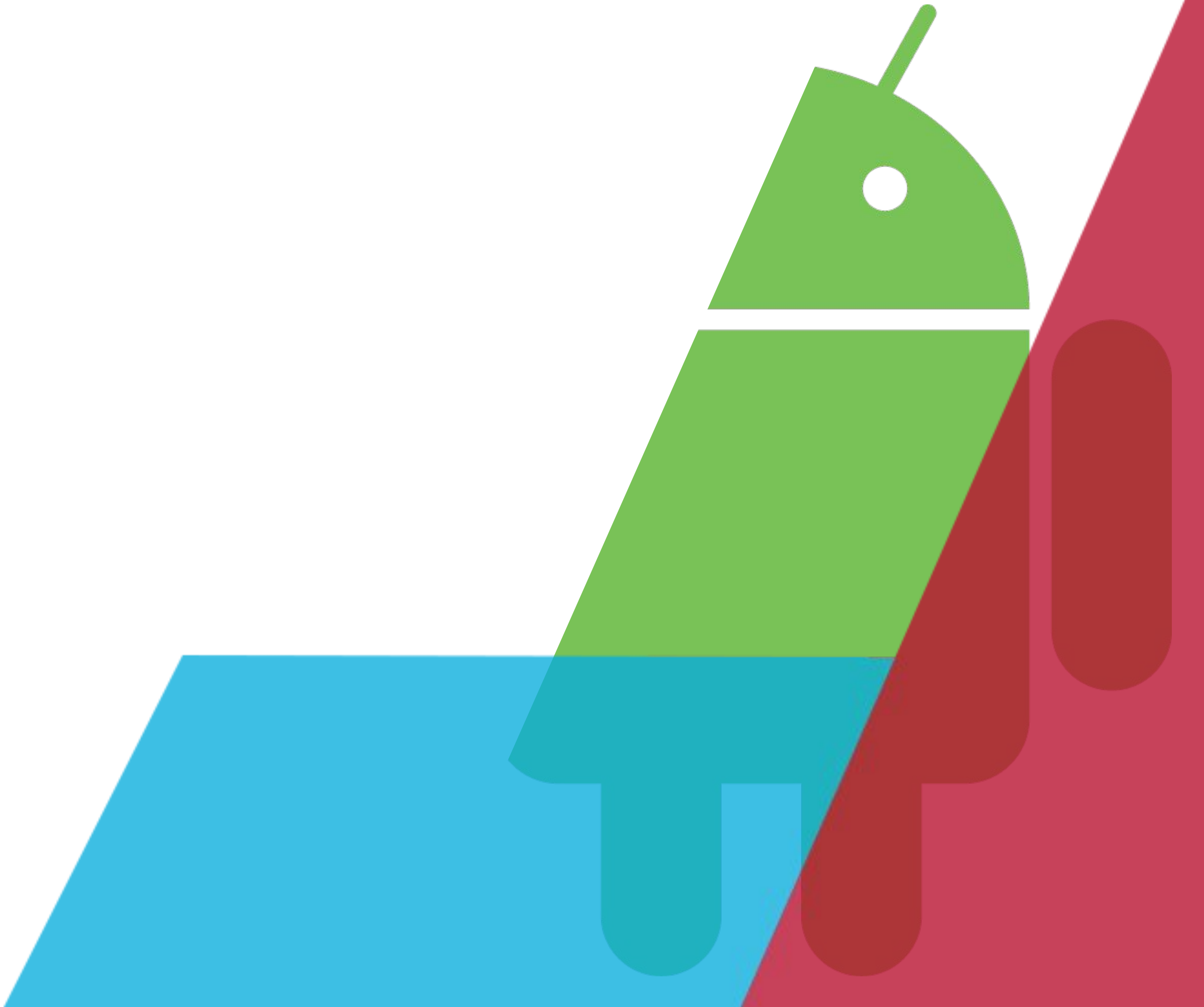
Lambda

Menus



Upon completion of this module, a student will be able to

- understand and explain where menus are used
- define a menu in XML
- add an options menu to the action bar
- respond to options menu selections
- define a navigation drawer in XML
- enable and work with a navigation drawer in Kotlin

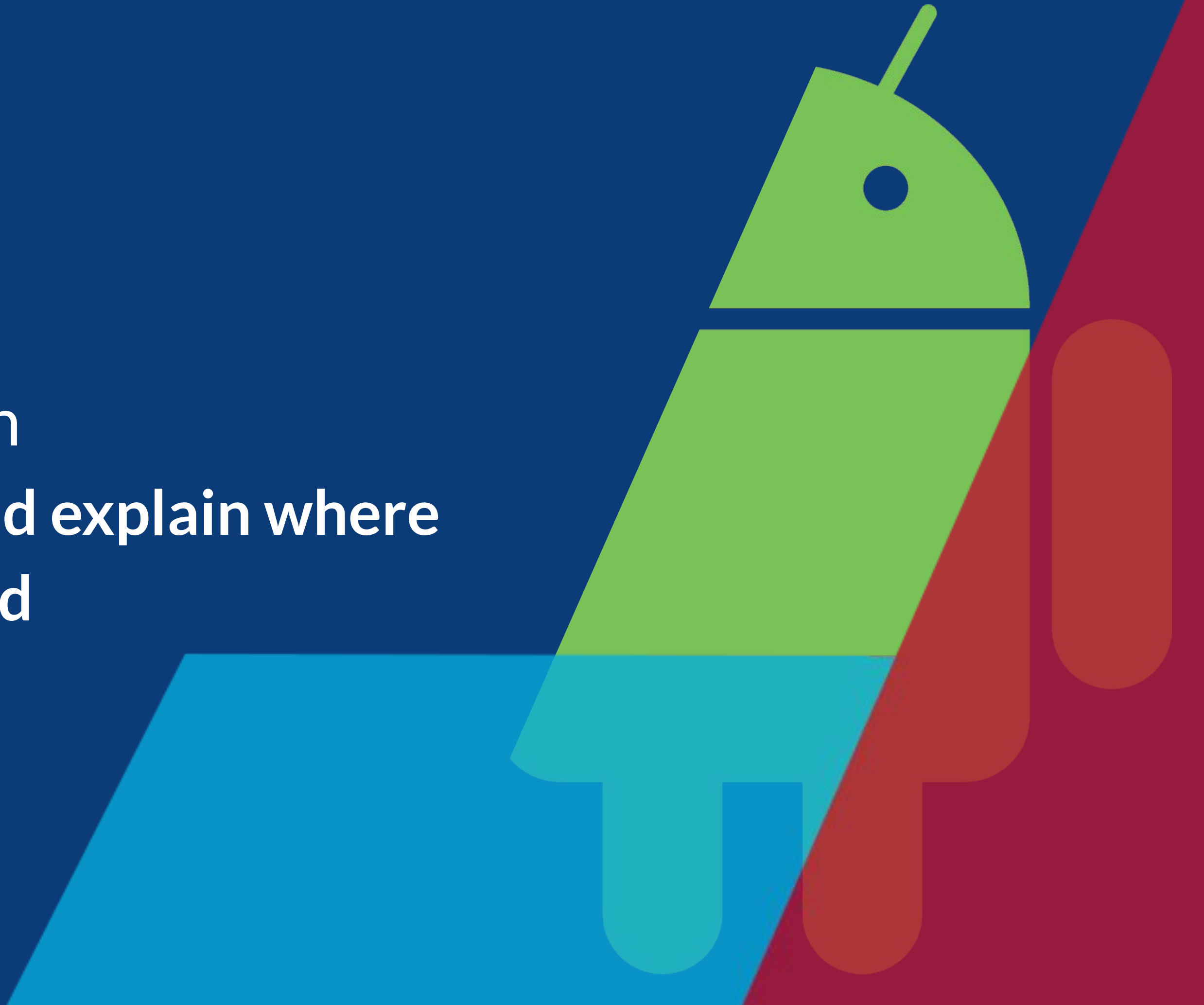
Assignment

- Task
  - For this project, you'll design an app and then implement the navigation drawer and action bar menu for that app.
- Repo
  - https://github.com/LambdaSchool/Sprint-Android-Additional-Android-Assignments/tree/master/M03/Assignment
- Submission
  - Fork on github and submit pull request

Lambda

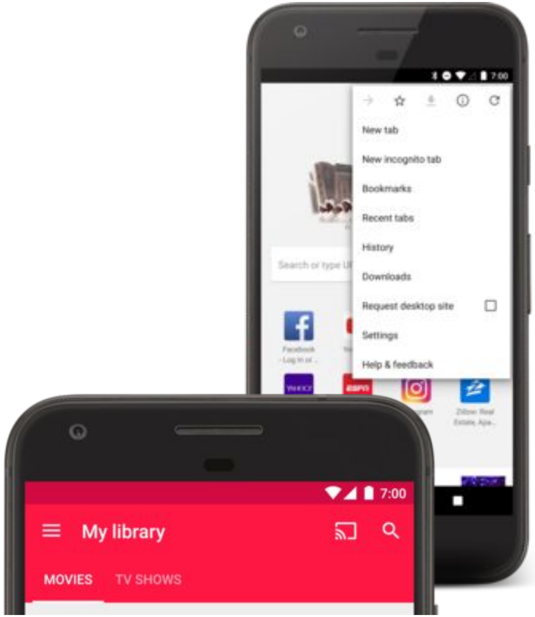
A Student Can

understand and explain where menus are used



Menus

- Options menu
- Context Menu
- Popup Menu



Lambda

A Student Can

define a menu in XML

Menu vs. Layout

- Menu resource
  - Used in multiple contexts
  - Lays out differently in each

- Layout
  - Used in Activities or Fragments
  - More strict in structure and look

Elements and Attributes

- Menu
  - Container for items
- Item
  - MenuItem
- Group
  - Container of items

- icon
  - Menu icon image
- showAsAction
  - How it should appear in the action bar
- checkable
- checkableBehavior

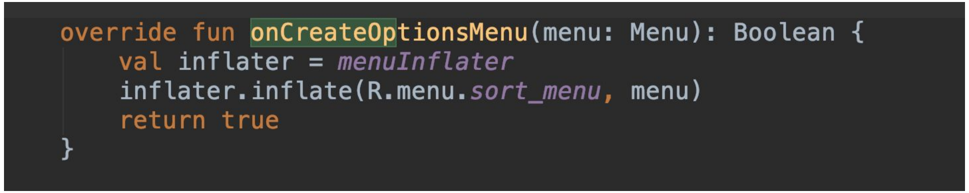
Lambda

A Student Can

add an options menu to the action bar

Adding Options Menu

- Override `onCreateOptionsMenu`
- Menu Inflater
- Inflate menu resource

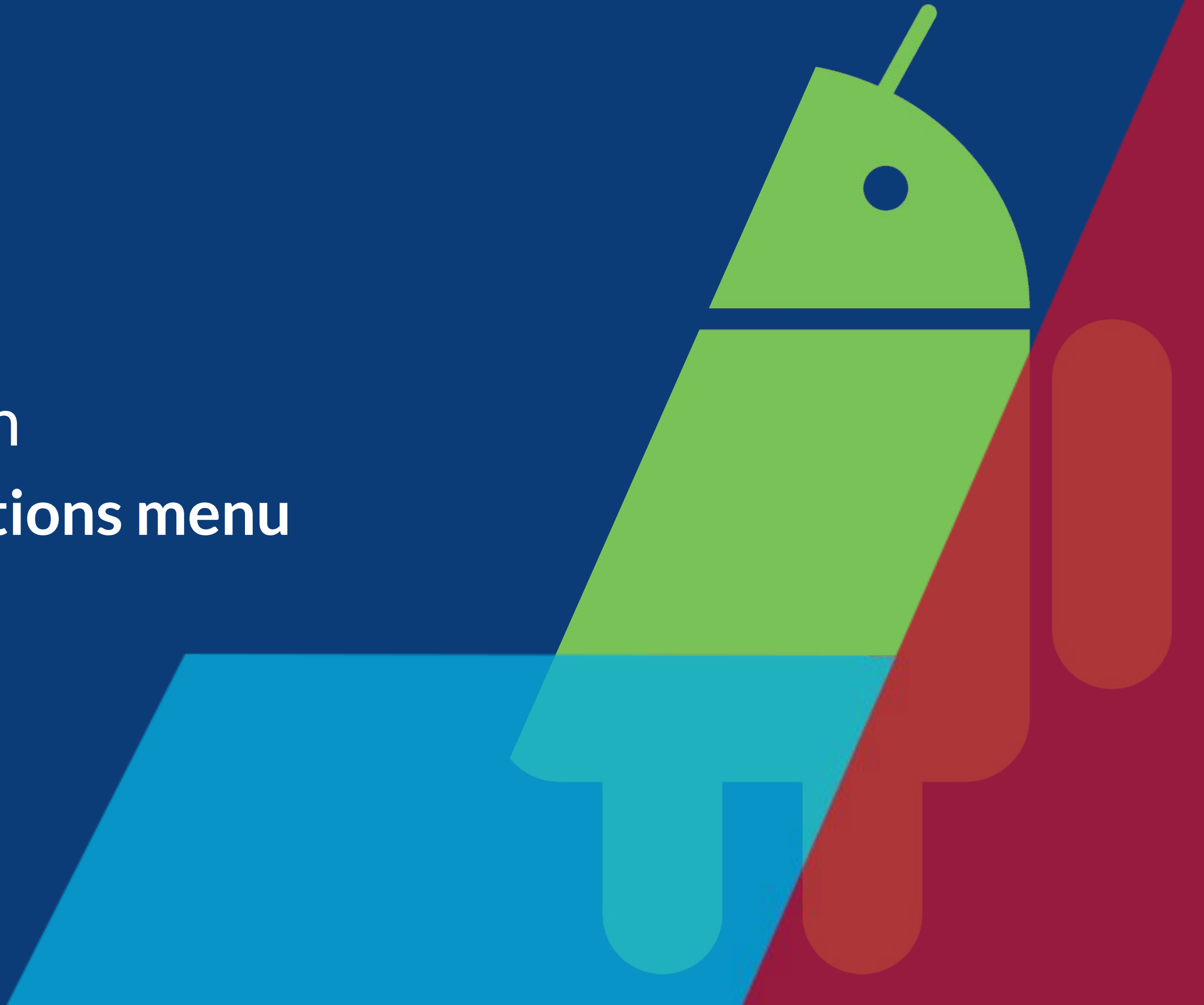


```
override fun onCreateOptionsMenu(menu: Menu): Boolean {
    val inflater = menuInflater
    inflater.inflate(R.menu.sort_menu, menu)
    return true
}
```

Lambda

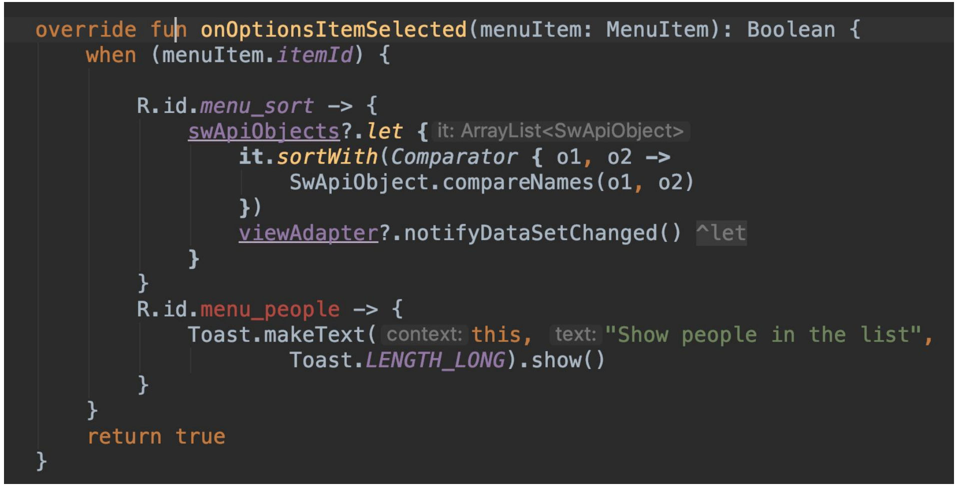
A Student Can

respond to options menu selections



Handling Click

- Override `onOptionsItemSelected`
- Perform action based on item selected



```
override fun onOptionsItemSelected(menuItem: MenuItem): Boolean {
    when (menuItem.itemId) {

        R.id.menu_sort -> {
            swApiObjects?.let { it: ArrayList<SwApiObject>
                it.sortWith(Comparator { o1, o2 ->
                    SwApiObject.compareNames(o1, o2)
                })
                viewAdapter?.notifyDataSetChanged() ^let
            }
        }
        R.id.menu_people -> {
            Toast.makeText( context: this,  text: "Show people in the list",
                    Toast.LENGTH_LONG).show()
        }
    }
    return true
}
```

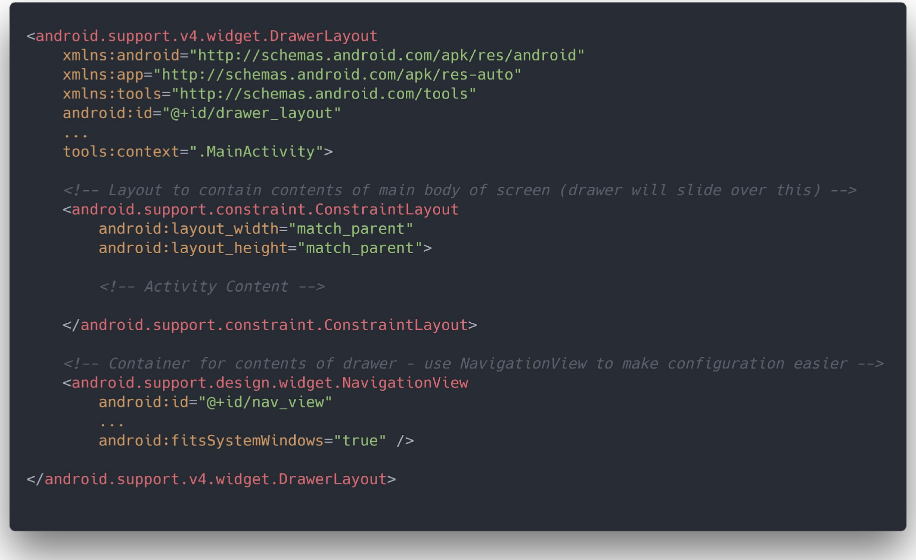
Lambda

A Student Can

define a navigation drawer in XML

Layout

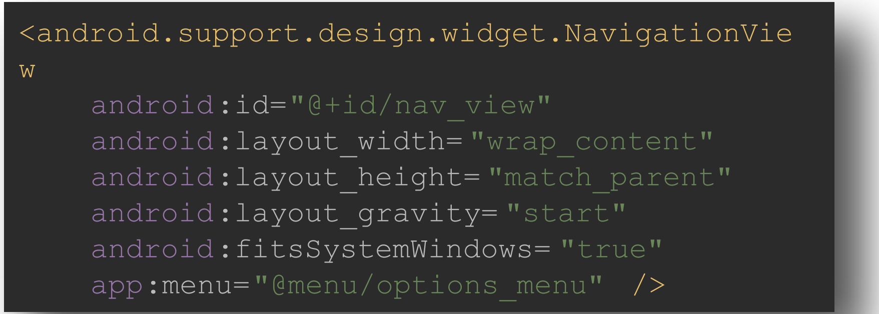
- DrawerLayout – Parent (2 Children)
  1. Activity content
  2. Navigation drawer layout



```
<android.support.v4.widget.DrawerLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/drawer_layout"
    ...
    tools:context=".MainActivity">

    <!-- Layout to contain contents of main body of screen (drawer will slide over this) -->
    <android.support.constraint.ConstraintLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent">

        <!-- Activity Content -->

    </android.support.constraint.ConstraintLayout>

    <!-- Container for contents of drawer - use NavigationView to make configuration easier -->
    <android.support.design.widget.NavigationView
        android:id="@+id/nav_view"
        ...
        android:fitsSystemWindows="true" />

</android.support.v4.widget.DrawerLayout>
```

Nav Drawer Content

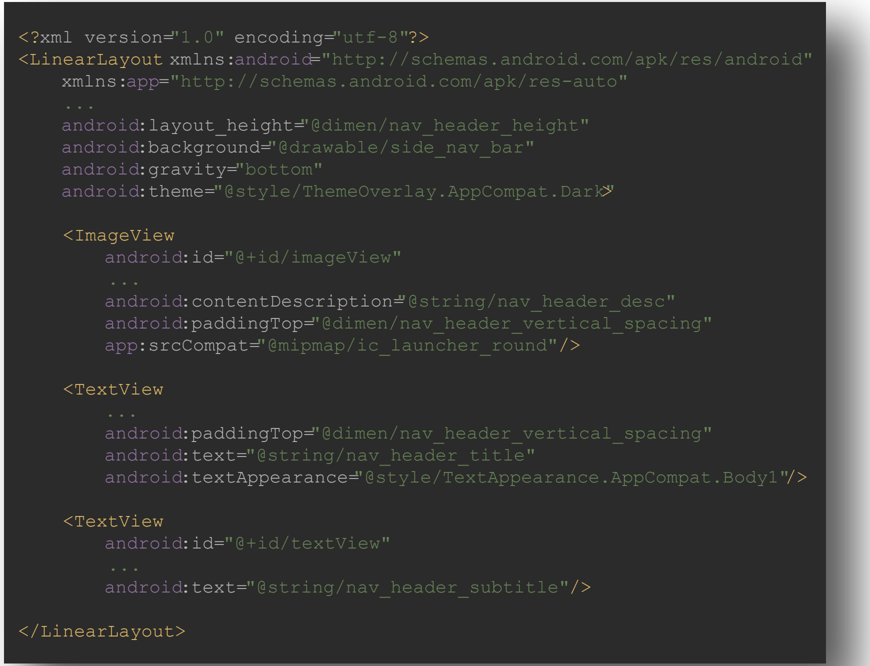
- Menu resource



```
<android.support.design.widget.NavigationView
    android:id="@+id/nav_view"
    android:layout_width="wrap_content"
    android:layout_height="match_parent"
    android:layout_gravity="start"
    android:fitsSystemWindows="true"
    app:menu="@menu/options_menu" />
```

Header

- app:headerLayout="@layout/nav_header"



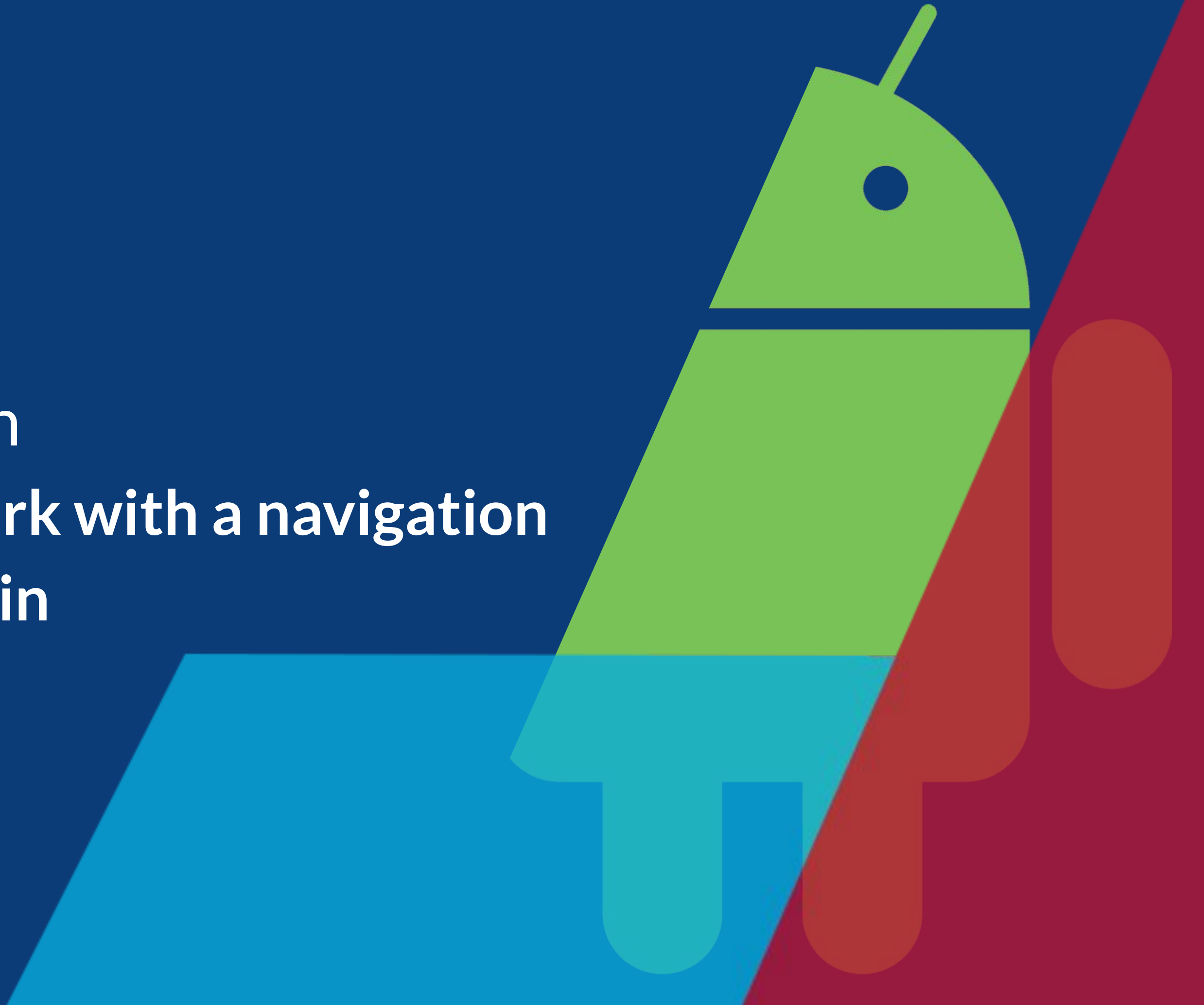
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    ...
    android:layout_height="@dimen/nav_header_height"
    android:background="@drawable/side_nav_bar"
    android:gravity="bottom"
    android:theme="@style/ThemeOverlay.AppCompat.Dark">

    <ImageView
        android:id="@+id/imageView"
        ...
        android:contentDescription="@string/nav_header_desc"
        android:paddingTop="@dimen/nav_header_vertical_spacing"
        app:srcCompat="@mipmap/ic_launcher_round"/>

    <TextView
        ...
        android:paddingTop="@dimen/nav_header_vertical_spacing"
        android:text="@string/nav_header_title"
        android:textAppearance="@style/TextAppearance.AppCompat.Body1"/>

    <TextView
        android:id="@+id/textView"
        ...
        android:text="@string/nav_header_subtitle"/>

</LinearLayout>
```

Lambda

Lambda

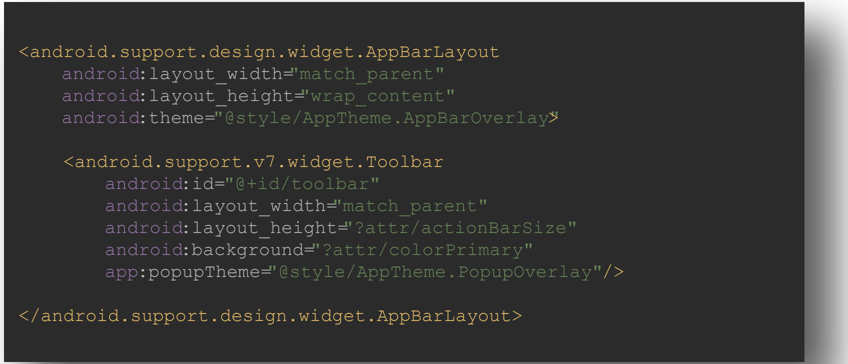
A Student Can

enable and work with a navigation drawer in Kotlin



Toolbar

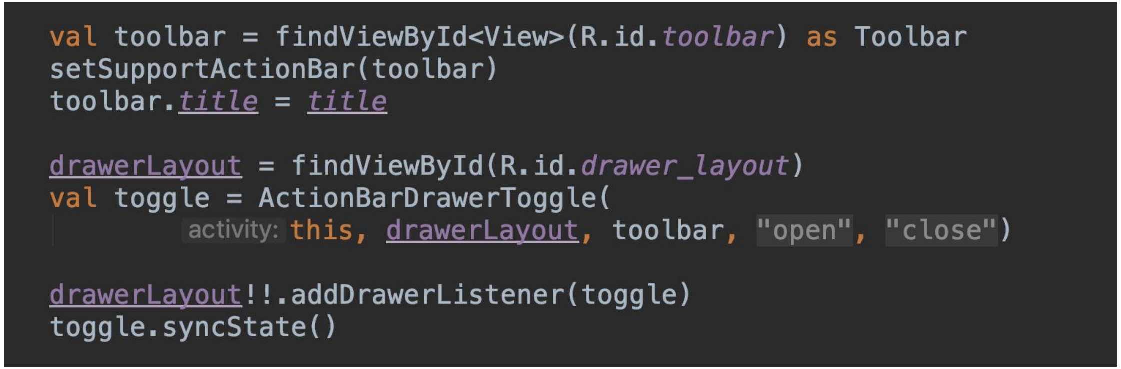
- setSupportActionBar(toolbar)



```
<android.support.design.widget.AppBarLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:theme="@style/AppTheme.AppBarOverlay">

    <android.support.v7.widget.Toolbar
        android:id="@+id/toolbar"
        android:layout_width="match_parent"
        android:layout_height="?attr/actionBarSize"
        android:background="?attr/colorPrimary"
        app:popupTheme="@style/AppTheme.PopupOverlay"/>

</android.support.design.widget.AppBarLayout>
```

Add Toggle Button

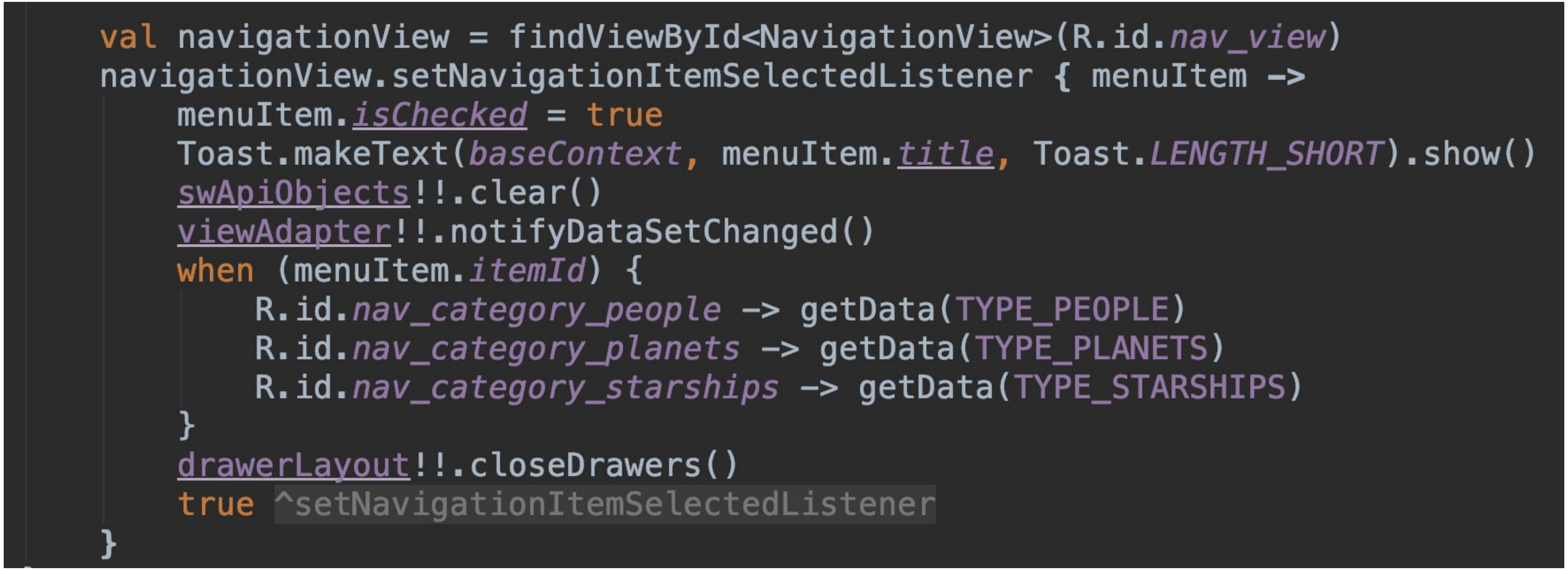
- Create toggle object
- Add toggle to toolbar
- Bind drawer and toggle



```kotlin
val toolbar = findViewById<View>(R.id.toolbar) as Toolbar
setSupportActionBar(toolbar)
toolbar.title = title

drawerLayout = findViewById(R.id.drawer_layout)
val toggle = ActionBarDrawerToggle(
        activity: this, drawerLayout, toolbar, "open", "close")

drawerLayout!!.addDrawerListener(toggle)
toggle.syncState()
```

Handle Click Events

- `OnNavigationItemSelectedListener`



```kotlin
    val navigationView = findViewById<NavigationView>(R.id.nav_view)
    navigationView.setNavigationItemSelectedListener { menuItem ->
        menuItem.isChecked = true
        Toast.makeText(baseContext, menuItem.title, Toast.LENGTH_SHORT).show()
        swApiObjects!!.clear()
        viewAdapter!!.notifyDataSetChanged()
        when (menuItem.itemId) {
            R.id.nav_category_people -> getData(TYPE_PEOPLE)
            R.id.nav_category_planets -> getData(TYPE_PLANETS)
            R.id.nav_category_starships -> getData(TYPE_STARSHIPS)
        }
        drawerLayout!!.closeDrawers()
        true ^setNavigationItemSelectedListener
    }
```