Complexity, Sort, Stacks, Queues

Info 206

Niall Keleher

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Today's Quiz: http://bit.ly/2xkvLZd

Today's Outline

1. Team Projects and Presentations

2. Complexity & Big-O Notation

3. Sorting Algorithms

4. Stacks and Queues

5. Sorting Exercises

Team Projects and Presentations

Presentations

Complexity & Big-O Notation

Common Growth functions

Common Growth functions

- $O(1)$ - constant time

- $O(logN)$ - logarithmic time

- $O(N)$ - linear time

- $O(NlogN)$ - N Log N

- $O(N^2)$ - quadratic time

- $O(N^a)$ - polynomial time

- $O(2^N)$ - exponential time (!!!)

Sorting Algorithms

Sorting Algorithms

Examples:

- Insertion Sort
- Selection Sort
- Merge Sort
- Quicksort

Stacks and Queues

Stacks and Queues

Stacks

- a data structure where access is only at the end of the sequence

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Stacks

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Queues

- first-in-first out
- enqueuing

Sorting Exercise

Exercise

- Work in groups - See SortGroups on bCourses
- Answer the questions listed in the Sorting Assignment on bCourses
- Submit responses as a group on bCourses

End of Meeting #13

For next meeting

- Videos:

    1. Exceptions (9 mins)
    2. Test-Driven Development (7 mins)
    3. Test-Drive Example (17 mins)

- Readings:

    - Lutz Chapter 33: Exception Basics