README

Naming Conventions and Documentation

1 Prefix and Postfix Conventions

1. Functions that are prefixed with "G_" are global functions. G functions enforce encapsulation on a naming scheme level, so users do not get confused. Global functions can handle any arbitrary input to their parameters due to their input sanitation.

   A G function should only call helper functions within its code block. Code blocks implies scope.

2 Return Conventions

1. The return value of a function is denoted by an arrow, followed by return values separated by underscores. For example, often times, a G function returns a value_state pair. This is denoted by: $\rightarrow$ (*value_state*). The pair, or tuple, is a list of two elements. The first, being the value, and the second, being the state.

   Value-state pairs were often returned due to the side effect challenge. We were able to complete the side effect challenge without using *let*, due to our G functions returning the value of a passed in expression and updated state.

3 Atomic Statements

1. Atomic statements are statements that are valid either in condition statement (i.e. if (atomic statement) then...) or on their own (i.e (atomic statement);) At the moment, this is just assign statements, arithmetic expressions, boolean expressions, and comparison expressions.

   (e.g. (> x (+ y 1)) is an atomic statement)
   (e.g. (== 3 (= x(+ x 1)) is an atomic statement)
   (e.g (= x 1) is an atomic statement)

4 Value and State naming

1. evaluate-parse-tree→retval_state runs the parsing of the program.

2. evaluate-statement→retval_state is our MState function. Our state functions follow this pattern. G-evaluate-if-statement→retval_state is equivalent to MState-if. G-evaluate-while-statement→retval_state is equivalent to MState-while. And so on.

3. G-eval-atomic-statement→value_state is most equivalent to MValue. Our value functions follow this pattern. G-eval-assign→value_state is equivalent to MState-assign. eval-boolean-expr-uni→value_state, along with our other similar boolean functions of this nature, is equivalent to Mvalue-boolean. And so on.