

Introduction to Compilation Techniques

Class test - 1

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1. Consider the context-free grammar given below.

- (a) $Func \rightarrow T \text{ id}(Args)$
- (b) $T \rightarrow id$
- (c) $T \rightarrow T^*$
- (d) $Args \rightarrow ArgL|\epsilon$
- (e) $ArgL \rightarrow T \text{ id}, ArgL|T \text{ id}$

Compute the FIRST set for all non-terminals of the above grammar. The terminals in this grammar are id , $($, $)$, $*$, where $\$$ is the end-of-input marker, and the nonterminals are $Func$, T , $Args$, $ArgL$. (5)

2. Identify the following.

- (a) Is the above grammar left-associative ? (2.5)
- (b) Is the above grammar right-associative ? (2.5)
- (c) Check whether the input string $id^* id()$ belongs to the language generated by the above grammar. Draw the parse tree. (5)
- (d) Can you infer anything about associativity from the parse tree for the grammar given above ? (5)

3. We have chosen left-most derivation for LL(1) parsing. What will be different if right-most derivation is chosen ? Explain with example. (5)