

# EE4371: Assignment 2

August 21, 2016

1. Read Chapter 2 of Tanenbaum
2. Read Chapter 2 of Aho, Hopcroft and Ullman
3. Implement a program to evaluate a postfix expression. A postfix expression input has the following form:

tag tag tag ... tag

where each tag can be one of

- (a) A string representing a number
- (b) An operation (one of +, -, \*, and /)

Tags are separated by a combination of blanks or tabs. The '\n' character terminates the expression. An example of a valid postfix expression is

1.5 2.8e3 -12 + \*

**The program should use arrays and should call functions to do all operations.** It should extract tags, validate them, store them in a stack if numbers and operate on them using the operators. The output should be the value of the expression.

If the expression is invalid, an output should come that states this and indicates the why the expression has been rejected.

Egs:

1.5 2 -3 + *	-4.5
1.5 2 + -3 *	-10.5
1.5 2 + * -3	Invalid expr. "*" does not have enough operands
1.5 2e2 + -3e2.5 *	Invalid expr. Illegal tag: -3e2.5

4. Repeat problem 3 using a linked list to implement the stack. You should need to change the functions push and pop (and add initial code to create the linked list), but main code should not change.

Submit your program to moodle. Comments are required, not optional ...