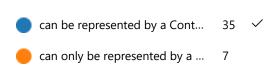
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Concepts of Context-Free Languages (CFLs) and Context-Free Grammars (CFGs)



1. A Context-Free Language (CFL) is a language that: (1 point) 83% of respondents (35 of 42) answered this question correctly.





2. The language of the strings with sequences of 0's followed by sequences of 1's and with the same number of 0's and 1's is: (1 point)

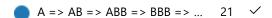
78% of respondents (32 of 41) answered this question correctly.





3. Consider the following CFG: A -> AB | B B -> b What is the leftmost derivation for the input string bbb: (1 point)

54% of respondents (21 of 39) answered this question correctly.





4. A CFG G is said to be ambiguous when: (1 point)

70% of respondents (26 of 37) answered this question correctly.



5. Is the following CFG: A -> AB | B B -> b ambiguous? (1 point) 66% of respondents (23 of 35) answered this question correctly.







6. Suppose the ambiguous grammar G1: E -> I | E+E | E×E | (E) I -> a | b | Ia | Ib | I0 | I1 and the following non-ambiguous grammar G2: E -> I | E+I | E×I | (E) I -> a | b | Ia | Ib | I0 | I1 Is L(G1) = L(G2)? (1 point)

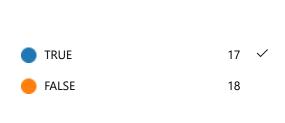
44% of respondents (16 of 36) answered this question correctly.





7. Suppose the ambiguous grammar G1: E -> I | E+E | E×E | (E) I -> a | b | Ia | Ib | I0 | I1 and the following non-ambiguous grammar G3: E -> J | E×J J -> I | J+I I -> a | b | Ia | Ib | I0 | I1 | (E) Is L(G1) = L(G3)? (1 point)

49% of respondents (17 of 35) answered this question correctly.





8. Any ambiguous CFG can be modified to a non-ambiguous CFG (representing the same language): (1 point)

72% of respondents (26 of 36) answered this question correctly.

