JAVA II

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Agenda

1. M2 Outline
2. Eclipse IDE Tips
3. Introduction to JAVA GUI
4. Exercises

Eclipse IDE Tips

Eclipse IDE Tips

- Rename (packages, project, classes)
  - Right Click => Refactor => Rename
  - Refactor menu => Rename
  - Alt + Shift + R (while cursor is on name)
  - F2
- Ctrl + Shift + C => Comment and uncomment
- Ctrl + Shift + F => Format your code
- Create new packages

Eclipse IDE Tips

- Import
- Drag and Drop
- Clean Project
- Terminate Console
- Right Click => Close all
- Ctrl + D => Delete line
- F3 and F2 => goto function and function doc
- Ctrl + Shift + O => auto import

Introduction to JAVA GUI

Introduction to JAVA GUI

- Other name:
  - GUI (Graphical User Interface)
  - HMI (Human Machine Interface)
  - UI (User Interface)
  - Programming user interface or user graphic

Introduction to JAVA GUI

- Pluggings and Libraries
  - Built-in Swing and AWT (Abstract Window Toolkit)
  - Netbeans
  - Google Web Toolkit Framwork
  - etc

Introduction to JAVA GUI

- At first there was AWT (JAVA 1)
- Now there's SWING
- AWT is HeavyWeight since it is directly link to the OS.
- SWING is LightWeight since it's from a container.
- Nerver use both on the same window/frame.

Introduction to JAVA GUI - Objective

- To distinguish simple GUI components
- To describe the Java GUI API hierarchy
- To create user interfaces using frames, panels, and simple UI components
- To understand the role of layout managers
- To use the FlowLayout, GridLayout, and BorderLayout managers to layout components in a container

Introduction to JAVA GUI - Objective

- To specify colors and fonts using the Color and Font classes
- To use JPanel as subcontainers

Introduction to JAVA GUI First Window

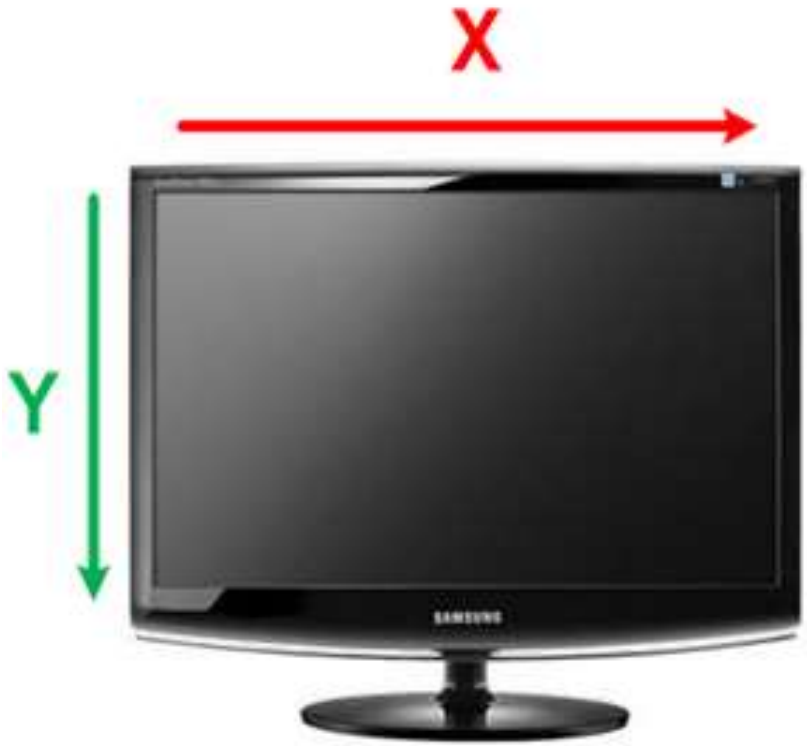
```
JFrame myFrame = new JFrame();
myFrame.setVisible(true);
```

Introduction to JAVA GUI First Window

```
JFrame myFrame = new JFrame();
myFrame.setTitle("This is my first window");
myFrame.setSize(400, 300);
myFrame.setLocationRelativeTo(null);
myFrame.setDefaultCloseOperation(JFrame.EXIT
  _ON_CLOSE);
myFrame.setVisible(true);
```

Introduction to JAVA GUI First Window

Method SetLocation(int x, int y);



Introduction to JAVA GUI First Window

Other useful methods

Prevent resizing the window

`setResizable(boolean b) : false`

Keep the window in the foreground

`setAlwaysOnTop(boolean b): true`

Introduction to JAVA GUI - Panels

```
JPanel pan = new JPanel();
pan.setBackground(Color.cyan);
myframe.setContentPane(pan);
```

Introduction to JAVA GUI
Buttons

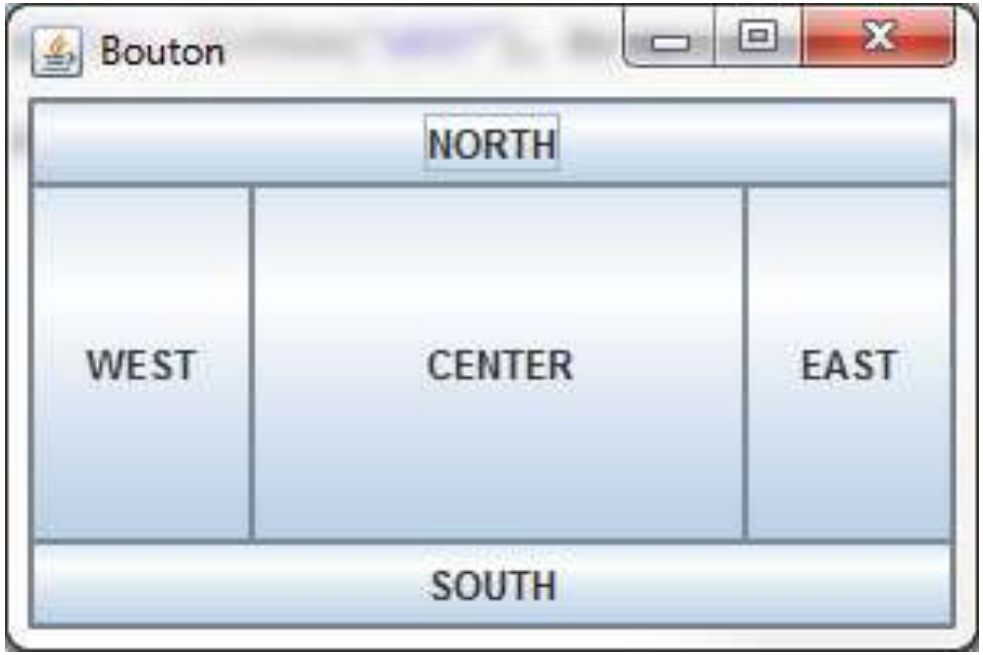
```
private JButton button = new
  JButton("Button");

button.setText(“Button”);
```

Introduction to JAVA GUI
Layout Managers

1. LayoutManagers
   - https://docs.oracle.com/javase/tutorial/uiswing/layout/visual.html

Introduction to JAVA GUI
Layout Managers

1. BorderLayout
   - cardinal position of your container



Introduction to JAVA GUI
Layout Managers

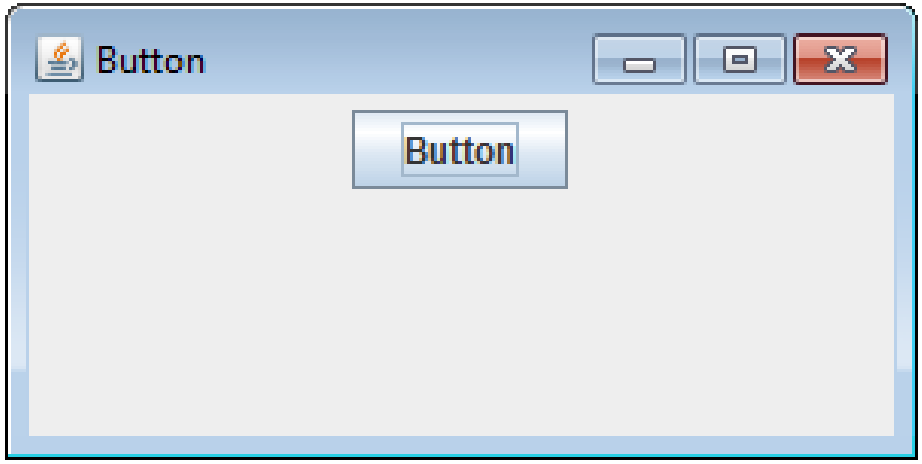
2. GridLayout
   - Use a defined grid (rows and columns)

Introduction to JAVA GUI
Layout Managers

3. BoxLayout
   - One of the best
   - you can store your components following either a line or a column

Introduction to JAVA GUI
Layout Managers

4. FlowLayout
   - The Best
   - Easy to use
   - By default



Introduction to JAVA GUI
Layout Managers

5. GridBagLayout
   - Very hard to understand and to use.
6. CardLayout
   - from one layout to another
7. Absolute positioning
   - Using (x,y) positioning

Introduction to JAVA GUI
Layout Managers

In Java GUI is a mix of multiple Layouts.

Ex:


Thank You !!!