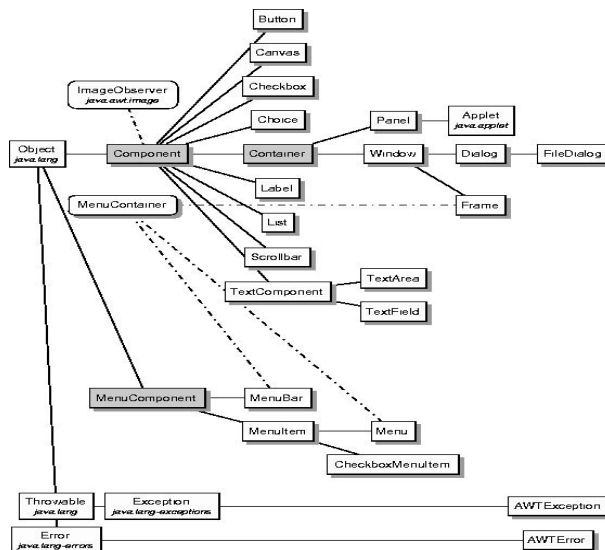


Costruire GUI con Java

package java.awt.*

Gerarchia dei componenti

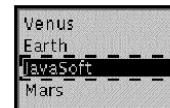


Component

- setVisible(boolean)
- setBounds(int x,int y, int l, int a)
- setSize(Dimension)
- setSize(int l, int a)
- Dimension getSize()
- paint(Graphics)
- setBackground(Color)
- Dimension.width
- Dimension.height
- Color.black
- Color.white
- Color.green
- ...

Alcuni componenti

- Button
 - setLabel(String) / getLabel()
- Choice
 - addItem(String)
 - int getItemCount()
- List
 - List(int)
 - addItem(String) / int getItemCount()
 - Strings[] getItems()



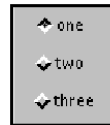
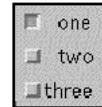
Checkbox

- Checkbox

- setLabel(String) / getLabel()

- setState(boolean) / getState()

- Checkbox(String, CheckboxGroup, boolean)



Componenti per il testo

- TextComponent

- getText() / setText(String)

- isEditable() / setEditable(boolean)

- TextArea

- TextArea(int righe, int colonne)

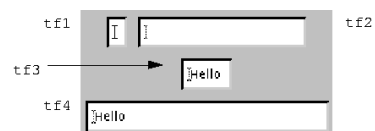
- append(String)

- getRows() / getColumns() / setRows(int) / setColumns(int)



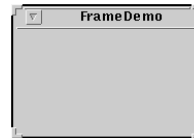
- TextField

- TextField(int colonne)



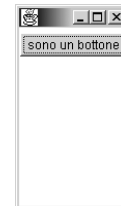
Contenitori

- Container
 - add(Component)
- Frame
 - setTitle(String)
 - setMenuBar(MenuBar)



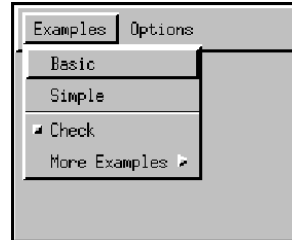
Esempio componenti

```
import java.awt.*;  
public class fin {  
    public static void main(String arg[]) {  
        Frame f = new Frame();  
        Panel p = new Panel();  
        Button b = new Button();  
        b.setLabel("sono un bottone");  
        p.add(b);  
        f.add(p);  
        f.setSize(100,200);  
        f.setVisible(true);  
    }  
}
```



Menù

- MenuBar
 - add(Menu)
- MenuItem
 - isEnabled() / setEnabled(boolean)
 - getLabel() / setLabel(String)
- Menu
 - add(MenuItem)
 - addSeparator()



Esempio menù

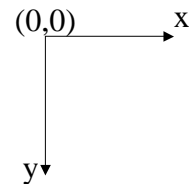
```
import java.awt.*;  
public class mnu {  
    public static void main(String arg[]) {  
        Frame f = new Frame();  
        MenuBar m = new MenuBar();  
        Menu a1 = new Menu("A");  
        m.add(a1);  
        MenuItem aa1 = new MenuItem("a");  
        a1.add(aa1);  
        f.setMenuBar(m);  
        f.setSize(100,100);  
        f.setVisible(true);  
    }  
}
```



Disegnare

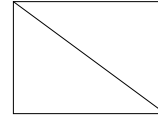
- Per disegnare su un componente dobbiamo chiamare opportuni metodi sull'oggetto Graphics del componente
- Abbiamo 2 modi
 - ottenere l'oggetto Graphics con `componente.getGraphics()`
 - modificare il metodo `paint()` del componente = estendere la classe

Metodi di disegno



- Sono metodi della classe Graphics
 - `drawLine(int x, int y, int z, int w)`
 - `drawRect(int x, int y, int largh, int altez)`
 - `drawOval(int x, int y, int largh, int altez)`
 - `drawString(String s, int x, int y)`

Esempio disegno



```
import java.awt.*;
public class myCanvas extends Canvas {
    public void paint(Graphics g) {
        Dimension d = this.getSize();
        int l = d.width;
        int a = d.height;
        g.drawLine(0,0,l,a);
    }
}
```