

UNIT 5: TOP-DOWN PARSING TECHNIQUES

We want to incorporate a repetitive sentence into a high-level language. The sentence can be represented by the following regular expression:

repeat (identifier | number) >> sentence⁺ <<

A program consists of at least one statement, where statements can be assignments, conditionals, and loops.

NOTE: The symbols "|" and "+" are part of the regular expressions, the others are part of the language.

It is required:

1. Define the grammar G that would generate valid programs of this programming language. Consider the assignment and conditional statements as terminal symbols of the grammar.
2. Obtain the LL(1) analysis table for the previous G grammar or an equivalent one that allows an LL(1) analysis.