

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

Why do we create a dummy variable for the root of the sentence? (1)

Question 2

Topic: Lecture 7

Source: Lecture 7

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

Question 3

Topic: Lecture 8

Source: Lecture 8

Why do we need both the state of the buffer and stack as features to SR parsers (ie, what is each contributing)? (1)

Question 4

Topic: Lecture 5

Source: Lecture 5

Which operation dominates the complexity of CYK? Why? (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 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

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 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 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