The Phantoms
Assignment 6
CS 152 Section 5
Final Report

For assignment 6 we used three separate packages to build the scheme interpreter. The three packages consist of the front end, the back end, and the intermediate code. The front end was responsible for reading the scheme source code and parsing the source code into individual tokens. These tokens were sent to the intermediate code, which built the parse tree and the symbol table based on the tokens that were passed to it from the parser. In the back end we had our runtime stack, runtime display, activation records, and a library of procedures. This package also contained the main class and the executor class. With our design we wanted the run class to set up the backend, which sets up the intermediate code, which sets up the front end.

We ran into several issues with this project. First we had a hard time implementing the linking between the parse tree and the symbol table. We were not exactly sure how to make the symbol table keep a reference to its position in the parse tree. The second issue we ran into was the runtime stack in the back end. We were not sure how to separate a list into individual variables. For example given the expression lambda (a b), we did not know how to separate (a b) into individual variables to be stored in an activation record. Our parser is also not complete, We do not account for every type of special symbol such as ", [ ], and { }. As a result our symbol tables are not constructed correctly.