

Commonly Used Component Classes

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

Commonly Used Component Classes

- `ComboBox`: displays a drop-down list of items from which user can make a selection by clicking an item; react with `ItemListener`.
- `List`: 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.
- `TextArea`: displays many lines of uneditable text; if the size of the text is larger than the `TextArea`, scroll bars are automatically generated.
- `Panel`: 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.

Layout Managers

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 GUIs.