TASK GUIDE (B2.03)

A. Objectives.

Student will make the UI for project of Color Game with some onClick attribute.

B. Requirements.

Hardware:

- 2 GB RAM minimum, 8 GB RAM recommended
- 2 GB of available disk space minimum, 4 GB Recommended (500 MB for IDE + 1.5 GB for Android SDK and emulator system image)
- 1280 x 800 minimum screen resolution
- Intel processor with support for Intel VT-x, Intel EM64T (Intel 64), and Execute Disable (XD) Bit functionality

Software:

- Microsoft Windows 7/8/10 (32-bit or 64-bit)
- JDK 8
- Android Studio IDE (Minimum 3.2)

C. Resources.

Documents:

- Guide

Supplement files:

- -

Test code:

- TestB2AdvancedWidgetsKT031.java

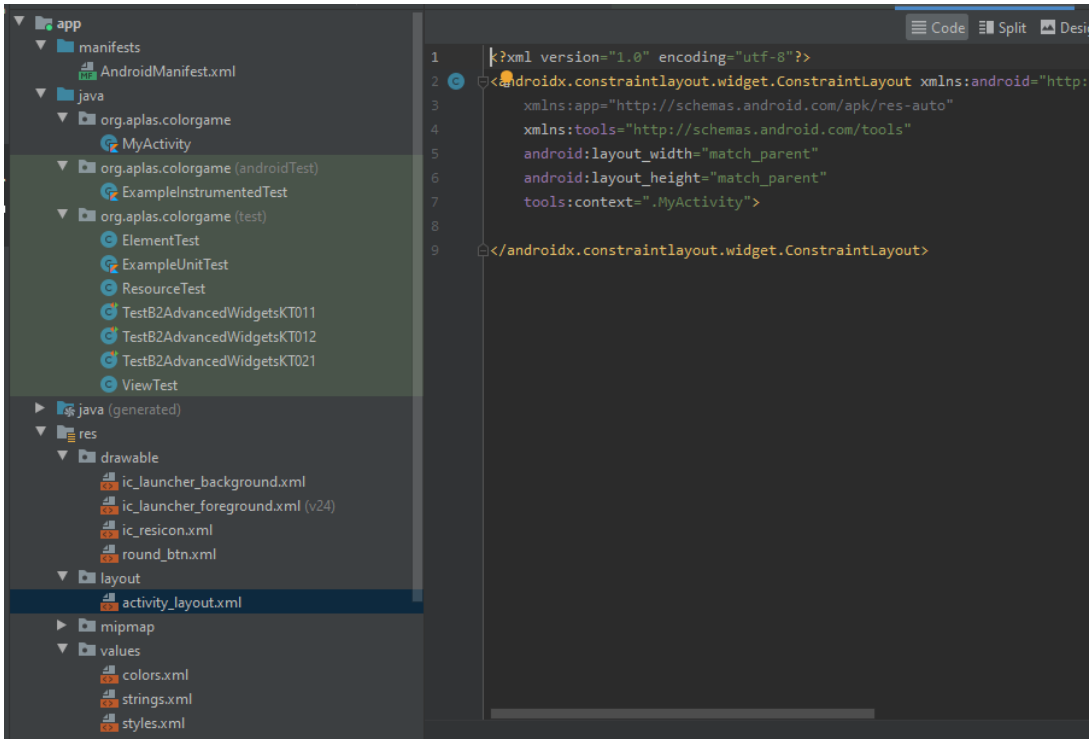
D. Task Description.

Student start to create UI for color Game.

E. Specification.

1. Open task B2.02 (ColorGame project) that already test passed.

2. Open activity_layout.xml file, to start UI design.



3. On the layout xml editor, delete default “ConstraintLayout” with all its tag and create an “LinearLayout” with id “**mainLayout**” as a main layout refer on the specification below.

field	Value
id	mainLayout
layout width	match parent
layout height	match parent
orientation	Vertical
tools:context	.MyActivity

4. In the LinearLayout (mainLayout) tag, add a TextView with id “**appTitle**” refer in specification below.

name	value
id	appTitle
layout width	match parent
layout height	40dp
text	@string/app_name
text style	bold
text size	12pt
gravity	center
background	#feffa7

5. Under TextView appTitle, add a LinearLayout with id "**accessBox**" refer in specification below.

name	value
id	accessBox
layout width	wrap_content
layout height	wrap_content
orientation	horizontal

6. Under LinearLayout accessBox, add a LinearLayout with id "**colorBox**" refer in specification below.

name	value
id	colorBox
layout width	match_parent
layout height	wrap_content
orientation	vertical
visibility	invisible

7. Under LinearLayout colorBox, add a RelativeLayout with id "**buttonBox1**" refer in specification below.

name	value
id	buttonBox1
layout width	match_parent
layout height	wrap_content
visibility	invisible

8. Under RelativeLayout buttonBox1, add a Space with id "**spaceBox**" refer in specification below.

name	value
id	spaceBox
layout width	match_parent
layout height	10dp

9. Under Space spaceBox, add a RelativeLayout with id "**buttonBox2**" refer in specification below.

name	value
id	buttonBox2
layout width	match_parent
layout height	wrap_content
visibility	invisible

10. Under RelativeLayout buttonBox2, add a LinearLayout with id "**scoreBox**" refer in specification below.

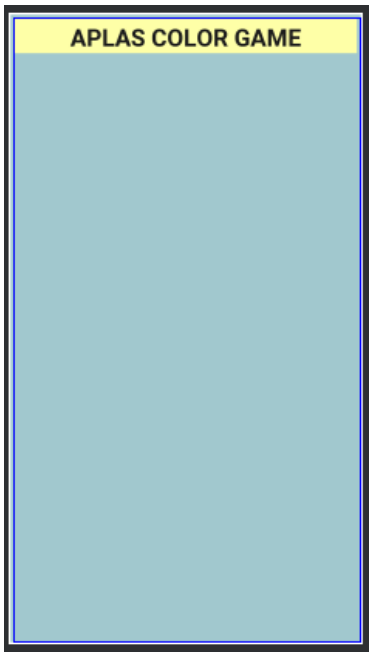
name	value

id	scoreBox
layout width	wrap_content
layout height	wrap_content
orientation	vertical
layout_gravity	center
visibility	Invisible

11. Under LinearLayout scoreBox, add a LinearLayout with id "**progressBox**" refer in specification below.

name	value
id	progressBox
layout width	match_parent
layout height	wrap_content
orientation	vertical
layout_gravity	center
visibility	invisible

12. Temporary, the UI looks like below



13. Open "MyActivity.kt", under method onCreate, write 3 new methods like below

```
fun openGame(v: View?){
}
fun startGame(v: View?) {
}
fun submitColor(v: View) {
}
```

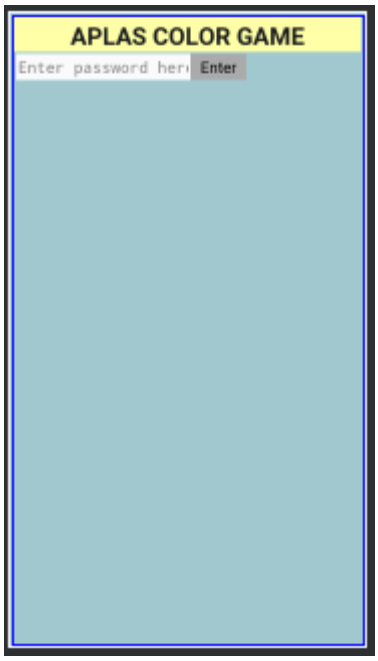
14. Go back “activity_layout.xml” LinearLayout “accessBox”. In the LinearLayout insert an EditText with id “**appCode**” refer in specification below.

name	value
id	appCode
layout width	200dp
layout height	30dp
inputType	textPassword
hint	Enter password here!
Background	#fafafa

15. Under EditText appCode, add a Button with id “**submitBtn**” refer in specification below.

name	value
id	submitBtn
layout width	wrap_content
layout height	30dp
text	Enter
onClick	openGame
background	@android:color/darker_gray

Temporary, the UI looks like below



16. Go to LinearLayout “colorBox”. In the LinearLayout insert a TextView with id “**clrText**” refer in specification below.

name	value
id	clrText
layout width	150dp
layout height	55dp
textSize	16pt

textStyle	bold
text	
background	@color/textBackground
gravity	center
layout_gravity	center

17. Under TextView clrText, add a Space with id "**spaceText1**" refer in specification below.

name	value
id	spaceText1
layout width	match_parent
layout height	10dp

18. Under Space spaceText1, add a TextView with id "**appText1**" refer in specification below.

name	value
id	appText1
layout width	wrap_content
layout height	30dp
textSize	8pt
textStyle	bold
text	Select one of these colors according to text
gravity	center

19. Go to RelativeLayout "buttonBox1". In the RelativeLayout insert a Button with id "**color1**" refer in specification below.

name	value
id	color1
style	@style/ColoredButton
text	A
background	@color/clrRed
onClick	submitColor

20. Under Button color1, add a Button with id "**color2**" refer in specification below.

Name	Value
id	color2
style	@style/ColoredButton
text	B
background	@color/clrYellow
onClick	submitColor
layout_centerInParent	true

21. Under Button color2, add a Button with id "**color3**" refer in specification below.

Name	Value
id	color3
style	@style/ColoredButton

text	C
background	@color/clrBlue
onClick	submitColor
layout_alignParentEnd	true

22. Go to RelativeLayout "buttonBox2". In the RelativeLayout insert a Button with id "**color4**" refer in specification below.

name	value
id	color4
style	@style/ColoredButton
text	D
background	@color/clrGreen
onClick	submitColor

23. Under Button color4, add a Button with id "**color5**" refer in specification below.

Name	Value
Id	color5
Style	@style/ColoredButton
Text	E
Background	@color/clrOrange
onClick	submitColor
layout_centerInParent	True

24. Under Button color5, add a Button with id "**color6**" refer in specification below.

Name	Value
Id	color6
style	@style/ColoredButton
text	F
background	@color/clrPurple
onClick	submitColor
layout_alignParentEnd	true

25. Go to LinearLayout "scoreBox". In the LinearLayout insert a TextView with id "**timerText**" refer in specification below.

name	value
id	timerText
layout width	wrap_content
layout height	40dp
textStyle	bold
text	timer
fontFamily	serif-monospace
textSize	14pt
layout_marginTop	4dp
gravity	Center

26. Under TextView timerText, add a TextView with id "**appText2**" refer in specification below.

name	value
id	appText2
layout width	wrap_content
layout height	30dp
textStyle	bold
text	SCORE
textSize	6pt
gravity	Center

27. Under TextView appText2, add a TextView with id "**scoreText**" refer in specification below.

name	value
id	scoreText
layout width	120dp
layout height	55dp
textStyle	bold
text	0
textSize	16pt
layout_gravity	center
background	@color/textBackground
textAlignment	center

28. Go to LinearLayout "progressBox". In the LinearLayout insert a Space with id "spaceBox2" refer in specification below.

name	value
id	spaceBox2
layout width	match_parent
layout height	10dp

29. Under Space spaceBox2, add a ProgressBar with id "**progressScore**" refer in specification below.

name	value
id	progressScore
layout width	match_parent
layout height	wrap_content
style	@style/ProgressBar
progress	@integer/minScore
max	@integer/maxScore

30. Under ProgressBar progressScore, add a Switch with id "**isMinus**" refer in specification below.

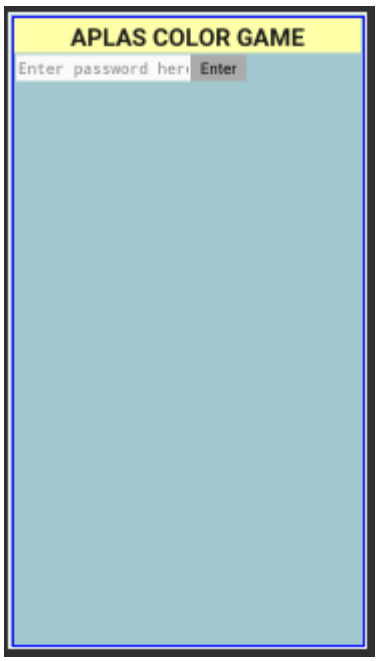
name	value
id	isMinus
layout width	wrap_content

layout height	wrap_content
text	With minus score counter
paddingBottom	20dp

31. Under Switch isMinus add a Button with id "**startBtn**" refer in specification below.

name	value
id	startBtn
layout width	150dp
layout height	80dp
textStyle	bold
text	Start Game
textSize	8pt
layout_gravity	center
background	@drawable/round_btn
drawableBottom	@drawable/ic_resicon
onClick	startGame

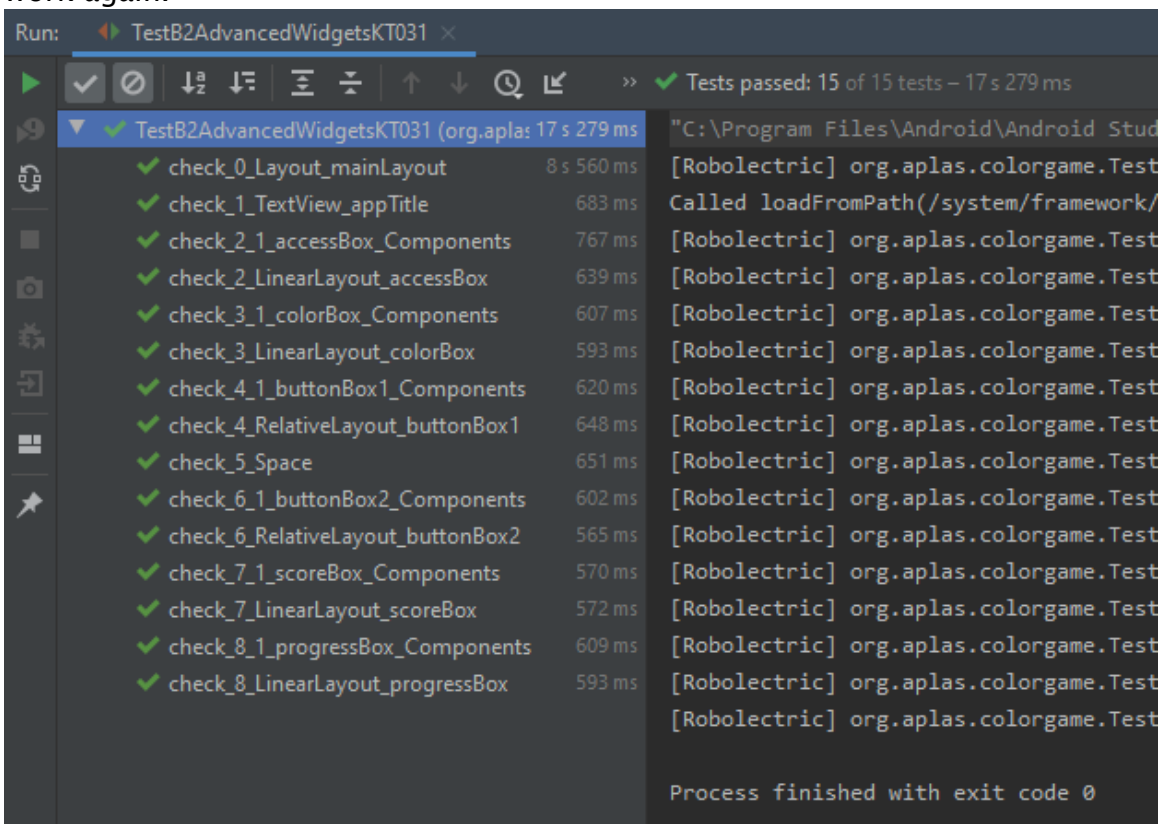
Finally, the UI looks like below



F. Testing.

1. Copy "TestB2AdvancedWidgetsKT031.java" file to "org.aplas.colorgame (test)" folder.
2. Right click on the "TestB2AdvancedWidgetsKT031.java" file then choose Run 'TestB2AdvancedWidgetsKT031' and click it. It may take long time to execute.

3. Get the result of your task. If passed you will get green check like below. If the test failed, you will get orange check get the messages and you must check your work again.



You have to try until get all green checkes and continue to the next task.