A Solution on Assignment 2 - Problem 3

This is "a" Solution of Assignment 2 - Problem 3 from the Computer Science Course CS106A of Prof. Mehran Sahami at the STANFORD University.

In fact, i cant realy tell anymore if I wrote this code or if i found it somewhere on the internet :). It looks pretty much like programm code i usualy make. But will not claim that this is MY Code. Just a Code that solves the Problem as requested for example purposes.

ProgramHierarchy.java

```java
/*
 * File: ProgramHierarchy.java
 * Name:
 * Section Leader:
 * ---------------------------
 * This file is the starter file for the ProgramHierarchy problem.
 */

import acm.graphics.*;
import acm.program.*;


public class ProgramHierarchy_example_solution1 extends GraphicsProgram
{

    public static final double BOX_WIDTH = 200.0;
    public static final double BOX_HEIGHT = 80.0;

    public void run() {
        double horizontalMargin = (getWidth() - BOX_WIDTH * 3) / 4;
        double verticalMargin = (getHeight() - BOX_HEIGHT * 2) / 3;

        double x = horizontalMargin * 2 + BOX_WIDTH;
        double y = verticalMargin;

        GRect box1 = drawBox(x, y, "Program");

        x = horizontalMargin;
        y = verticalMargin * 2 + BOX_HEIGHT;

        GRect box2 = drawBox(x, y, "GraphicsProgram");

        x = horizontalMargin * 2 + BOX_WIDTH;
        y = verticalMargin * 2 + BOX_HEIGHT;

        GRect box3 = drawBox(x, y, "ConsoleProgram");

        x = horizontalMargin * 3 + BOX_WIDTH * 2;
```

```java
            y = verticalMargin * 2 + BOX_HEIGHT;

            GRect box4 = drawBox(x, y, "DialogProgram");

            drawConnectingLine(box1, box2);
            drawConnectingLine(box1, box3);
            drawConnectingLine(box1, box4);
        }

    public GRect drawBox (double x, double y, String text) {

            GRect box = new GRect (x, y, BOX_WIDTH, BOX_HEIGHT);
            add(box);

            GLabel label = new GLabel (text, x, y);

            x = x  + BOX_WIDTH / 2 - label.getWidth() / 2;
            y = y + BOX_HEIGHT / 2 + label.getAscent() / 2 ;

            label.setLocation (x, y);
            add (label);

            return box;
        }

    public void drawConnectingLine(GRect fromBox, GRect toBox) {

            double fromX = fromBox.getX() + BOX_WIDTH / 2;
            double fromY = fromBox.getY() + BOX_HEIGHT;

            double toX = toBox.getX() + BOX_WIDTH / 2;
            double toY = toBox.getY();

            GLine line = new GLine (fromX, fromY, toX, toY);
            add(line);
        }
}
```

— *[Axel Werner](#) 2012-04-02 16:07*

[java](#), [karel](#), [stanford](#), [university](#), [cs106](#), [computer](#), [science](#), [learning](#), [programming](#)