

Lab 5 – Add Symbol Management

Add simple symbol management to the existing expression compiler. Define variables automatically as integers when they are assigned to. They must be assigned before using them in an expression. If not, report the variable as undefined.

All variables, when inserted in the symbol table should be given a 'type' attribute and it should be set to 'integer'. Also, create an attribute to indicate where the variable would reside in memory when the program runs. This 'memory address' should be assigned by using a variable that holds the last used 'address'. That last used address should be incremented (by 4 since integers are 4 bytes) and that is the address to use when a new variable is inserted into the symbol table.

Write some code to dump the contents of the symbol table and call it after compiling test programs to show that variables were properly inserted and defined during parsing.