

## NLP quiz 5, Rubric

Ans 1.

- 1) MEMMs can make use of any features, this is not possible in HMM. (+1 marks)
- 2) Using any feature gives MEMMs the potential to create and use useful features for improving performance. (basic idea) (+1 marks)

Ans 2.

Formula for entropy of a model :

$$H(x) = - \sum_x P(x) \log_2 P(x)$$

Model A : Entropy = 0.91 (approx) (+1 marks) [0.5 marks if calculations not completed]

Model B: Entropy = 2 (+1 marks) [0.5 marks if calculations not completed]

Will choose model B (+1 marks)

Ans 3.

P (class 1 | Sample) = 7.389 / 14.075 = 0.525 (+0.5 marks)

P (class 2 | Sample) = 6.686 / 14.075 = 0.475 (+0.5 marks)

The Sample will belong to class 1. (+1 marks)

Answer4 :

This was directly from lecture slide, please refer to that.