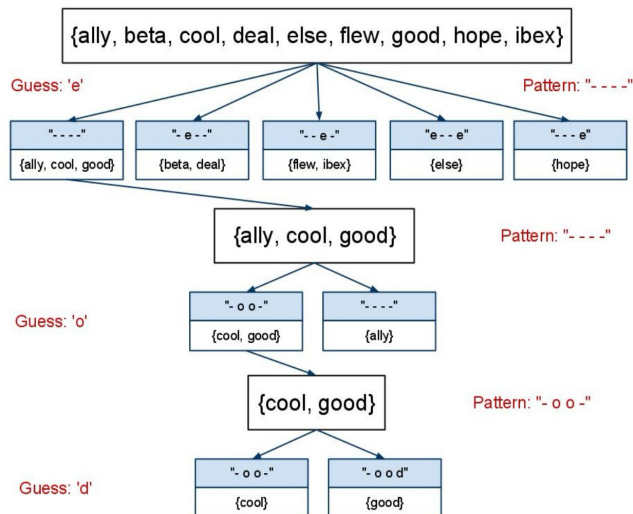


CS314H CSB Note

Sorting Lower Bound

1. Motivation: What does Evil Hangman try to do?



2. Theorem:

A d c-based sorting algorithm in the worst case must perform comparisons to sort n elements.

- Why any?
- What does “deterministic” mean?
- Why is it ok to just count the number of comparisons?

3. What does smartest algorithm do?

4. What does most evil adversary do?

5. What is the initial pool size given n is the number of elements to sort?

6. $\log n! = \log n + \log (n-1) + \dots + \log(1)$