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

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

Question 2

Topic: Lecture 5
Source: Lecture 5

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

Question 3

Topic: Lecture 6
Source: Lecture 6

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

Question 4

Topic: Lecture 7
Source: Lecture 7

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

Question 5

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 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 5
Source: Lecture 5

Let's say we wanted to modify PARSEVAL to take ambiguity into account. How might we use a PCFG and two gold references to account for ambiguous parsing? (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 5

In class, all of our parsing examples contained a single clause, so were relatively easy to parse. Consider the sentence: "The dog that barked all night finally went to sleep.". This sentence has 2 clauses (one relative, and one independent). Given that the subject of the independent clause is separated from its verb by a relative clause, can CYK parse this sentence? If so, provide the rules that would be necessary, and explain how we would represent it in the chart. If not, explain what features make it unparseable using CYK or CFG. (3)

END OF QUIZ