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COURSE CODE: CSC312

COURSE TITLE: Compiler Construction 1

ASSIGNMENT

**Question**

Differentiate between lexemes and tokens. Give examples to support your discussion.

ANS:

A lexeme is a sequence of characters in the source program that matches the pattern for a token and is identified by the lexical analyzer as an instance of that token, while a token is a pair consisting of a token name and an optional attribute value.

ALSO

Tokens are symbolic names for the entities that make up the text of the program; e.g. if for the keyword if, and id for any identifier. These make up the output of the lexical analyzer. A lexeme is a sequence of characters from the input that match a pattern (and hence constitute an instance of a token); for example if matches the pattern for if , and foo123bar matches the pattern for id.

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| LEXEME | TOKEN CARTEGORY |
| Sum | Identifier |
| = | Assignment Operator |
| 3 | Integer Literal |
| + | Addition operator |
| 2 | Integer literal |
| ; | End of Statement |