## **Break & Quiz**

**Q 1.1**: Which of the below are bigrams from the sentence "It is cold outside today".

- A. It is
- B. cold today
- C. is cold
- D. A & C

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**Q 1.2**: Smoothing is increasingly useful for n-grams when

- A. n gets larger
- B. n gets smaller
- C. always the same
- D. n larger than 10

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**Q 2.1**: What is the perplexity for a sequence of *n* digits 0-9? All occur independently with equal probability.

- B. 1/10
- C. 10<sup>n</sup>
- D. 0

$$PP(W) = P(w_1, w_2, \dots, w_n)^{-\frac{1}{n}}$$