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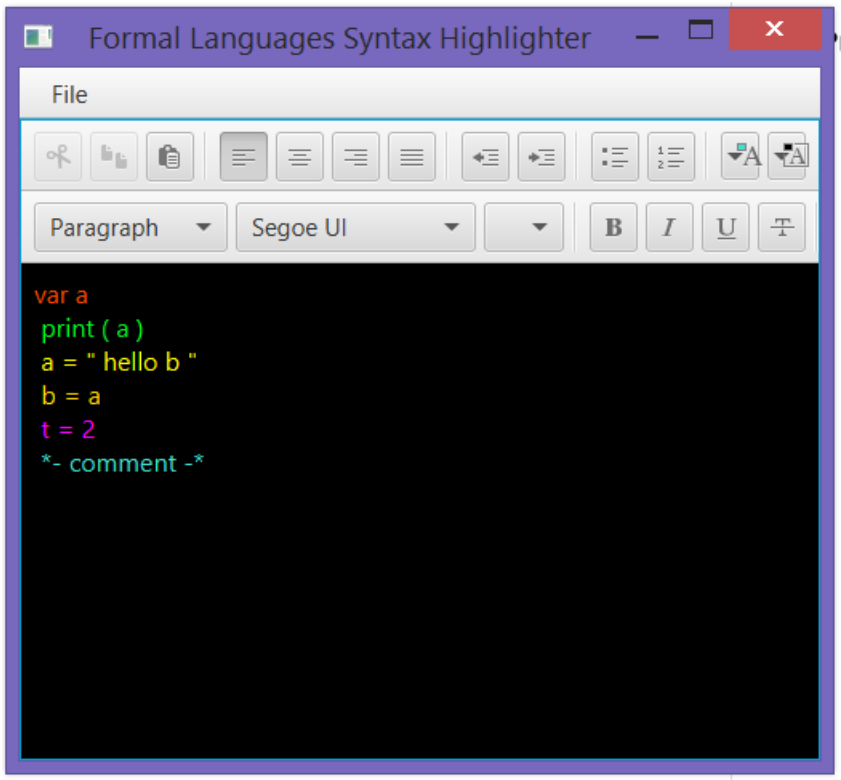
Formal Languages and Automata

Final Project Documentation

To run the GUI:

1.) Under my git repository, in directory milestone.2, in a command line run:
   - `javac syntaxHighlightingDFA.java syntaxHighlightingGUI.java`
   - `java syntaxHighlightingGUI`

The GUI window should pop up.



The text editor will highlight valid statements that appear.

A valid program contains only valid statements.

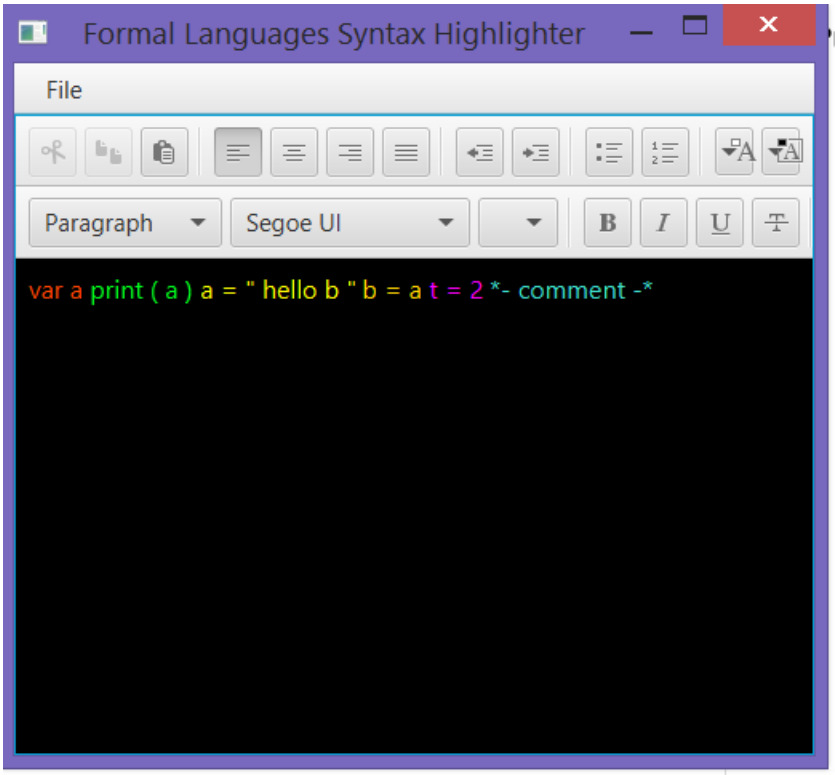
Valid statements are:
1.) Variable Declaration (default color: red-orange)

Syntax: var [a-z]

2.) Print Statement (default color: green)
    Syntax: print (Exp)
    Exp ::= “ [a-z<space>] “
        [a-z]
        [0-9] + Exp
3.) String Assignment (default color: yellow)
    Syntax: [a-z] = “ [a-z<space>] “
4.) Variable Assignment (default color: gold)
    Syntax: [a-z] = [a-z]
5.) Integer Assignment (default color: pink)
    Syntax: [a-z] = [0-9] + Exp
6.) Comment (default color: turquoise)
    Syntax: *- [a-z<space>] -*

If an invalid statement appears, valid statements after it do not get colored because that program is rejected by our deterministic finite automaton.

Each statement can be followed by a new line in the default mode. Go to **File > Change Line Mode** to switch to an inline mode:



All functions of the JavaFX HTMLEditor can be used as well, including cut/copy/paste, align text, indent, lists, headings, and font transformations.

Menu Options: File Menu

Load File : Allows a user to choose a file from their Desktop and open it in the editor.

Save File : Allows a user to save a file.

Load Colors : Allows a user to load a new color scheme from a file. The file must be of the format:

<statement-color>=<hex-color>

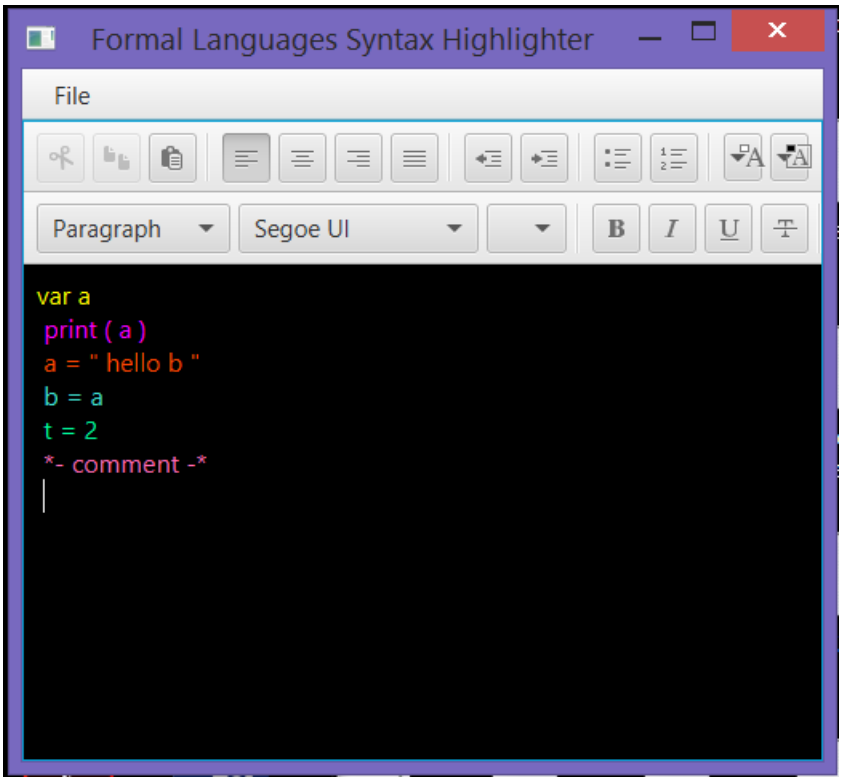
With each pair on its own line. No spaces needed within the line or around =.

<statement-color> ::= [comment | vardecl | print | intassign | stringassign | varassign]

<hex-color> is a hexadecimal color in RRGGBB format, no # is needed, and each digit is 0-F. Order of the lines does not matter, and not all lines need to be provided. A line to set comment color to red would be:

comment=FF0000

Change Line Mode : Change from new line to inline mode and back.



This is the same program as before with a new color scheme.