**365**

Syntax: grammar (form of language)

Semantics: meaning of language

Lexemes: basic units of language (words)

Ex: if, ++, +, count, etc…

Grouped into tokens

Tokens: specified using regular expressions

|  |  |
| --- | --- |
| **Token** | **Sample lexemes** |
| Identifier | Count, I, x2… |
| If | If |
| Mult\_op | \*, /, % (order of precedence) |

BNF: Backus Naur Form

~Metalanguage: used to describe other languages

~Standard in describing language syntax

context-free languages: class of languages described using BNF

context-free grammars: BNF descriptions

LHS – left hand side, RHS

**Expressions**

Expand options into tree

Ex:

<expr>

expr op expr

| | |

(expr) \* num

| |

expr op expr 5

| | |

num + 3

|

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