# Lab 2        COSC 20203        Spring 2023
## Due: Thursday, 23 March

Write a Java program to read and simulate the execution of a program written in a highly simplified programming language. Each line in the input contains one statement. There are no declaration statements; all values are of type *double*. Statements in the language are in the following forms:

| Simple Statements | Meaning |
| --- | --- |
| *variable = expression* | The *expression* consists of variables, constants, and the simple arithmetic operators (+, -, *, /) with blanks as delimiters. It is evaluated left to right and the result is placed in the *variable*. Note that there is no hierarchy among the operators and parentheses are not allowed. |
| PRINT *variable* | The value of the *variable* should be displayed with two digits to the right of the decimal point. |
| GOTO *n* | Execution moves to the $n^{th}$ line of the program. The first line in the program is line 1. |

| Conditional Statement | Meaning |
| --- | --- |
| IF *variable* IS *value* THEN *simpleStatement* | If the *variable* is equal to *value* (a variable or a constant), the *simpleStatement* is performed. |

| End of Program Marker | Meaning |
| --- | --- |
| END | This is the last statement in a program. There are no statements following this. When execution reaches this statement, the program is terminated. |

The GUI will include a "Next Program" button which allows the user to select a file containing a program to be executed. The program in the selected file is then executed and the output (result of the PRINT statements) should be displayed in a scrollable text area.

NOTE
Use of an array is NOT acceptable in this assignment.

As in Lab 1, you will be given code for the GUI.

Also, error checking is required.