Matthew Hunt

huntm2@go.stockton.edu

CSIS 4251 - Operating Systems

February 6, 2019

Programming Assignment 1: Binary Expression Tree Traversal User Manual

Program Overview:

The Binary Expression Tree Traversal Program allows the user to input infix algebraic expressions, and receive the in-order, pre-order, and post-order traversal of the binary tree created with the given expression, as output.

Installation:

Included in the BinaryExpressionTreeTraversal folder is both a .jar and .exe file, BinaryExpressionTreeTraversal.jar and BinaryExpressionTreeTraversal.exe respectively. In order to install the program the user can take either and the .jar or .exe, or both if desired, and either copy the file(s) or move the file(s) to the desired destination on the desired computer. Both of these files launch and run the program but each have different requirements. If the user wishes to use the .jar version of the program, Java will need to be installed (version 1.4.0 or later). In order to use the .exe version of the program, the user needs to launch the .exe either on a windows computer, or in a Virtual Machine on a non-windows computer like Mac or Linux.

Functionionality:

Program takes infix user input. Program accepts operands A-Z and a-z and operators +, -, *, /, ^, (,). When an expression is inputted and the user clicks calculate traversals, the program takes the input data and creates a binary tree using it. Then the program traverses through the tree using in-order, pre-order, and post-order traversals. The output of these traversals are saved and displayed in the three traversal boxes at the bottom of the program.

Interface:

Below is a picture of the interface with a sample expression. The text box at the top is the user input text box. User inputs an infix expression into the box, then clicks the calculate traversals button which generates a tree using the inputted expression, and displays the traversals as output.The user can either manually delete what is in the user input text field and input another expression to calculate, or the user can use the clear button. The clear button clears all input from the user input text box, and clear whatever output there is at the time in the three traversals output boxes. This allows the user to then enter another expression if desired. To close the program simply click the red x in the top right corner of the program.