SUBAIR CALEB IBUKUN

17/SCI01/078

COMPUTER SCIENCE

300LV

Differentiate between lexemes and tokens with examples.

Lexeme is a sequence of characters from the input that match a pattern (and hence constitute an instance of a token). It is also a sequence of characters in the source program that matches the pattern for a token and is identified by the lexical analyser as an instance of that token.

Tokens are symbolic names for the entities that make up the text of the program. A token is also a pair consisting of a token name and an optional attribute value. The token name is an abstract symbol representing a kind of lexical unit, e.g., a particular keyword, or sequence of input characters denoting an identifier. The token names are the input symbols that the parser processes.

|  |  |
| --- | --- |
| TOKEN | LEXEME |
| If | If |
| While | While |
| Relation | <, >, =, <= |
| ID | Count, pi, D2, I, j |
| NUM | 0,143, 667, 3.14 |