START OF QUIZ
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I agree that all answers provided are in my own words, and that I will not discuss the contents of this quiz with any of my fellow students until after the exam period has completed for everyone. Furthermore, any response that used generative AI tools has been rephrased into my own interpretation, and has been appropriately cited.

Signature: _____

Question 1

Topic: Lecture 7
Source: Lecture 7

Briefly describe how dependency parsing differs from constituency parsing. (1)

Question 2

Topic: Lecture 8
Source: Lecture 8

When learning CLE, why can't we just take the maximal score out of (or into) each node? (1)

Question 3

Topic: Lecture 5
Source: Lecture 5

What does each cell in the CYK chart represent (ie, what does cell 2,5 represent)? (1)

Question 4

Topic: Lecture 8
Source: Lecture 8

Explain why the distance between words (either on the buffer or the stack) might be a useful feature for a shift-reduce parser. (1)

Question 5

Topic: Lecture 5
Source: Lecture 5

Describe the difference between top-down and bottom-up parsing, including one advantage to each. (1)

Question 6

Topic: Lecture 6
Source: Lecture 6

Imagine that we want to take the best of both worlds of the CYK parser and the Earley parser. To take advantage of parallel processing, we create a "meet-in-the-middle" parser that simultaneously starts parsing from the top and the bottom. Describe at least 2 difficulties with this approach. (2)

Question 7

Topic: Lecture 6
Source: Lecture 6

If you have a sentence (or, more generally, a language) with more nesting structures, would you prefer to parse with Earley or CYK? Explain. (2)

Question 8

Topic: Lecture 7
Source: Lecture 7

A deque is a data structure that mimics the operations of both a stack and a queue (ie, items can be added or removed to either end). Do you think this data structure would be sufficient to replace the stack and buffer from SR parsing? Justify your answer. (2)

Question 9

Topic: Long
Source: Lecture 6

Often, modern NLP tools work not with words, but with subword units. What modifications would we need to make to the Earley parser in order to work with subword units (for example: "agreement" might get split into "agree" and "-ment"). Where would they need to occur in the parser, and how do you think it might benefit and harm the algorithm? Do you think this would be easier to handle with CYK? (3)

END OF QUIZ