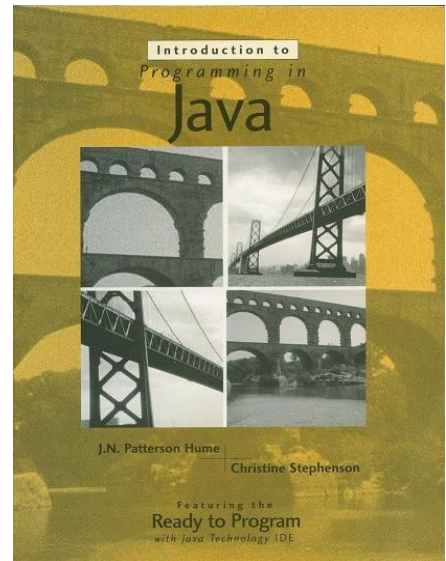# The HSA2 Graphics Console

Introduction

This software package was originally written by Holt Software Associates (HSA) to teach Java to students. It was called "Ready to Program" and came with a textbook. The original software was written by Tom West.

However … the software was not upgradeable and it was stuck on Java 2. The company went bankrupt and the sourcecode was not available.

At some point it was totally rewritten, reverse engineered, by Sam Scott at Sheridan College who based the graphics on Swing JFrame and JPanels (excellent!). He called the software HSA_UFA (as it was written for the UFA school). After this Josh Gray from TVDSB added mouse routines. Then Michael Harwood from TVDSB added some other features, renamed it to HSA2, and made a GitHub repository for the project at https://github.com/salamander2/HSA2

■ The main part of the program is called a "Graphics Console" because allows normal text console I/O as well as graphics.

■ The syntax is designed to be as close as possible to the standard Java and Swing syntax.

Creating the Console Window

The GraphicsConsole window is the window that pops up when you run a program that uses the hsa2 console. The console is a Java **object**.

Any time that you use the word **new** you create an object. The object is created by something in the class file called a constructor. There are different constructors which can take different parameters, depending on what sort of GraphicsConsole you want to create.

When you are creating a console, you can specify its size, the size of the font it will use, and the title that should appear in the window.

GraphicsConsole c = new GraphicsConsole ();

Creates a console window named "c" with the default size (650 pixels wide, 500 pixels high) using the default font size (set in File→Preferences→Run Window), and no title.

c = new GraphicsConsole (*"title"*)

Creates a console window named "c" with default size, but with your title for the window.

c = new GraphicsConsole (*width*, *height*);

> Creates a console named "c" of whatever size you like, depending on what you put for *width* and *height* (values are in pixels).

c = new GraphicsConsole (*width*, *height*, *fontSize*)

> As above, but also specifies the size of the font to be used in the output window.

c = new GraphicsConsole (*width*, *height*, *fontSize*, *"title"*)

> As above, but also specifies a title for the window.

Note: You can also open two consoles at once. Can you figure out how?

You can change these properties later on too:

- To set the title to a new title do this: **c.setTitle("new title")**

- Changing the <u>font size</u> can be done with c.setFont().
  See the pdf on fonts for how to do this.

- Changing the <u>screen size</u> after the graphics console is created is more tricky.
  By far, the easiest way is to set the desired size when you make the GraphicsConsole. You might be able to do it with c.setPreferredSize().
  You could also add c.setResizable(true) which allows it to be resized with the mouse.

Please see the list of 5 common mistakes at the end of the next document.