In this video, we are going to continue the implementation of the view class by adding the menu to our simple calculator example.

Recall that in the third video, we created the text display for the calculator application.

We now want to add a menu system to the calculator. The menu system is made up of three components.

The first component is the JMenuBar; it acts as the container for all of the separate menus. The second component is the JMenu; it acts as the container for all of the menu items. The third component is the JMenuItem. Each JMenuItem represents an item that can be selected in a menu.

This UML diagram shows the relationship between JMenuBar, JMenu, and JMenuItem.

A JMenuBar is a collection of JMenus. JMenuBar provides methods to add and get JMenus from the menu bar.

A JMenu is a collection of JMenuItems. JMenu provides methods to add and get JMenuItems from the menu.

We can create the JMenuBar by using the default constructor.

ECLIPSE
In the View constructor, we can create the JMenuBar.

Once we have the menu bar, we can add it to the View by using the JFrame method setMenuBar.

Because the menu bar is empty, it won't be shown if we run the Main application. We need to add at least one menu to the menu bar before it will appear in the view.

To create a JMenu, we use the constructor that has a string as a parameter; the string is the text that is displayed for the menu.

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Let's create the JMenu setting its display text to "View". We add the menu to the menu bar.

When we run the Main application, the menu bar appears with the View menu. If we click on the View menu, nothing happens because the menu is empty. We need to add at least one menu item to the menu.

To create a JMenuItem, we use the constructor that has a string as a parameter; the string is the text that is displayed for the menu item.

ECLIPSE

Let's create the JMenuItem setting its display text to "Clear". Eventually, we want to clear the display when the user selects this item.
We add the menu item to the View menu.

When we run the Main application, we can click on the View menu, and the Clear item appears. We can select the Clear item, but nothing happens. Setting the action that is performed when the item is selected is the topic of the next few videos.

That brings us to the end of this video. In the next video, we'll see how to create the Controller and learn how the Controller interacts with the View.