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Test 2 Review

* Content
  + Chapters 7, 8 , 10
  + Searching, sorting, binary trees, binary search trees
  + Searching: sequential search vs. binary search (sorted array)
    - Should be able to write a search algorithm
  + Specific types of sorting
    - Bubble, insertion, selection, merge sort, quick sort
    - In-place and not-in-place
      * In-place:
        + Using only one original array
        + Bubble sort
      * Not in-place
        + Copying values into new arrays
        + Selection sort
    - Divide and conquer
      * Breaks the array into pieces?
      * Merge and quick sort
    - Know the times for each of the sorts
      * Know like big O time and log(n)
      * Know best and WORST cases
        + Quick sort

If list is already sorted and pivot point is left? Then it takes n^2

* + - * + Bubble sort takes just 1 pass
    - Know the time for each of the sorts
  + Binary trees:
    - Ex: Expression trees
    - Using prefix, infix, postfix: orders for visiting the nodes in a tree
      * Should be able to write a print using a specific notation and no the order in which the nodes are traveled
      * Prefix
        + Current, left, right
      * Infix
        + Left, current, right
      * Postfix
        + Left, right, current
    - Binary search trees:
      * How to find items in a binary search tree
  + Be able to write code for
    - Sequential searching vs binary search
    - Printing
      * In prefix, infix, postfix
    - Finding a value in a binary search tree
    - How to find items in a binary search tree