

UNIT 5: TOP-DOWN PARSING TECHNIQUES

We want to develop an analyzer that can verify that the data packages that circulate through an information channel have the appropriate structure.

A data package consists of two types of blocks, the blocks labeled with the letter "a" and those labeled with the letter "b". Valid data packages have the following structure:

- They start with a block "a"
- They can have any number of blocks greater than or equal to 1.
- They cannot have more than two consecutive blocks with the same label.

Example:

a abbabaab aabaa abaaaab ababaabb baab ...

Error package (three consecutive "a" blocks)

Error package (it starts with a "b" block)

1. Define the grammar G of the analyzer.
2. Construct an LL(1) syntax parsing table for the analyzer.