

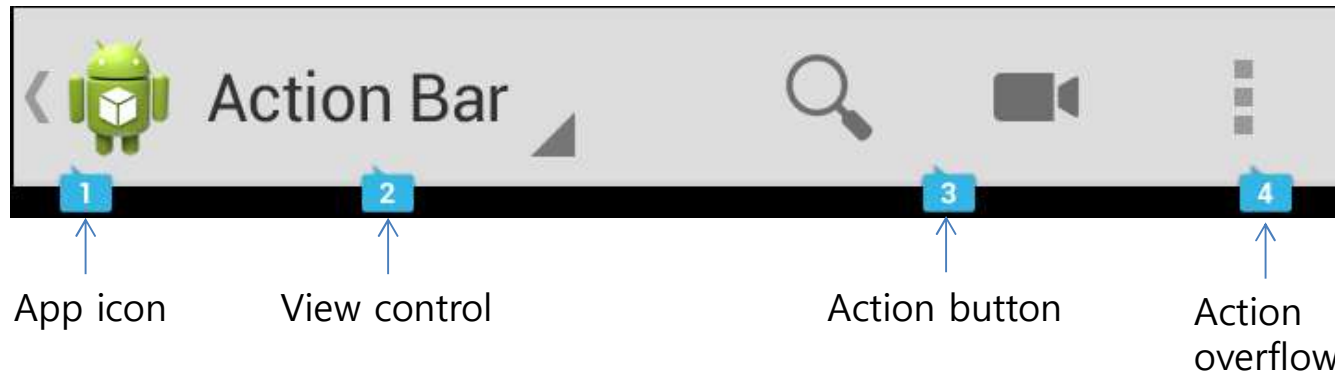
Menus and Action bar

Mobile Software
2019 Fall

What to do next?

- **Action bar**
- Options menu
- Context menu

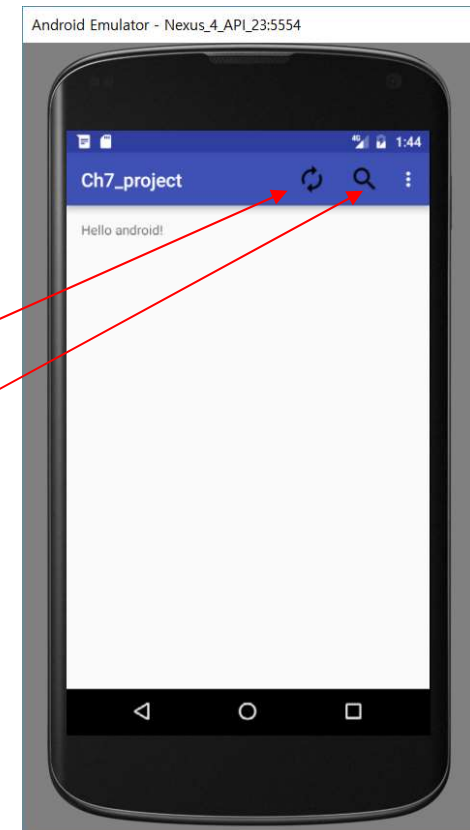
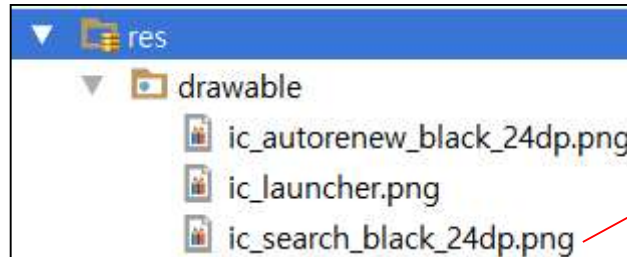
Action Bar



- Android 3.0 (**Honeycomb**, API 11)부터 제공
 - 3.0 이하 버전은 support library를 이용
- 애플리케이션의 icon 또는 logo 표시
 - 통일된 인터페이스를 사용자에게 제공
 - 현재 화면이 최상위 화면인지 여부를 up caret(<,>)으로 표시
- navigation 및 view 전환 기능 제공
 - Tab control이나 dropdown list를 이용한 액션 item 선택

Action Bar Icon Pack

- Action item 생성을 위한 icon zip 파일 다운로드
 - **action bar icon pack** 으로 검색하거나
 - <http://www.androiddocs.com/design/downloads/index.html>
 - 또는 <https://design.google.com/icons/>

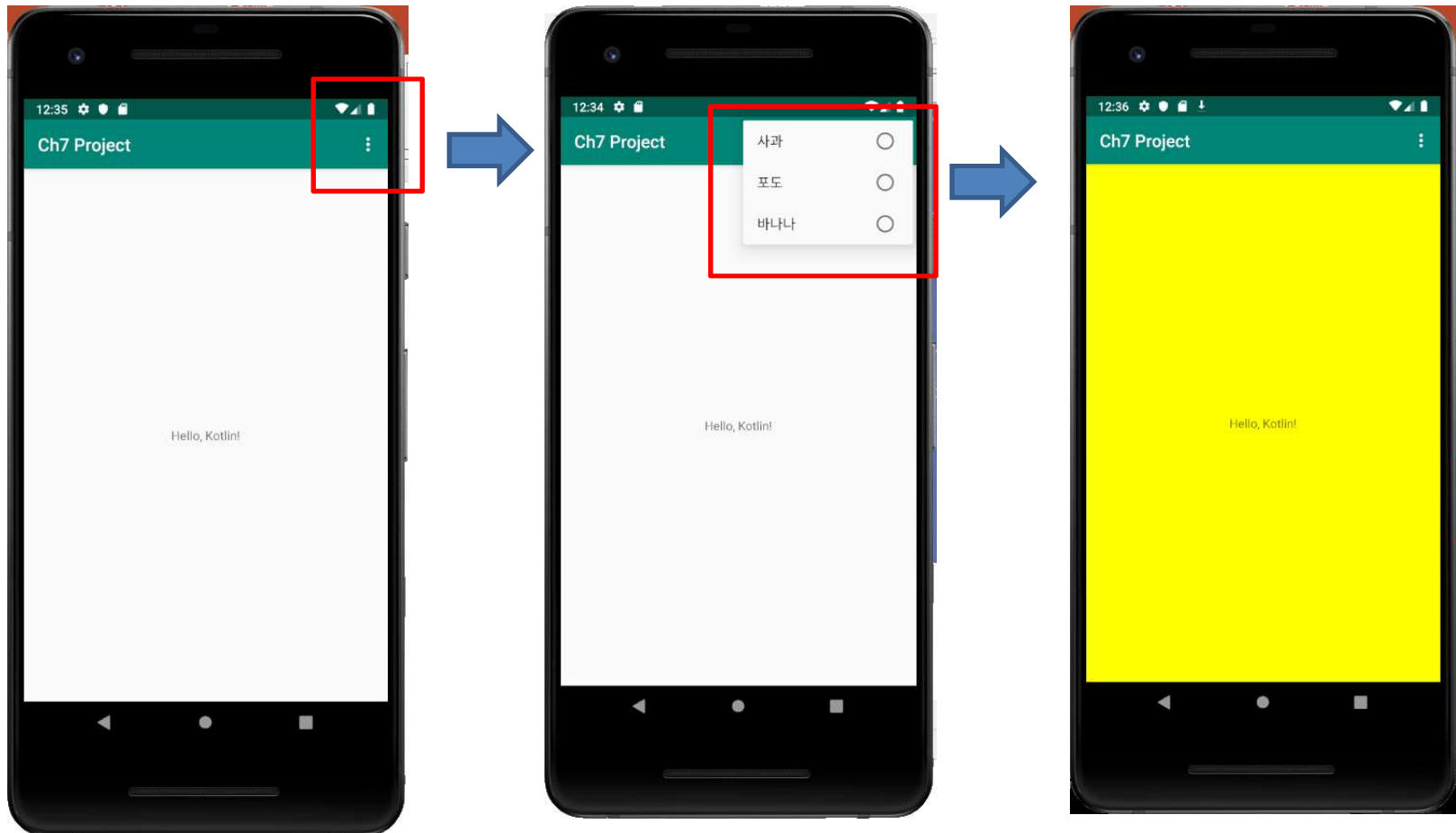


What to do next?

- Action bar
- **Options Menu**
- Context menu

Options Menu

- Overflow menu라고도 함
- 현재 activity와 관련된 메뉴 설정



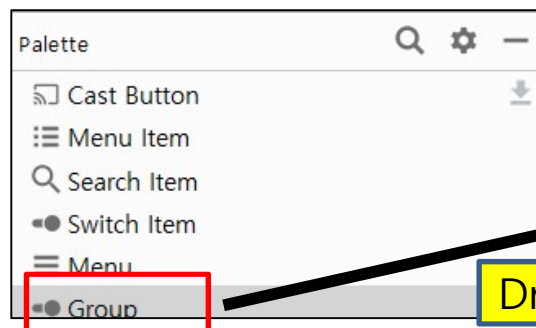
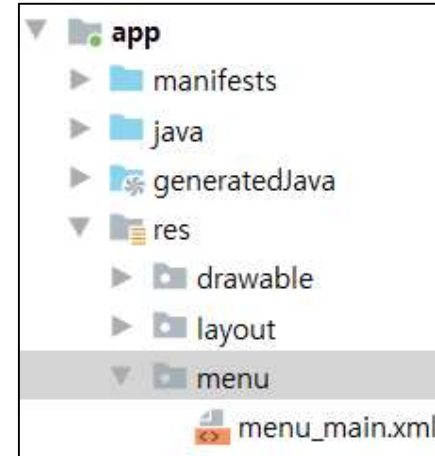
options menu 생성 및 이벤트 처리

- Activity별로 한 개의 option menu만 만들 수 있음.
- 메뉴 item 생성
onCreateOptionsMenu (menu: **Menu**)
- 메뉴 item 선택 → callback 메소드 호출
onOptionsItemSelected (item: **MenuItem**)
 - 어느 메뉴 item이 선택되었는가? → **itemId**
 - return 값 **true** → 제대로 처리
 - return 값 **false** → super class에게로 처리를 넘김

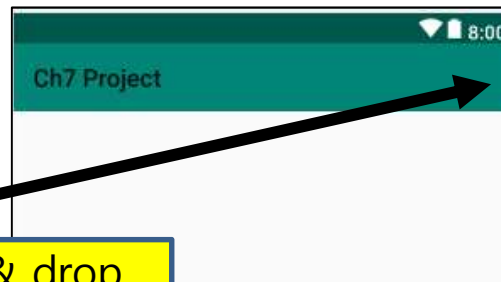
실습 1: Menu 생성 (1/2)

app > **res** > 마우스 오른쪽 버튼
Android Resource Directory
> **Resource type** : **menu**
> **Directory name** : **menu**

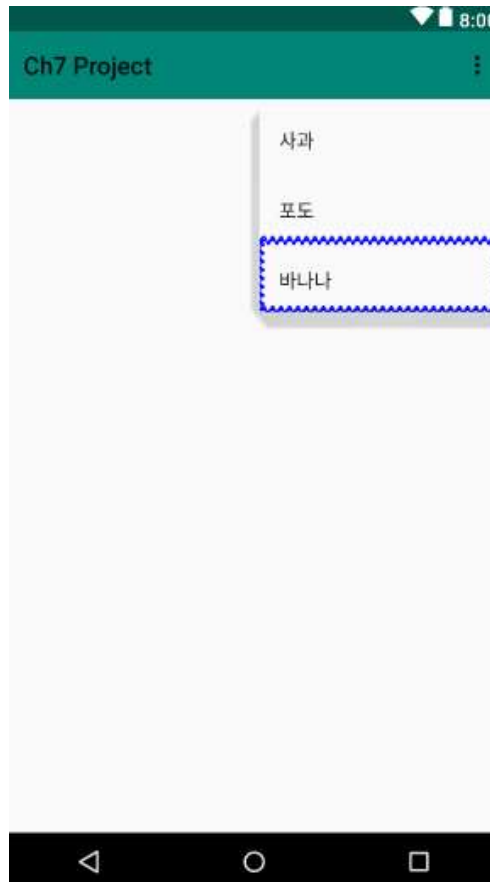
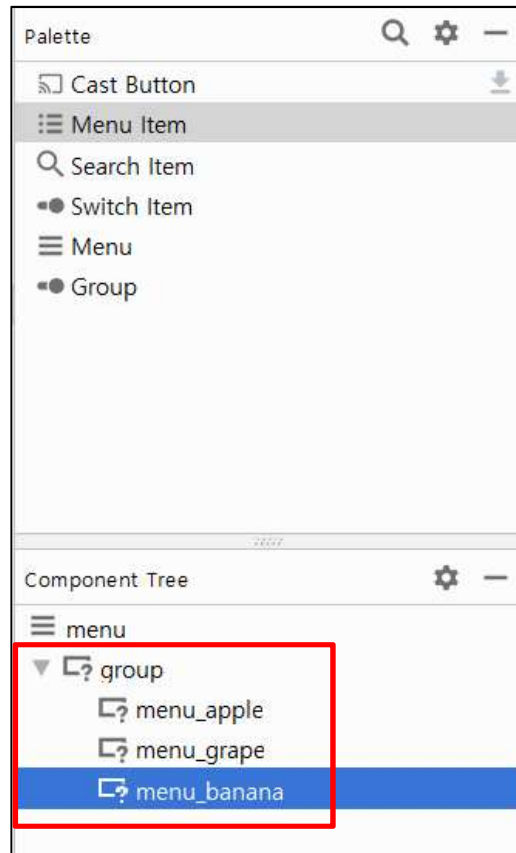
app > res > **menu**
> 마우스 오른쪽 버튼
> New > **Menu Resource File**
> **File name** > "**menu_main**"



Drag & drop



실습 1: Menu 생성 (2/2)



Component tree에서
group 선택



실습 1: Menu XML 파일

menu_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:android="http://schemas.android.com/apk/res/android">

    <group
        android:checkableBehavior="single">
        <item
            android:id="@+id/menu_apple"
            android:title="사과"/>
        <item
            android:title="포도"
            android:id="@+id/menu_grape"/>
        <item
            android:title="바나나"
            android:id="@+id/menu_banana"/>
        </group>
    </menu>
```

메뉴 – sub menu 생성

- XML 파일에서 메뉴 항목 정의

<menu>

<item> </item>

<item>

<menu>

<item> </item>

</menu>

</item>

</menu>

// 메뉴가 sub menu를 갖는 경우

// sub menu 정의

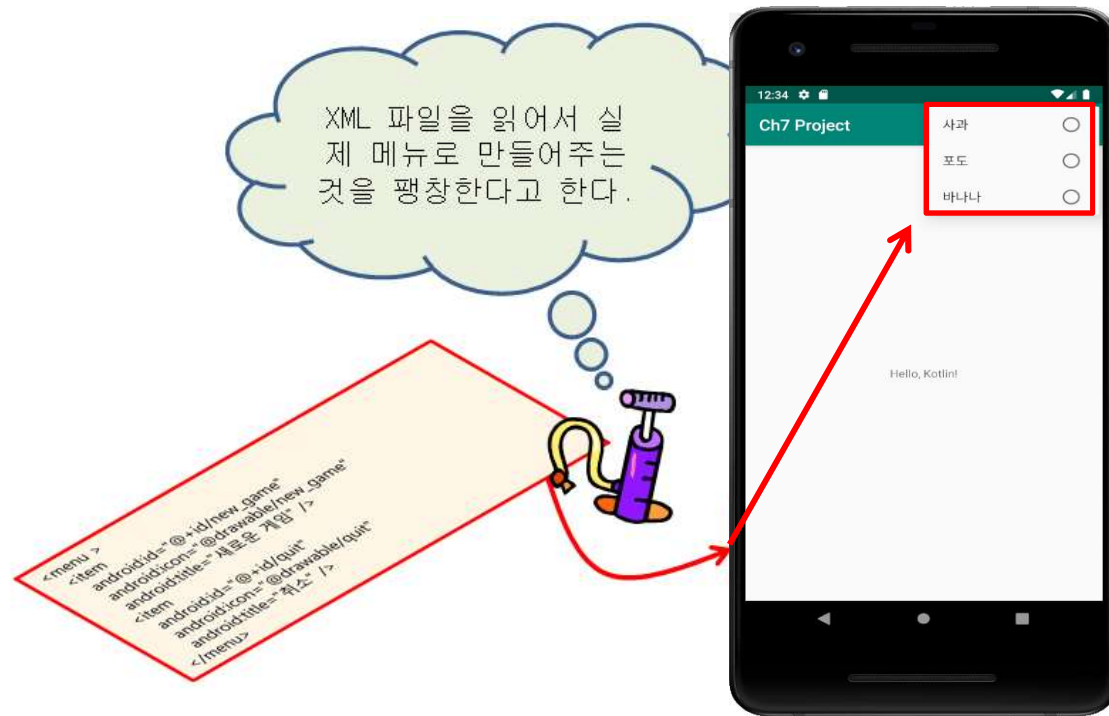
// sub menu에 속하는 메뉴 항목

실습 1 : Options Menu

```
override fun onCreateOptionsMenu(menu: Menu?): Boolean {  
    menuInflater.inflate(R.menu.menu_main, menu)  
    return true  
}  
  
override fun onOptionsItemSelected(item: MenuItem): Boolean {  
    when (item.itemId) {  
        R.id.menu_apple -> {  
            layoutView.setBackgroundColor(android.graphics.Color.RED)  
            item.isChecked = !item.isChecked  
            Toast.makeText(this, "사과", Toast.LENGTH_SHORT).show()  
            return true  
        }  
        R.id.menu_grape -> {  
            layoutView.setBackgroundColor(android.graphics.Color.MAGENTA)  
            item.isChecked = !item.isChecked  
            Toast.makeText(this, "포도", Toast.LENGTH_SHORT).show()  
            return true  
        }  
        R.id.menu_banana -> {  
            layoutView.setBackgroundColor(android.graphics.Color.YELLOW)  
            item.isChecked = !item.isChecked  
            Toast.makeText(this, "바나나", Toast.LENGTH_SHORT).show()  
            return true  
        }  
        else ->  
            return super.onOptionsItemSelected(item)  
    }  
}
```

메뉴 리소스 inflate

- 메뉴 리소스를 팅창(inflate)하면 메뉴가 만들어짐



```
override fun onCreateOptionsMenu(menu: Menu?): Boolean {  
    menuInflater.inflate(R.menu.menu_main, menu)  
    return true  
}
```

Menu Item 속성

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android"
      xmlns:app="http://schemas.android.com/apk/res-auto">

    <item android:title="refresh"
          android:id="@+id/action_refresh"
          android:icon="@drawable/ic_autorenew_black_24dp"
          app:showAsAction="always"/>
    <item android:title="search"
          android:id="@+id/action_search"
          android:icon="@drawable/ic_search_black_24dp"
          app:showAsAction="ifRoom"/>
    <item
          android:id="@+id/action_settings"
          app:showAsAction="never"
          android:orderInCategory="100"
          android:title="settings"/>
</menu>
```

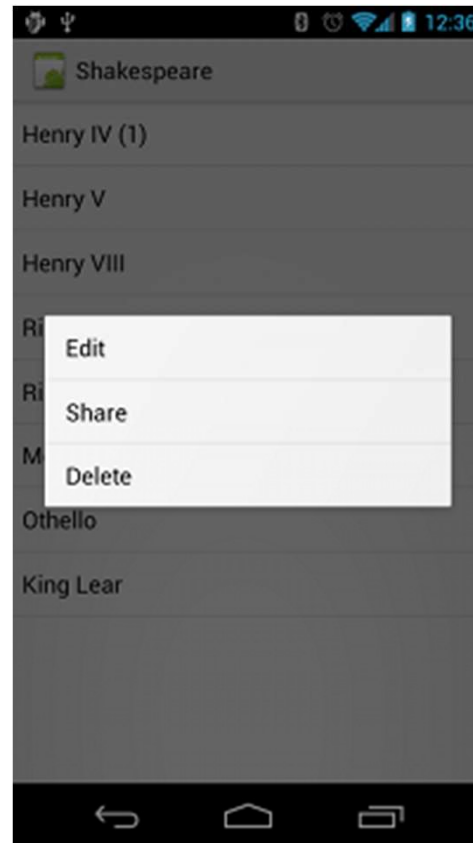
What to do next?

- Action bar
- Option menu
- **Context menu**

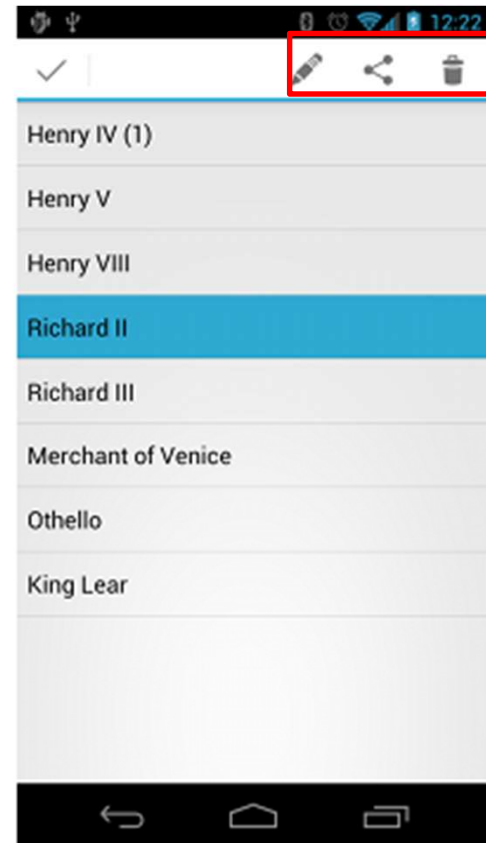
Context 메뉴 (1/2)

- view 객체 위에서 오랫동안 누르고 있으면(**tab & hold**) 나타나는 메뉴
 - 해당 view에 적용 가능한 메뉴만 표시
- (이론적으로) 모든 view에 대해 각각의 context 메뉴를 생성할 수 있음
- **Floating context 메뉴 – 실습 2**
 - 사용자가 항목 위에서 오랫동안 누르고 있으면(**long click**)
 - 메뉴가 대화 상자처럼 나타남
- **Contextual action mode** 현재 선택된 항목에 관련된 메뉴가 action bar에 나타남 (**context action bar**)

Context 메뉴 (2/2)



Floating context menu

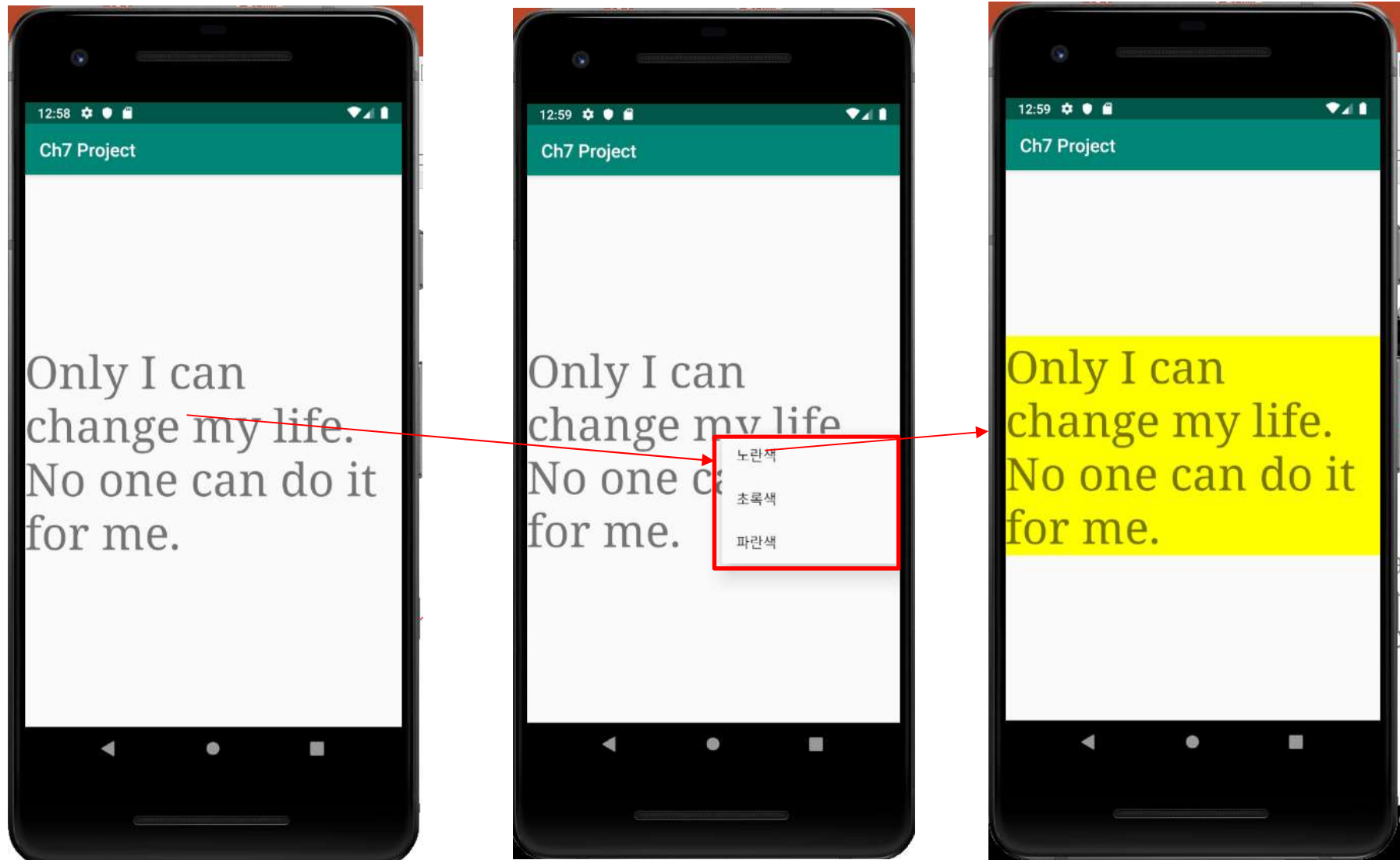


Context action menu

Context menu 생성

- View 객체에 context menu를 등록
registerForContextMenu (view: View)
- 메뉴 item 생성
onCreateContextMenu (menu: ContextMenu, v: View, menuInfo: ContextMenuInfo)
 - Context 메뉴(menu)와 관련된 view 객체(v)가 필요
- 메뉴 item 선택 → callback 메소드 호출
onContextItemSelected (item: MenuItem)
 - 어느 메뉴 item이 선택되었는가? → item.**itemId**

실습 2 : Floating Context Menu



실습 2 : Floating Context Menu – Layout

```
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="50dp"
        android:typeface="serif"
        android:text="Only I can change my life. No one can do it for me."
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

실습 2 : Floating Context Menu (1/2)

```
override fun onCreate(savedInstanceState: Bundle?) {  
    super.onCreate(savedInstanceState)  
    setContentView(R.layout.activity_main)  
    registerForContextMenu(textView)  
}  
  
override fun onCreateContextMenu(  
    menu: ContextMenu?, v: View?,  
    menuInfo: ContextMenu.ContextMenuInfo?) {  
    super.onCreateContextMenu(menu, v, menuInfo)  
    menuInflater.inflate(R.menu.menu_main, menu)  
}
```

menu_main.xml

```
<?xml version="1.0" encoding="utf-8"?>  
<menu xmlns:app="http://schemas.android.com/apk/res-auto"  
    xmlns:android="http://schemas.android.com/apk/res/android">  
    <item  
        android:id="@+id/menu_yellow"  
        android:title="@string/color_yellow" />  
    <item  
        android:id="@+id/menu_green"  
        android:title="@string/color_green" />  
    <item  
        android:id="@+id/menu_blue"  
        android:title="@string/color_blue" />  
</menu>
```

실습 2 : Floating Context Menu (2/2)

```
override fun onContextItemSelected(item: MenuItem?): Boolean {  
    when (item?.itemId) {  
        R.id.menu_yellow -> {  
            layoutView.setBackgroundColor(android.graphics.Color.YELLOW)  
            return true  
        }  
        R.id.menu_blue -> {  
            layoutView.setBackgroundColor(android.graphics.Color.BLUE)  
            return true  
        }  
        R.id.menu_green -> {  
            layoutView.setBackgroundColor(android.graphics.Color.GREEN)  
            return true  
        }  
        else ->  
            return super.onContextItemSelected(item)  
    }  
}
```