START OF QUIZ
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Question 1

Topic: Lecture 1
Source: Lecture 1

Explain why edit distance (given our formulation) will always choose a substitution, if it can. (1)

Question 2

Topic: Lecture 2
Source: Lecture 2

When is it more appropriate to use hierarchical clustering than k-means? (1)

Question 3

Suppose we are filling the table for the Levenshtein distance algorithm. We are in cell (x, y). The values of cell (x-1, y-1), (x-1, y), and (x, y-1) are 5, 3, and 1, respectively. What is the value we will put in cell (x, y), given that the letters are equal? (1)

Question 4

Topic: Lecture 3
Source: Lecture 3

Explain the purpose of Laplace smoothing, and how it accomplishes its goal. (1)

Question 5

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 6

Topic: Lecture 4
Source: Lecture 4

Imagine that we are doing ASR instead of POS tagging. Briefly describe what the emissions and transitions would be. (2)

Question 7

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 8

Topic: Lecture 2
Source: Lecture 2

How do we choose the number of clusters for K-means? What are the consequences if we choose incorrectly? (2)

Question 9

Topic: Long
Source: Lecture 1

We've all had an instance of autocorrect suggesting a bizarre correction for something. Given what you know about word similarity for error correction, explain why autocorrect doesn't always pick the word with the lowest edit distance. (3)

END OF QUIZ