

START OF QUIZ

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Question 1

Topic: Lecture 3

Source: Lecture 3

Why do we use log-probability instead of linear probability? (1)

Question 2

Topic: Lecture 2

Source: Lecture 2

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

Question 3

Topic: Lecture 3

Source: Lecture 3

Describe the noisy channel model, and how it can be used to represent [Machine Translation, ASR, POS-tagging]. (1)

Question 4

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 5

Topic: Lecture 1
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 1, 3, and 5, respectively. What is the value we will put in cell (x, y) , given that the letters are equal? (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

Topic: Lecture 4

Source: Lecture 4

What is the main purpose of semi-supervised learning in EM? That is, how does it affect the overall model, and where is the effect the largest? (1)

Question 8

Topic: Lecture 2

Source: Lecture 2

Imagine we were using k-means to cluster misspellings around their correct spellings. How many clusters would we need, and what would be a good distance function? Explain. (2)

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