

- ➢ A layout defines the structure for a user interface in your app, such as in an activity.
- ➢ All elements in the layout are built using a hierarchy of View and ViewGroup objects.
- ➢ A View usually draws something the user can see and interact with.
- ➢ A ViewGroup is an invisible container that defines the layout structure for View and other ViewGroup objects.
- ➢ View objects are often called widgets and can be one of many subclasses, such as Button or TextView.
- ➢ The ViewGroup objects are usually called layouts and can be one of many types that provide a different layout structure, such as LinearLayout or ConstraintLayout.

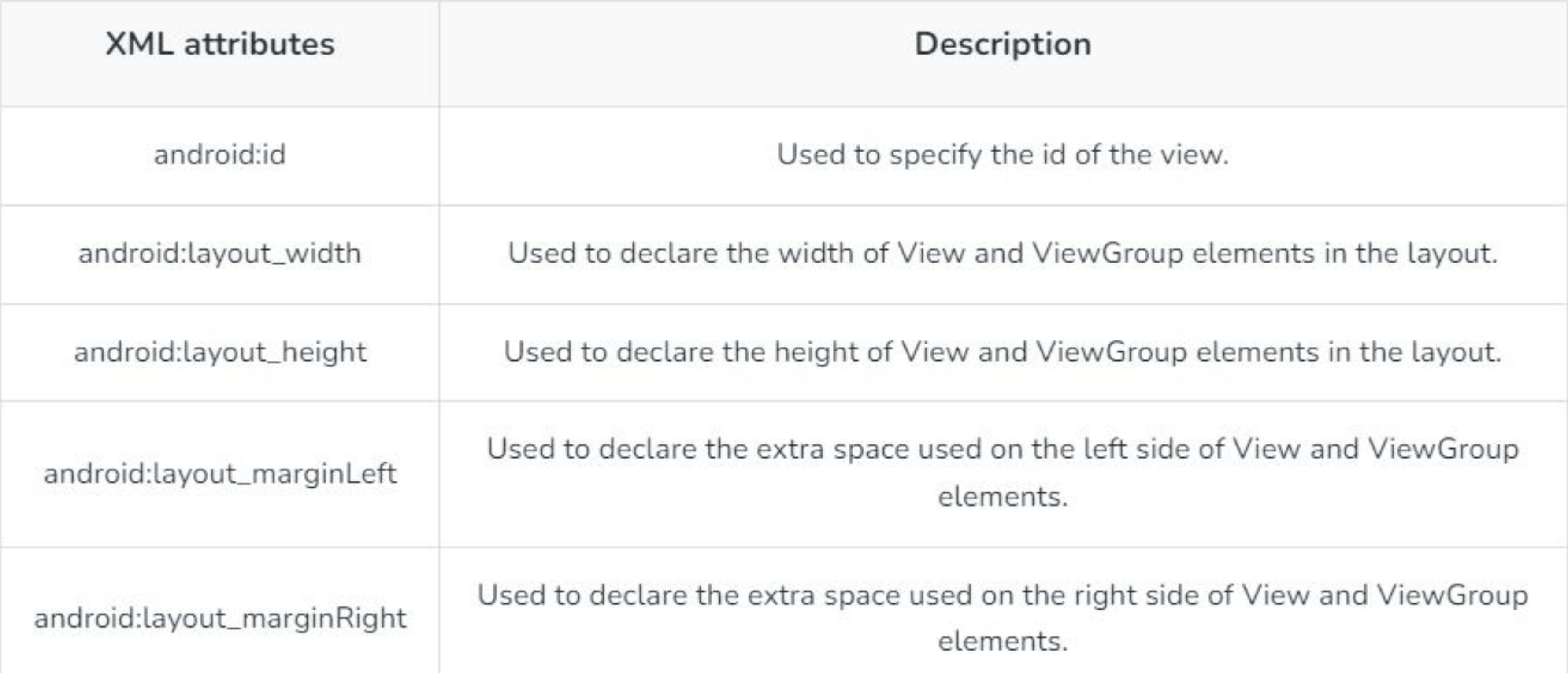
Layouts

- **Android Linear Layout:** LinearLayout is a ViewGroup subclass, used to provide child View elements one by one either in a particular direction either horizontally or vertically based on the orientation property.
- **Android Relative Layout:** RelativeLayout is a ViewGroup subclass, used to specify the position of child View elements relative to each other like (A to the right of B) or relative to the parent (fix to the top of the parent).
- **Android Constraint Layout:** ConstraintLayout is a ViewGroup subclass, used to specify the position of layout constraints for every child View relative to other views present. A ConstraintLayout is similar to a RelativeLayout, but having more power.

Layouts

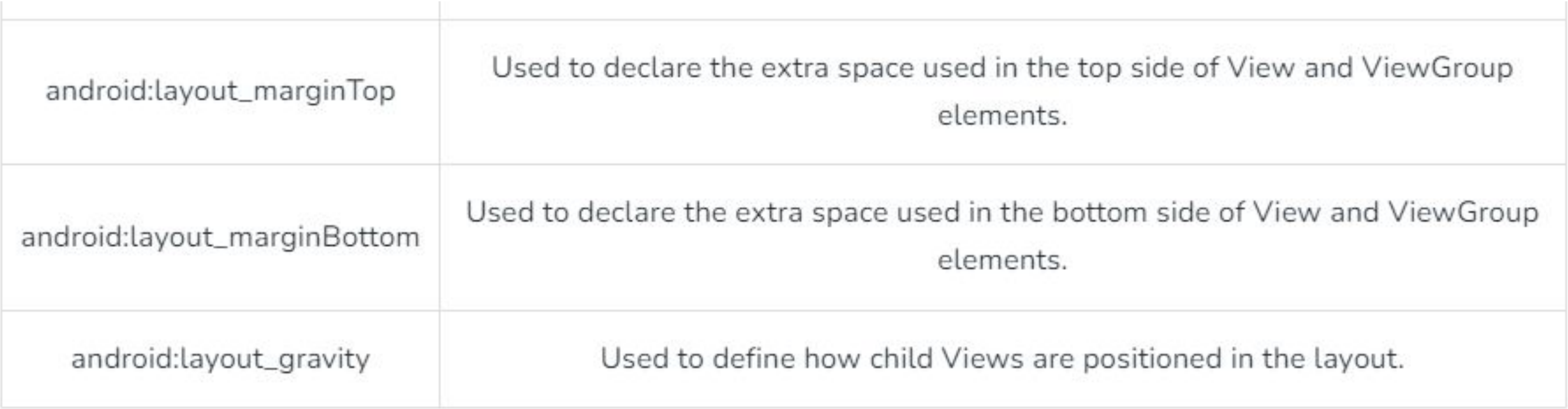
- **Android Frame Layout:** FrameLayout is a ViewGroup subclass, used to specify the position of View elements it contains on the top of each other to display only a single View inside the FrameLayout.
- **Android Table Layout:** TableLayout is a ViewGroup subclass, used to display the child View elements in rows and columns.
- **Android Web View:** WebView is a browser that is used to display the web pages in our activity layout.
- **Android ListView:** ListView is a ViewGroup, used to display scrollable lists of items in a single column.
- **Android Grid View:** GridView is a ViewGroup that is used to display a scrollable list of items in a grid view of rows and columns.

Different attributes of layouts

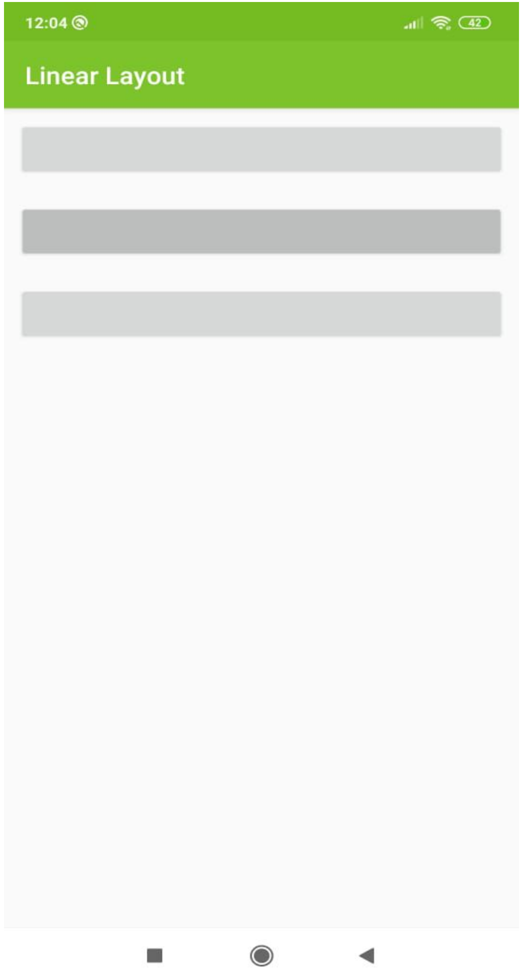


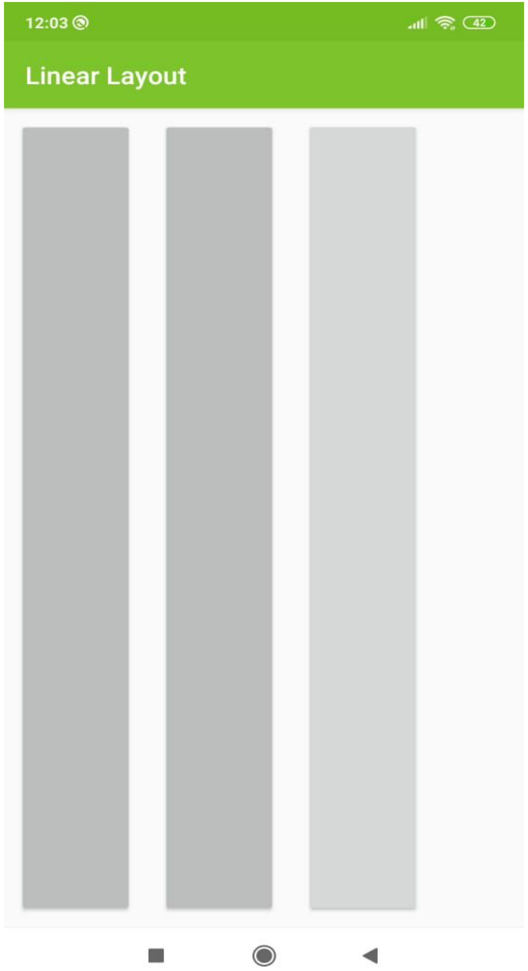
XML attributes	Description
android:id	Used to specify the id of the view.
android:layout_width	Used to declare the width of View and ViewGroup elements in the layout.
android:layout_height	Used to declare the height of View and ViewGroup elements in the layout.
android:layout_marginLeft	Used to declare the extra space used on the left side of View and ViewGroup elements.
android:layout_marginRight	Used to declare the extra space used on the right side of View and ViewGroup elements.

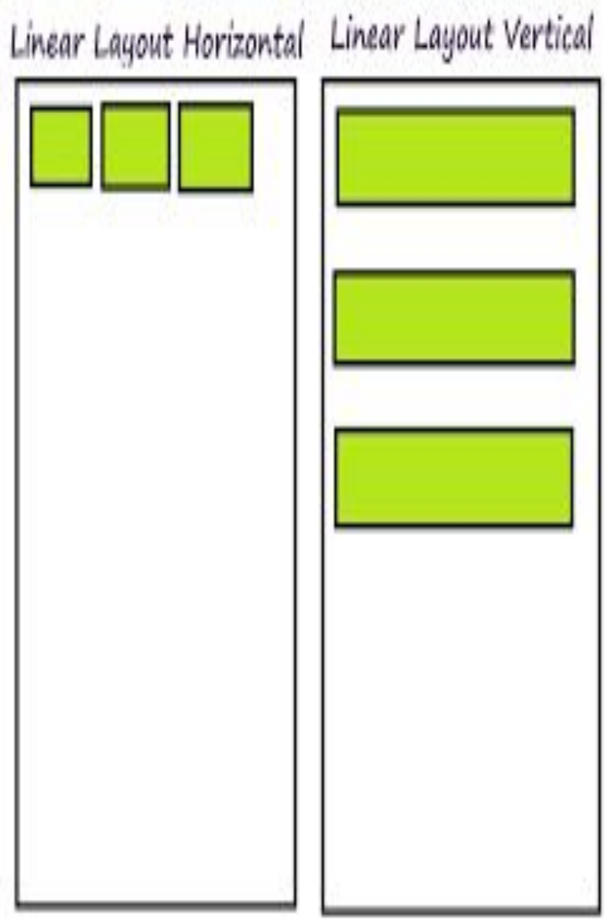
Different attributes of layouts

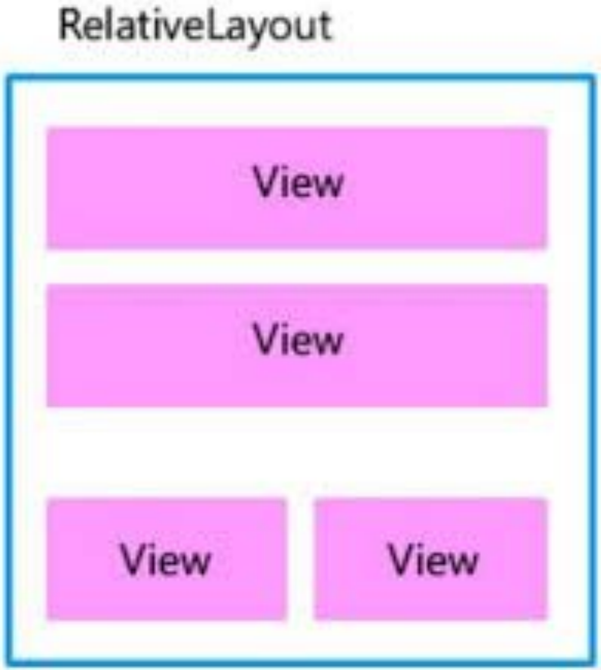


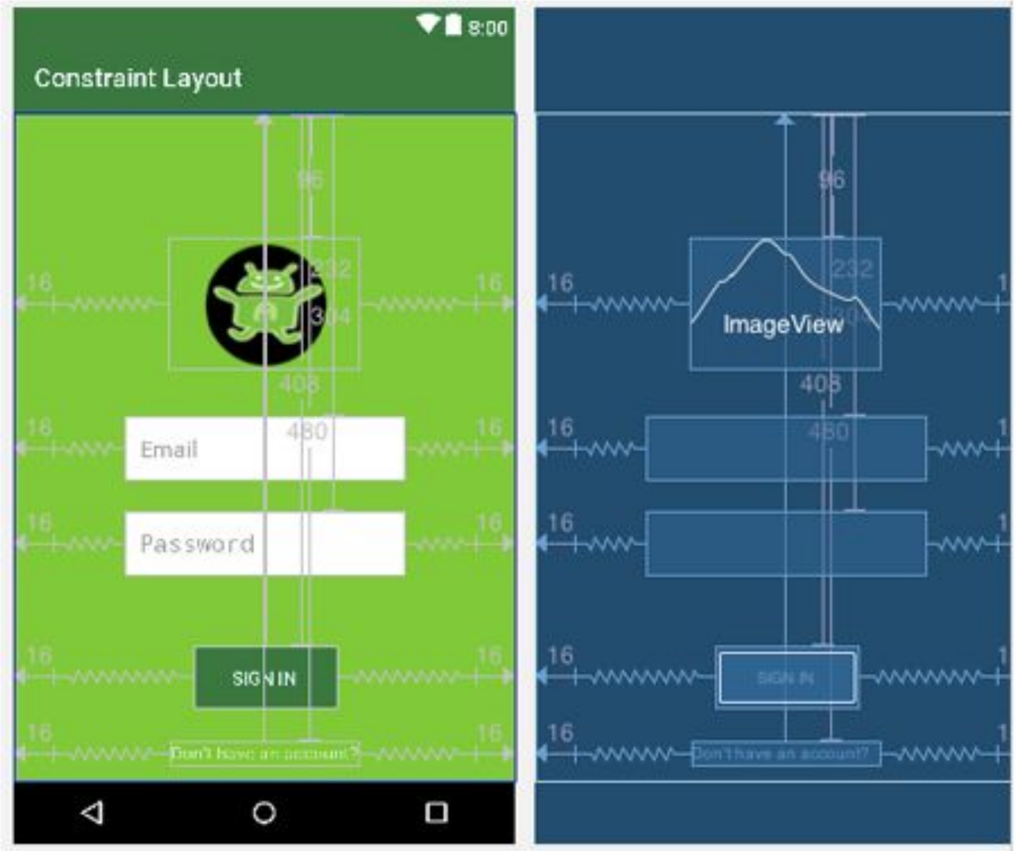
android:layout_marginTop	Used to declare the extra space used in the top side of View and ViewGroup elements.
android:layout_marginBottom	Used to declare the extra space used in the bottom side of View and ViewGroup elements.
android:layout_gravity	Used to define how child Views are positioned in the layout.

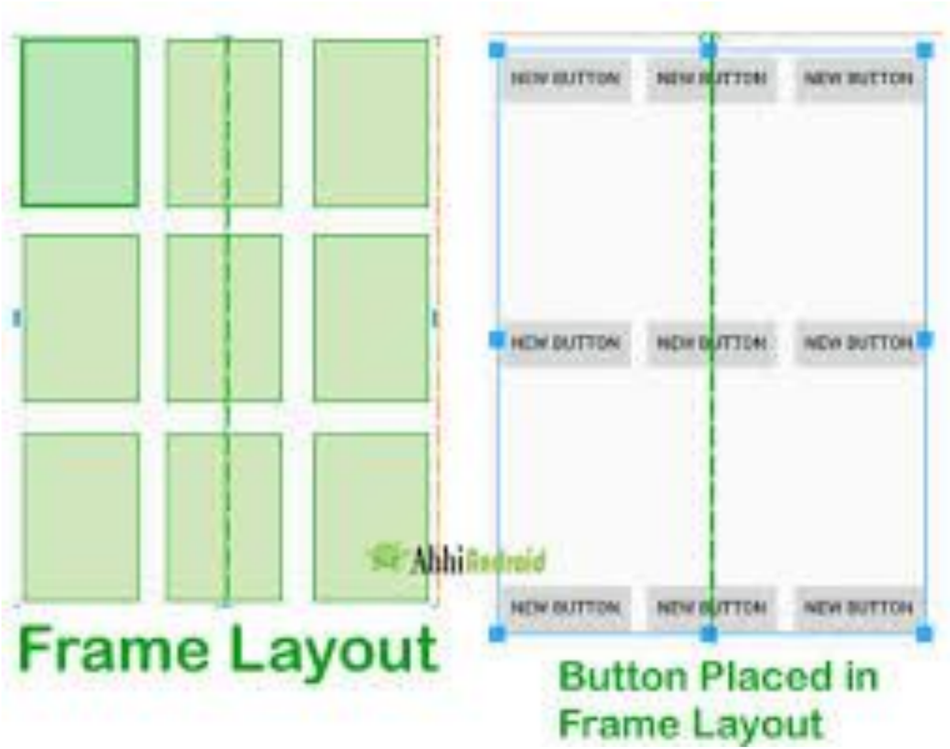

12:04
Linear Layout

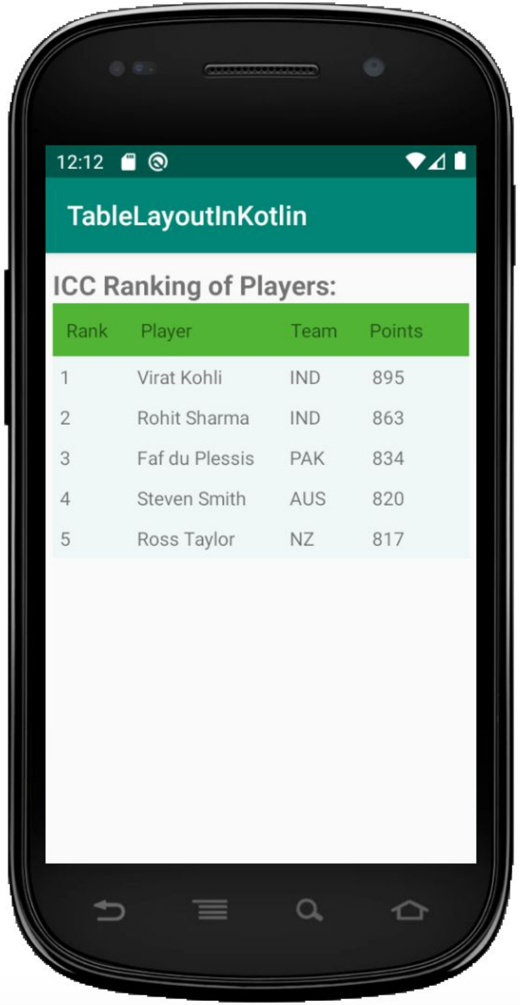

12:03
Linear Layout


Linear Layout Horizontal
Linear Layout Vertical


RelativeLayout
View
View
View
View


8:00
Constraint Layout
96
232
304
408
480
16
Email
Password
SIGN IN
Don't have an account?
ImageView

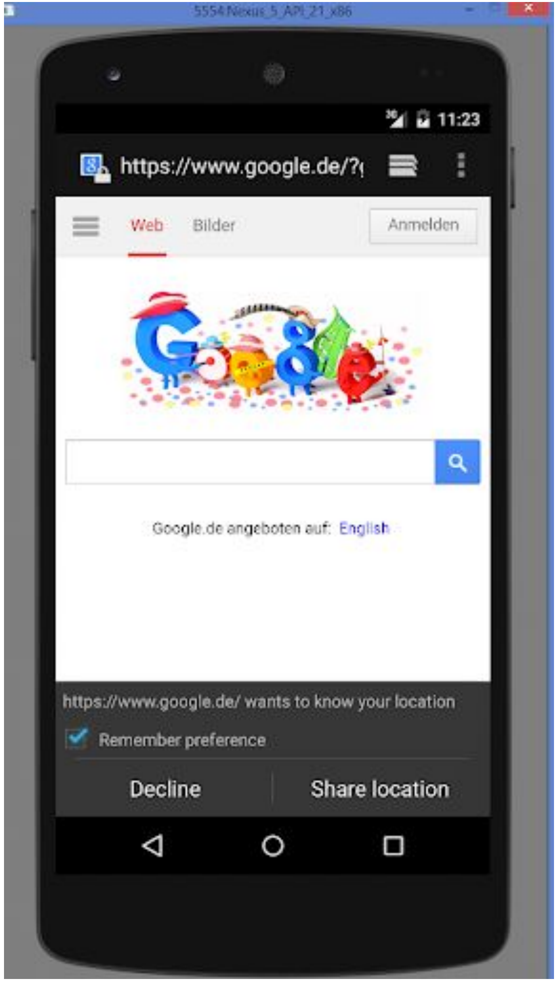



12:12

TableLayoutInKotlin

ICC Ranking of Players:

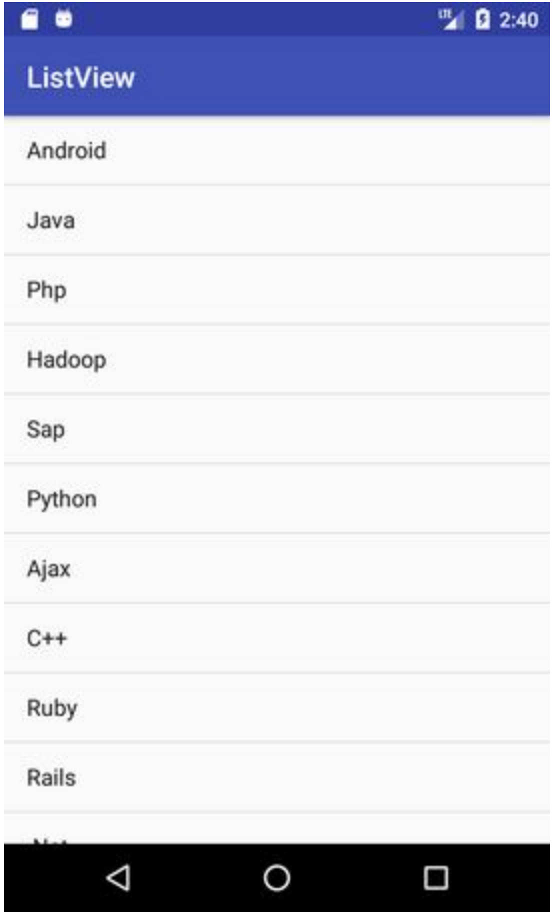
Rank	Player	Team	Points
1	Virat Kohli	IND	895
2	Rohit Sharma	IND	863
3	Faf du Plessis	PAK	834
4	Steven Smith	AUS	820
5	Ross Taylor	NZ	817



Google.de angeboten auf: English

https://www.google.de/ wants to know your location

☑ Remember preference



ListView

Android

Java

Php

Hadoop

Sap

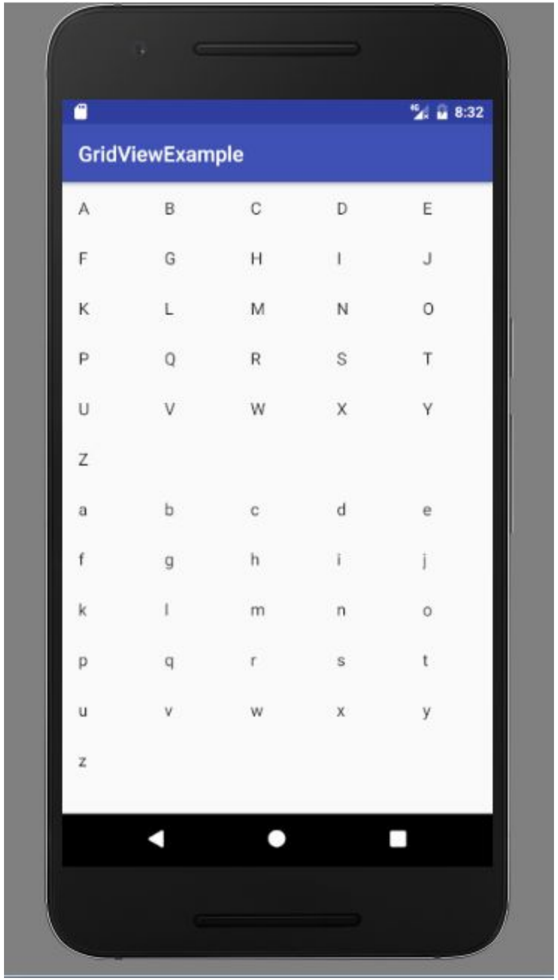
Python

Ajax

C++

Ruby

Rails

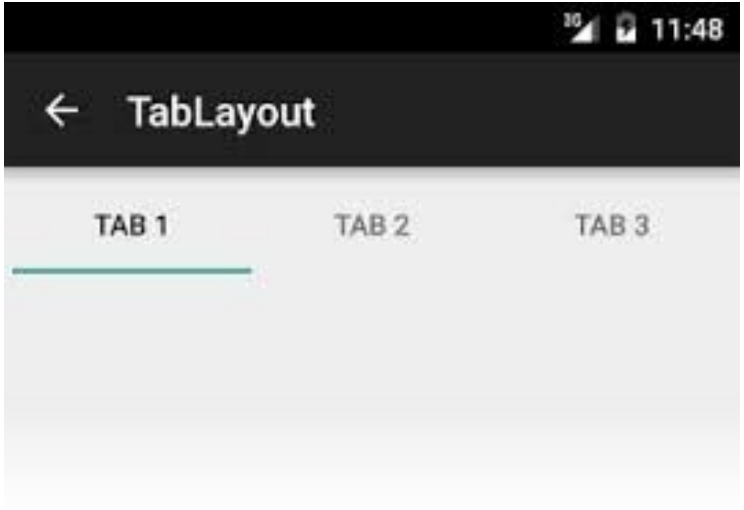


GridViewExample

A	B	C	D	E
F	G	H	I	J
K	L	M	N	O
P	Q	R	S	T
U	V	W	X	Y
Z				
a	b	c	d	e
f	g	h	i	j
k	l	m	n	o
p	q	r	s	t
u	v	w	x	y
z				

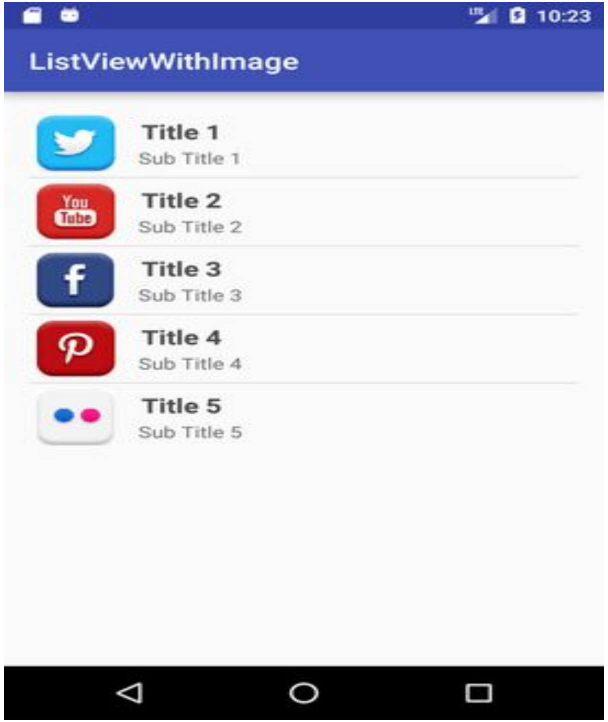
Layouts

- **Tab Layout:** TabLayout provides a horizontal layout to display tabs.



Layouts

- ➢ **Custom ListView:** provides facilities to customize our ListView.



10:23
ListViewWithImage
Title 1
Sub Title 1
Title 2
Sub Title 2
Title 3
Sub Title 3
Title 4
Sub Title 4
Title 5
Sub Title 5