Commonly Used Component Classes

- **JLabel**: used to display uneditable text; the text is generated by the program.
- **JTextField**: used to display a boxed area where the user can enter text; an action event is triggered when the user hits "enter/return".
- **JPasswordField**: similar to JTextField, but text entered is not shown.
- **JButton**: displays a boxed area which triggers an action event when clicked on.
- **JCheckBox**: displays a box that is either selected or not selected; can react to event with ItemListener.
- **JRadioButton**: like JCheckBox, but it does not allow multiple selections in a group of related buttons; can react to event with ItemListener.

Commonly Used Component Classes

- **JComboBox**: displays a drop-down list of items from which user can make a selection by clicking an item; react with ItemListener.
- **JList**: displays a list of items, from which the user can select several by clicking the mouse once; double clicking an item generates an action event.
- **JTextArea**: displays many lines of uneditable text; if the size of the text is larger than the JTextArea, scroll bars are automatically generated.
- **JPanel**: a subcontainer, where GUI components can be put (more about this later).

See GUIComponentsFlowLayoutEg which illustrates how many of these are used. Also shows different ways of defining event listeners and associating them with components.
Organizing items/components on the screen requires layout managers. Java provides a variety of classes for this purpose, all of which implement the interface LayoutManager.

Layout managers automatically rearrange the layout according to their type when the window is resized!

Commonly Used Layout Managers

- **FlowLayout**: components are placed left to right, row after row, in the order of addition.
- **BorderLayout**: objects are placed in 5 possible places: North, S, W, E, or Center.
- **GridLayout**: objects are placed in a grid/2-dimensional array; you specify desired number of rows & columns.
- **CardDeckLayout**: objects are placed on different stacked “cards” of a deck.

Can use JPanel containers to make more complex GUIs. Each JPanel can have a different layout.
Commonly Used Layout Managers

GUIComponentsFlowLayoutEg illustrates use of FlowLayout.

GUIBorderLayoutEg is an example using BorderLayout.

GUIPanelEg illustrates use of JPanel to build more complex GUs.