

CE205 Data Structures

Week-9

Sorting Algorithms, Taxonomy and Comparisons

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Outline

- Resources
- Sortings

Outline

- Insertion Sort
- Selection Sort
- Radix Sort
- Quick Sort
- Heap Sort
- Permutation Sort
- Gnome Sort
- Comb Sort

Outline

- Flash Sort
- Stooge Sort
- Bees Algorithm
- Lucky Sort
- Indirect Sort (Pointer Sort)
- External Sort (Segmented Sort)
- Shaker Sort / Bidirectional Bubble Sort
- Shell Sort
- Comparison of Sorting Methods

Resources

- <https://www.cs.usfca.edu/~galles/visualization/Algorithms.html>
- <https://www.geeksforgeeks.org/sorting-algorithms/>
- <https://sorting.at/>
- <https://xlinux.nist.gov/dads/HTML/sort.html>
- <https://xlinux.nist.gov/dads/>

Insertion Sort

- <https://www.programiz.com/dsa/insertion-sort>
- <https://visualgo.net/en/sorting> (select INS)
- http://www.btechsmartclass.com/data_structures/insertion-sort.html
- https://rosettacode.org/wiki/Sorting_algorithms/Insertion_sort
- <https://xlinux.nist.gov/dads/HTML/insertionSort.html>

Selection Sort

- <https://www.programiz.com/dsa/selection-sort>
- <https://visualgo.net/en/sorting> (select SEL)
- http://www.btechsmartclass.com/data_structures/selection-sort.html
- <https://www.geeksforgeeks.org/selection-sort/>
- https://rosettacode.org/wiki/Sorting_algorithms/Selection_sort
- <https://xlinux.nist.gov/dads/HTML/selectionSort.html>

Radix Sort

- <https://www.programiz.com/dsa/radix-sort>
- <https://visualgo.net/en/sorting> (select RAD)
- http://www.btechsmartclass.com/data_structures/radix-sort.html
- <https://www.geeksforgeeks.org/radix-sort/>
- https://rosettacode.org/wiki/Sorting_algorithms/Radix_sort
- <https://xlinux.nist.gov/dads/HTML/radixsort.html>

Quick Sort

- <https://www.programiz.com/dsa/quick-sort>
- <https://visualgo.net/en/sorting> (select QUI)
- http://www.btechsmartclass.com/data_structures/quick-sort.html
- <https://www.geeksforgeeks.org/quick-sort/>
- https://rosettacode.org/wiki/Sorting_algorithms/Quicksort
- <https://xlinux.nist.gov/dads/HTML/quicksort.html>
- <https://xlinux.nist.gov/dads/HTML/multikeyQuicksort.html>

Heap Sort

- <https://www.programiz.com/dsa/heap-sort>
- http://www.btechsmartclass.com/data_structures/heap-sort.html
- <https://visualgo.net/en/heap>
- <https://www.geeksforgeeks.org/heap-sort/>
- https://rosettacode.org/wiki/Sorting_algorithms/Heapsort
- <https://xlinux.nist.gov/dads/HTML/heapSort.html>

Permutation Sort

- <https://www.geeksforgeeks.org/bogosort-permutation-sort/>
- https://rosettacode.org/wiki/Sorting_algorithms/Permutation_sort

Gnome Sort

- <https://www.geeksforgeeks.org/gnome-sort-a-stupid-one/?ref=lbp>
- https://rosettacode.org/wiki/Sorting_algorithms/Gnome_sort

Comb Sort

- <https://www.geeksforgeeks.org/comb-sort/>
- https://rosettacode.org/wiki/Sorting_algorithms/Comb_sort

Flash Sort

- <https://en.wikipedia.org/wiki/Flashsort>
- <https://www.drdoobs.com/database/the-flashsort1-algorithm/184410496>

Stooge Sort

- <https://xlinux.nist.gov/dads/HTML/stoogesort.html>
- https://en.wikipedia.org/wiki/Stooge_sort
- <https://courses.cs.washington.edu/courses/cse373/13wi/lectures/02-22/18-sorting1-bogo-stooge-bubble.pdf>

Bees Algorithm

- https://en.wikipedia.org/wiki/Bees_algorithm
- <http://beesalgorithmsite.altervista.org/Downloads.htm>

Lucky Sort

- <https://xlinux.nist.gov/dads/HTML/luckySort.html>

Indirect Sort (Pointer Sort)

- <https://xlinux.nist.gov/dads/HTML/internalsort.html>

External Sort (Segmented Sort)

- <https://xlinux.nist.gov/dads/HTML/externalsort.html>
- <https://xlinux.nist.gov/dads/HTML/externalMemoryAlgo.html>

Shaker Sort / Bidirectional Bubble Sort

- <https://xlinux.nist.gov/dads/HTML/bidirectionalBubbleSort.html>

Shell Sort

- <https://www.programiz.com/dsa/shell-sort>
- https://rosettacode.org/wiki/Sorting_algorithms/Shell_sort

Comparison of Sorting Methods

- http://www.btechsmartclass.com/data_structures/comparison-of-sorting-methods.html

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