

START OF QUIZ

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Question 1

Topic: Lecture 6

Source: Lecture 6

Briefly describe the role of the scanner, predictor, and completer in the Earley Parser. (1)

Question 2

Topic: Lecture 5

Source: Lecture 5

What is fenceposting? Give two reasons we need it in the CYK algorithm. (1)

Question 3

Topic: Lecture 5

Source: Lecture 5

Describe why CNF is necessary for the CYK algorithm. (1)

Question 4

Topic: Lecture 7

Source: Lecture 7

What are the conditions for completing a parse in SR parsing, and under which conditions might they not be met? (1)

Question 5

Topic: Lecture 8

Source: Lecture 8

Describe what we mean by a cascaded learning model, and one advantage and disadvantage to using one. (1)

Question 6

Topic: Lecture 7

Source: Lecture 7

In class, we saw that LLMs can struggle with long-term dependencies, why do you think that is, given what you know about language models and dependency parsing. (2)

Question 7

Topic: Lecture 6

Source: Lecture 6

What difficulties do you envision when using the Earley parser with a language with large amounts of agreement? (2)

Question 8

Topic: Lecture 8

Source: Lecture 8

In class, we mentioned that graph-based parsing can handle non-projective parses, but it has cubic time complexity. How would you go about improving the complexity to (mostly) linear time, while still being able to handle non-projective parses? Describe why this solution works. Hint: we talked about a simple solution in class. (2)

Question 9

Topic: Long

Source: Lecture 8

Let's say you have a friend who is developing a constructed language (conlang) for the epic fantasy novel he is writing, but the only language she knows is English, and she is just doing a word-for-word translation of English into this constructed language. She has no real knowledge of syntax, and has only ever thought that "some words come after other words" (she's thinking like a language model). How would you use treebanks and dependency parsers to demonstrate to her that there is a whole "hidden" structure that language must follow, and how would you help her develop a realistic grammar for her conlang? Do you think it would make more sense to build the grammar for a "modified English", and then do word-for-word translation, or to translate the words from English, and then build the grammar in the conlang? (3)

END OF QUIZ