# START OF QUIZ
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## Question 1

Topic: Lecture 5
Source: Lecture 5

How do we obtain the probabilities for a PCFG? (1)

## Question 2

Topic: Lecture 6
Source: Lecture 6

In class, we mentioned that the Earley and CYK parsers are both cubic complexity, but that in practice, the Earley Parser is typically faster. Why do you think that is? (1)

## Question 3

Topic: Lecture 6
Source: Lecture 6

Describe the purpose of the dot. (1)

## Question 4

Topic: Lecture 8
Source: Lecture 8

What information do you think the word tokens on the stack/buffer are providing to the ML SR parser? (1)

## Question 5

Topic: Lecture 7
Source: Lecture 7

Briefly describe how the stack changes for a SHIFT operation. (1)

## Question 6

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 7

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 8

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 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? (3)

# END OF QUIZ