START OF QUIZ
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Academic honesty is essential to the continued functioning of the University of British Columbia as an institution of higher learning and research. All UBC students are expected to behave as honest and responsible members of an academic community. Failure to follow the appropriate policies, principles, rules, and guidelines of the University with respect to academic honesty may result in disciplinary action.

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 5
Source: Lecture 5

How do we obtain the probabilities for a PCFG? (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 7
Source: Lecture 7

When we update the stack after an arc, we return the head of the operation. Why? (1)

Question 4

Topic: Lecture 7
Source: Lecture 7

How does the parser decide which element will be the head of an arc, and which the dependent? (1)

Question 5

Topic: Lecture 6
Source: Lecture 6

In the best case, Earley can be quadratic (instead of cubic). What (very restricted) cases would this apply? (1)

Question 6

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 7

Topic: Lecture 8
Source: Lecture 8

In class, we discussed creating a feature vector as input to a classification model. What benefits (or disadvantages) might we see by replacing binary features with word embeddings, instead? (2)

Question 8

Topic: Lecture 5
Source: Lecture 5

In class, we always assumed one best parse. How does the CYK algorithm change if we end up with multiple parses (ie, what extra information needs to be tracked)? How does it change the complexity? (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