

**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 8

Source: Lecture 8

Why do we evaluate UAS and LAS separately? (1)

## Question 2

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 3

Topic: Lecture 5

Source: Lecture 5

Which operation dominates the complexity of CYK? Why? (1)

## Question 4

Topic: Lecture 6

Source: Lecture 6

What does it mean for an Earley item to be “complete,” and what happens when it is? (1)

## Question 5

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 6

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 7

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 8

Topic: Lecture 7

Source: Lecture 7

In class, we discussed PCFGs as a way of modeling syntactic ambiguity. Do you think something like PSR would benefit dependency parsing in a similar way? Briefly explain. (2)

## Question 9

Topic: Long

Source: Lecture 7

Imagine we have a very small treebank, and a large amount of unannotated data. How might we leverage this to iteratively train a reasonable-quality parser? What potential problems do you think we might encounter along the way? How might we try to solve these problems? (3)

# END OF QUIZ