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Project Part 2

Unsolvable problems: I did not implement the for loop and the while loop due to their complexity, as stated in an announcement.

* For loop
  + Format would probably look something like this:
    - for(<assign> “;” <expr> “;” <assign>) “do” <stmt\_list> “end”
  + Currently my program does not differentiate between the different types of statements, so I would need to split up my stmt() function to parse the <assign>, <expr>, <assign> statements.
  + For the dynamic semantics, you would probably need to keep the file offset pointer at the beginning of the statement list, then move it back every time the <expr> is found to be true so that the statement list could run again.
  + You might have to store the <expr> and the second <assign> statement so that you can run it after running the statement list.
* While loop
  + The dynamic semantics for the while loops would be the same as the for loop

Language modifications:

* For loop:
  + Lexer detects the “for” keyword
  + Parser does nothing about it
* Added a single line comment system
  + Follows the format <comment> -> “#” <anything > “\n”.
  + Lexer determines that the lexeme is a <comment> token by the “#” symbol, then reads all text from the file until it reaches a new line.
  + Parser ignores the token and treats it as a statement.

Figure : State Transition Diagram

