# START OF QUIZ
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## Question 1

Topic: Lecture 3
Source: Lecture 3

If we were to try to use an HMM for segmentation, describe what the transition and emission probabilities would be. (1)

## Question 2

Topic: Lecture 1
Source: Lecture 1

Knowing what you know about parsing, describe how compounding could be considered syntax, instead of morphology. In other words, how might we parse compounds? (1)

## Question 3

Topic: Lecture 4
Source: Lecture 4

Transition-based segmentation is very similar to the SR parser we saw last block, except it uses 2 FIFO structures, and doesn't require a stack. What is different about segmentation so that it doesn't require a stack? (1)

## Question 4

Topic: Lecture 4
Source: Lecture 4

What kind of tasks are CRFs appropriate for (2 requirements)? Don't list tasks, but rather the general class of tasks. (1)

## Question 5

Topic: Lecture 1
Source: Lecture 1

English is often described as an "analytic language with some fusional properties". Describe what that means, with an example. (1)

## Question 6

Topic: Lecture 2
Source: Lecture 2

In some ways, Statistical Machine Translation (SMT) was similar to an FST modified by a re-ordering model (ie, each input word had a corresponding output translation, and then the words were re-ordered to fit a language model). These models have been supplanted by NMT. What shortcomings of FSTs do you think put a ceiling on SMT performance? (2)

## Question 7

Topic: Lecture 3
Source: Lecture 3

In the lab, you compared BPE with a more linguistically-motivated segmentation scheme. Intrinsically, the supervised method performs much better, but typically, BPE and its cousins work much better down-stream. Why do you think that is, taking into account the differences between the two methods? (2)

## Question 8

Topic: Lecture 2
Source: Lecture 2

As a thought experiment, how might we build a calculator using an FST? Imagine that the FST reads input on one side of the tape, and generates operations (that are carried out by an algorithm) on the output side. (2)

## Question 9

Topic: Long
Source: Lecture 2

In class, we mostly discussed using FSTs for *inflectional* morphology. What are some difficulties that derivational morphology presents, and how do you think that FSTs could still handle derivational morphology? Give some examples, along with some PseudoFoma that demonstrates this handling. (3)

# END OF QUIZ