Recap: Definition of CFG

A CFG $G = (N, T, P, S)$ where
- $N$ is a finite set of nonterminals (or variables or syntactic categories)
- $T$ is a finite set of terminals
- $N \cap T = \emptyset$ (disjoint)
- $P$ is a finite set of productions of the form $A \rightarrow \alpha$ where $A \in N$ and $\alpha \in (N \cup T)^*$
- $S \in N$ is the start symbol

Simple Arithmetic Expressions

$SAE = (N = \{E, I, D\}, T = \{+, *, (, ), 0, 1\}, P, E)$
where $P$ is given by:

$E \rightarrow E + E$
$| E \ast E$
$| (E)$
$I \rightarrow DI | D$
$D \rightarrow 0 | 1$

Note: $A \rightarrow \alpha \mid \beta$ shorthand for $A \rightarrow \alpha, A \rightarrow \beta$. 

Another Example: Java