Name: Keenon Ono
Date: 3/3/14

Milestone Report

Handwritten Answers to Milestone Questions:

NA

Specification (what do <u>you</u> think the purpose of this milestone is)

I think that the purpose of this milestone is to allow us to understand the purpose of a recursive descent parser. I think that the parser developed in a tree format allows us to easily see and connect our work to the first milestone where we needed to do a post traversal of the pre order input. We also should use the parse tree to not only generate output, but also to check types and apply type casting where possible.

Processing (how did <u>you and/or your team</u> go about solving the problem)

I solved this issue by using creating a tree out of the tokens I had lexed previously. I then recursed through the nodes comparing the left and right children until there were no more and checked the types of the left and right children to make sure that they match, and then apply the parent operator/expression. After working at it a while, I found that there was an issue in the way that I was processing my tokens which was causing issues with my recursion. I had been adding in an invisible token that didn't have a type, or value, but was just an empty token. And since I obviously couldn't see it in the previous milestone, it wouldn't have been something that manifested until now. That was an interesting bug to track down.

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Testing Requirement (how did <u>you and/or your team</u> test for correctness)

I tested for correctness using just one test file with several small tests, per the recommendation. The tests included checking for type casting, type checking and string concatenation. Hopefully I've covered enough cases in my test file to address what is needed.

Retrospective (what did <u>you</u> learn in this milestone)

I learned that the recursive descent parser was a bit tricky to implement, and can even be used to uncover issues that can exist in the lexer or by things missed in the parser implementation that checks for accepted items. Apparently, lexing empty things was something I was doing from the second and third milestones and didn't know it.