

*Semantic Analyzer*

Extend your TDRD parser to analyze the "semantics" of the CL program. The Semantic Analyzer should determine the scope of each name, according to the scope rules of the language, and should report any errors, such as labels used but not defined, names used as more than one of: {scalar variable, array, label} within the same scope, and any other similar mis-use of name errors which make programs illegal. Each such mis-use should be reported in a clear error message. In addition, the parse tree should be made to distinguish its references for a given name, referring now to the proper "identity" of that name, as determined by SA. The proper identity may not be determinable for uses of labels at the time that usage is printed out as part of the parse tree, and that is acceptable.