

**START OF QUIZ**

**Student ID:**

**78076577, Stra-  
forello, Francesco**

## Question 1

Topic: Topic3

Source: Lecture 3

Describe the noisy channel model, and how it can be used to represent ASR.

## Question 2

Topic: Topic4

Source: Lecture 4

Briefly describe why soft EM might provide more accurate tagging results than hard EM.

### Question 3

Topic: Topic4

Source: Lecture 4

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

## Question 4

Topic: Topic1

Source: Lecture 1

When is cosine similarity appropriate as a similarity measure?

## Question 5

Topic: Topic2

Source: Lecture 2

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

## Question 6

Topic: Topic3

Source: Lecture 3

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

## Question 7

Topic: Topic2

Source: Lecture 2

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



## Question 8

Topic: Topic1

Source: Lecture 1

Discuss why one might do unsupervised learning instead of supervised learning.

## Question 9

Topic: Coding

Source: Lecture 2

Imagine we have three clusters  $[[X, Y], [M, N, P], [A, B, C, D]]$ , and a point  $[R]$ . Write a function that determines which cluster to add  $R$  to, given the min linkage criterion.

**END OF QUIZ**