

START OF QUIZ

Student ID:

30542179, Yang, Yimei

Question 1

Topic: Lecture 1

Source: Lecture 1

When is dynamic programming more efficient than brute force programming? (ie, what assumptions do we make about a problem when we use dynamic programming?) (1)

Question 2

Topic: Lecture 3

Source: Lecture 3

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

Question 3

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 NOT equal? (1)

Question 4

Topic: Lecture 4

Source: Lecture 4

Iterative algorithms often require a stopping condition. Briefly explain why this is necessary, and why perplexity is a metric to use for stopping HMMs. (2)

Question 5

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 6

Topic: Lecture 3

Source: Lecture 3

Imagine that we are doing machine translation instead of POS-tagging. What would be the equivalent of emission probabilities and transition probabilities? Explain. (2)

Question 7

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 8

Topic: Lecture 2

Source: Lecture 2

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

Question 9

Topic: Long

Source: Lecture 4

Please refer to the "Long" question from Lecture 4.

END OF QUIZ