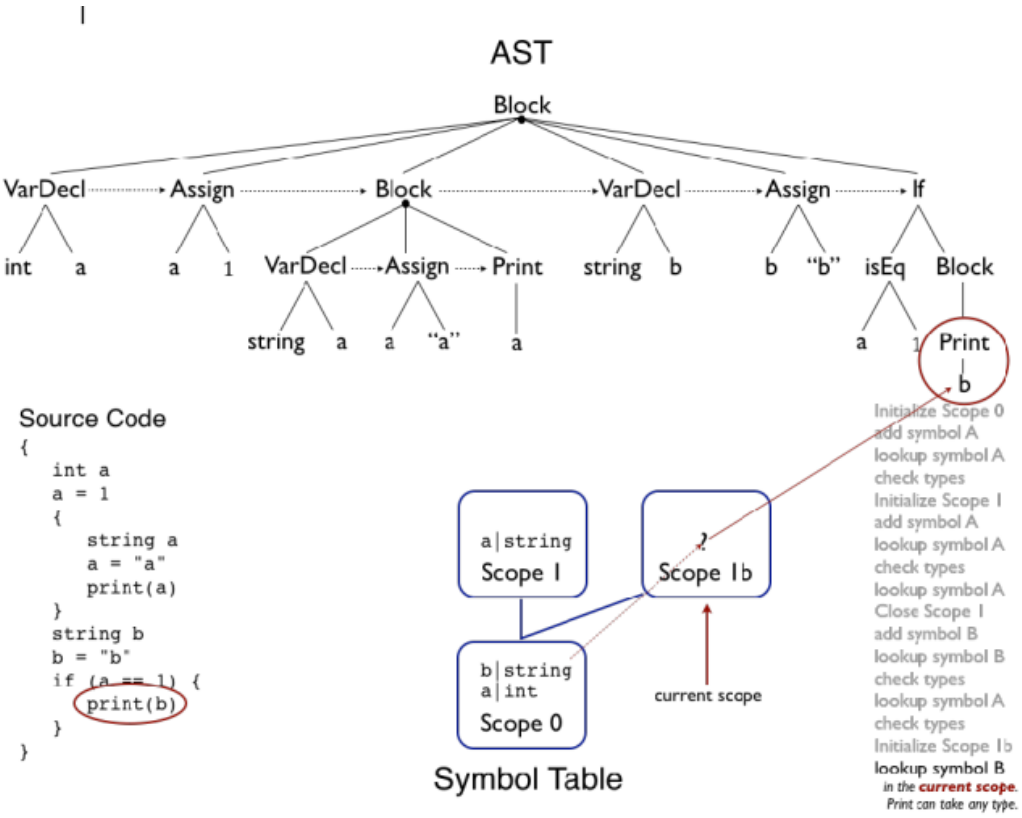
Gabriel Arnell

Lab 7

Describe in detail what is happening in the diagram below.



In the Diagram below, the Semantic Analyser is constructing the symbol table. From what we can see, the AST is already complete but the Symbol table for Scope 1b is incomplete. At this point the compiler needs to figure out what symbol the print statement is actually using. It will first check the scope block for the if statement it is in. But seeing as how a symbol **b** was not declared at that point, and thus not on the Scope 1b, the compiler then has to go to its parent block, Scope 0 which is the root block of the whole program. There, a variable **b** was declared so when the print statement is actually used, that is the variable that will be printed.