START OF QUIZ
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Question 1

Topic: Lecture 1
Source: Lecture 1

Explain what modifications would need to be made to our dynamic edit distance algorithm to incorporate weighted edit distance. (2)

Question 2

Topic: Lecture 4
Source: Lecture 4

Why can we use logarithms for the Viterbi algorithm, but not the forward algorithm? (1)

Question 3

Topic: Lecture 3
Source: Lecture 3

If our vocabulary consists of just symbols A and B and our corpus consists of the sequence: A B B A A B and we build a bigram language model by applying add-one smoothing to the maximum likelihood estimate from the corpus, what is the probability P(B|A)? Please show your work. (2)

Question 4

Topic: Lecture 4
Source: Lecture 4

How is it that EM can arrive at a good solution, even if we have a random initialization of parameters? (1)

Question 5

Topic: Lecture 2
Source: Lecture 2

Why do outliers cause problems for clustering algorithms like k-means? How can we deal with them? (1)

Question 6

Topic: Lecture 1
Source: Lecture 1

Do you think cosine similarity is more similar to Hamming distance or Levenshtein distance? Explain. Also briefly explain how it differs from your choice. (2)

Question 7

Topic: Lecture 3
Source: Lecture 3

Explain why HMMs are a generative model, and how that differs from a discriminative model. (1)

Question 8

Topic: Lecture 2
Source: Lecture 2

Why is the Forgy initialization sub-optimal? (1)

Question 9

Topic: Long
Source: Lecture 3

In class, we built a collocation matrix for a bigram language model. Modify the function so that it can handle a trigram language model and implements "add-alpha" smoothing, instead of "add-one" smoothing. (3)

END OF QUIZ