

CS200 Quiz 2: Grammars (9/4/08)

1. Circle all that are true: In a grammar,
 - a. *“ $x \mid y$ ” means “ x or y ”.*
 - b. a terminal is indicated by putting $\langle \rangle$ around a name.
 - c. each non-terminal must have a unique expansion.
 - d. the starting non-terminal must have only terminals on its right hand side.
2. Circle one: The statement:
 $JP = \{\text{strings } w : w \text{ is a syntactically correct Java program}\}$ signifies that
 - a. all strings are syntactically correct Java programs.
 - b. *all syntactically correct Java programs are strings.*
 - c. JP consists of all possible strings.
 - d. a string is a language.
3. Fill in the blank: Operator precedence or parentheses are needed for infix to *resolve ambiguity*.
4. Circle all that are legal prefix expressions from the grammar in class:
 - a. $+ - a b$.
 - b. *$+ a - b c$.*
 - c. *$* / a - c d b$.*
 - d. *$* / - a c d b$.*
5. Circle all that are true:
 - a. *Bottom-up parsing matches the terminals to the right hand side of rules and continues to replace them with non-terminals until it can replace the set with the starting non-terminal.*
 - b. *Parsing may require backtracking because there are multiple choices for expansion of non-terminals.*
 - c. Ambiguous grammars cannot be parsed.
 - d. A rule in a grammar cannot have the same non-terminal on both the right and left side of the $=$.