CS341

Lecture 8

Yaro Gorban

October 7, 2015

Quick Select

- Suppose we choose a pivot element y in the array A, and we restructure A so that all elements less than y precede y in A, and all elements greater that y occurs after y in A.
- Quick Sort: recursively sort the Two splits(worst case $\Theta(n^2)$ best case $n\log(n)$
- So what we do instead is check is the pivot is the item we are looking for we are done with the search
- However if its bigger or smaller we recursively run the algorithm on the bigger or smaller half of the split.
- This allows for only one recursive call per cycle.
- This gives an average case eof $\Theta(n)$
- To get a worst case $\Theta(n)$
- Split into 5's for the first 10r + 5 elements
- find the median of each set of 5
- then use the median of medians to find the pivot