Top Down Analysis

Top down constriction of a parse tree:

- Start with the root, labelled by the starting symbol
- Repeatedly perform the following steps:
  1. At internal node N, labelled with non-terminal A
     - Select one of the production rules for A
     - Construct children at N for the symbols in the right part of this production rule
  2. Find the next node to construct a subtree
     - Typically the leftmost unexpanded non-terminal of the current tree

During the construction of the parse tree the current terminal of the input that is being scanned is called the lookahead symbol

Our aim during top-down parsing - to construct the parse tree, such that the string generated by the parse tree matches the input string

For a match to occur - the starting symbol stmt must derive a string that starts with for

When a node in the parse tree:

- Is labelled with a terminal
- Matches the lookahead symbol

Then

- The lookahead becomes the next terminal in the input
- We consider the next child in the parse tree