START OF QUIZ
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Question 1

Topic: Lecture 2
Source: Lecture 2

Do you think that FSTs can work with vowel harmony? Explain. (1)

Question 2

Describe, with an example (not used in class) the difference between surface and canonical segmentation. (1)

Question 3

Topic: Lecture 3
Source: Lecture 3

Why is differential entropy a good measure for establishing morpheme boundaries? (1)

Question 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 5

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 6

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

Vowel harmony is a process by which vowels in affixes must match some of the properties of the vowels in the root. For example, in Turkish, "houses" is "evler", while "schools" is "okullar", where the plural suffix must have a front or back vowel, matching the root ("ev" and "okul"). Given the ML models you've seen so far, give a specific example of a model that you think can learn this process, and explain why it's well suited to the task. (2)

Question 8

Suppletion is a process by which morphological patterns (called paradigms) merge to form a mixed paradigm. For example, the past tense of "to go" comes from an older verb, "wendan - to turn". Describe how syncretic paradigms might impact a machine learning model, and how we can learn to model them accurately. (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