



03



## 03-b. *ConstraintLayout*



*Layout Programming*

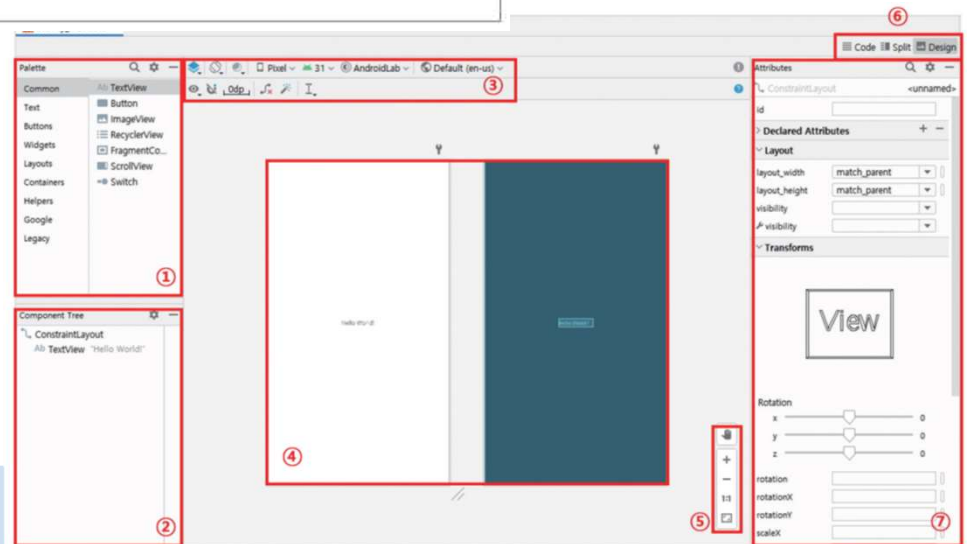
# ConstraintLayout

## ConstraintLayout 이란

- 2016년 Google IO 행사에서 발표
- RelativeLayout과 마찬가지로 상대 위치에 따라 뷰의 배치
- Horizontal Axis : Left, Right, Start and End sides
- Vertical Axis : top, bottom sides and text baseline

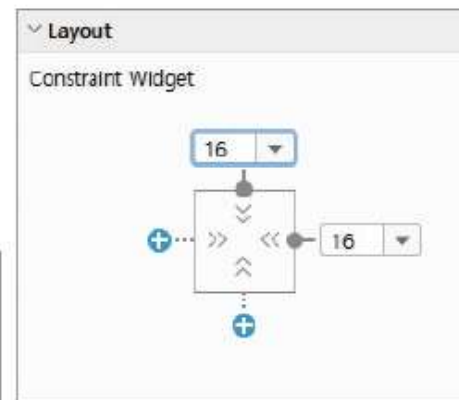
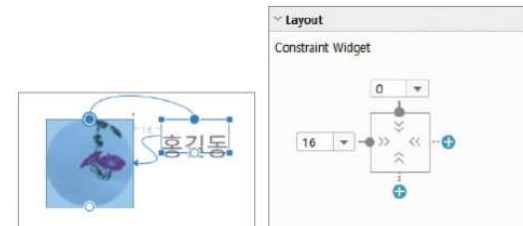
• constraintlayout 사용을 위한 빌드 설정

```
implementation(libs.androidx.constraintlayout)
```



# ConstraintLayout

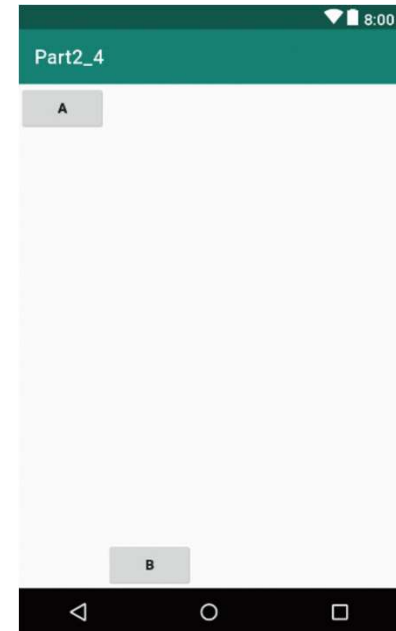
## ConstraintLayout 이란



# ConstraintLayout

## ConstraintLayout 속성

- layout\_constraintLeft\_toLeftOf
- layout\_constraintLeft\_toRightOf
- layout\_constraintRight\_toLeftOf
- layout\_constraintRight\_toRightOf
- layout\_constraintTop\_toTopOf
- layout\_constraintTop\_toBottomOf
- layout\_constraintBottom\_toTopOf
- layout\_constraintBottom\_toBottomOf
- layout\_constraintBaseline\_toBaselineOf
- layout\_constraintStart\_toEndOf
- layout\_constraintStart\_toStartOf
- layout\_constraintEnd\_toStartOf
- layout\_constraintEnd\_toEndOf



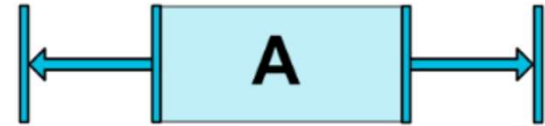
```
<Button
    android:id="@+id/btn1"
    ...../>

<Button
    .....
    app:layout_constraintLeft_toRightOf="@+id/btn1"
    app:layout_constraintBottom_toBottomOf="parent"/>
```

# ConstraintLayout

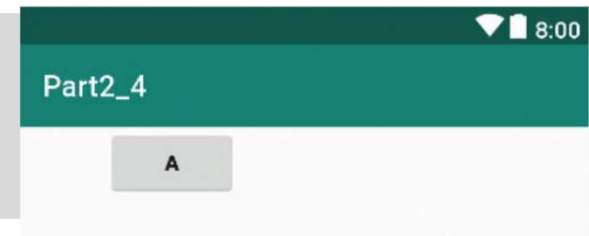
## 가운데 맞춤과 치우침(bias)

```
<Button
    ...
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"/>
```



- layout\_constraintHorizontal\_bias : 가로 치우침 조절
- layout\_constraintVertical\_bias : 세로 치우침 조절

```
<Button
    ...
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintHorizontal_bias="0.2"/>
```



- 값을 0.2로 지정하면 20%의 의미로 왼쪽에서 20% 위치(뷰 중심)



# 감사합니다

단단히 마음먹고 떠난 사람은  
산꼭대기에 도착할 수 있다.  
산은 올라가는 사람에게만 정복된다.



윌리엄 셰익스피어  
William Shakespeare