

START OF QUIZ

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Question 1

Topic: Topic4

Source: Lecture 4

Why are the Forward and Viterbi algorithms considered to be dynamic programming, and why do we care?

Question 2

Topic: Topic4

Source: Lecture 4

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

Question 3

Topic: Topic1

Source: Lecture 1

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 2, 2, and 4, respectively. What is the value we will put in cell (x, y) , given that the letters are equal?

Question 4

Topic: Topic2

Source: Lecture 2

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

Question 5

Topic: Topic2

Source: Lecture 2

How do we choose the number of clusters for K-means? What are the consequences if we choose poorly?

Question 6

Topic: Topic3

Source: Lecture 3

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

Question 7

Topic: Topic3

Source: Lecture 3

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

Question 8

Topic: Topic1

Source: Lecture 1

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

Question 9

Topic: Coding

Source: Lecture 3

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

END OF QUIZ