

# CE205 Data Structures Week-9

## Sorting Algorithms, Taxonomy and Comparisons

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## 1 CE205 Data Structures

## 2 Week-9

### 2.0.1 Sorting Algorithms, Taxonomy and Comparisons

Download PDF<sup>1</sup>,DOCX<sup>2</sup>, SLIDE<sup>3</sup>, PPTX<sup>4</sup>

<sup>1</sup>[pandoc\\_ce205-week-9-sorting.en\\_doc.pdf](#)

<sup>2</sup>[pandoc\\_ce205-week-9-sorting.en\\_word.docx](#)

<sup>3</sup>[ce205-week-9-sorting.en\\_slide.pdf](#)

<sup>4</sup>[ce205-week-9-sorting.en\\_slide.pptx](#)

## 2.0.2 Outline

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

## 2.0.3 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/>

## 2.0.4 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](http://www.btechsmartclass.com/data_structures/insertion-sort.html)
- [https://rosettacode.org/wiki/Sorting\\_algorithms/Insertion\\_sort](https://rosettacode.org/wiki/Sorting_algorithms/Insertion_sort)
- <https://xlinux.nist.gov/dads/HTML/insertionSort.html>

## 2.0.5 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](http://www.btechsmartclass.com/data_structures/selection-sort.html)
- <https://www.geeksforgeeks.org/selection-sort/>
- [https://rosettacode.org/wiki/Sorting\\_algorithms/Selection\\_sort](https://rosettacode.org/wiki/Sorting_algorithms/Selection_sort)
- <https://xlinux.nist.gov/dads/HTML/selectionSort.html>

## 2.0.6 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](http://www.btechsmartclass.com/data_structures/radix-sort.html)
- <https://www.geeksforgeeks.org/radix-sort/>
- [https://rosettacode.org/wiki/Sorting\\_algorithms/Radix\\_sort](https://rosettacode.org/wiki/Sorting_algorithms/Radix_sort)
- <https://xlinux.nist.gov/dads/HTML/radixsort.html>

## 2.0.7 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](http://www.btechsmartclass.com/data_structures/quick-sort.html)
- <https://www.geeksforgeeks.org/quick-sort/>
- [https://rosettacode.org/wiki/Sorting\\_algorithms/Quicksort](https://rosettacode.org/wiki/Sorting_algorithms/Quicksort)
- <https://xlinux.nist.gov/dads/HTML/quicksort.html>
- <https://xlinux.nist.gov/dads/HTML/multikeyQuicksort.html>

## 2.0.8 Heap Sort

- <https://www.programiz.com/dsa/heap-sort>
- [http://www.btechsmartclass.com/data\\_structures/heap-sort.html](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://rosettacode.org/wiki/Sorting_algorithms/Heapsort)
- <https://xlinux.nist.gov/dads/HTML/heapSort.html>

## 2.0.9 Permutation Sort

- <https://www.geeksforgeeks.org/bogosort-permutation-sort/>
- [https://rosettacode.org/wiki/Sorting\\_algorithms/Permutation\\_sort](https://rosettacode.org/wiki/Sorting_algorithms/Permutation_sort)

## 2.0.10 Gnome Sort

- <https://www.geeksforgeeks.org/gnome-sort-a-stupid-one/?ref=lbp>
- [https://rosettacode.org/wiki/Sorting\\_algorithms/Gnome\\_sort](https://rosettacode.org/wiki/Sorting_algorithms/Gnome_sort)

## 2.0.11 Comb Sort

- <https://www.geeksforgeeks.org/comb-sort/>
- [https://rosettacode.org/wiki/Sorting\\_algorithms/Comb\\_sort](https://rosettacode.org/wiki/Sorting_algorithms/Comb_sort)

## 2.0.12 Flash Sort

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

## 2.0.13 Stooge Sort

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

## 2.0.14 Bees Algorithm

- [https://en.wikipedia.org/wiki/Bees\\_algorithm](https://en.wikipedia.org/wiki/Bees_algorithm)
- <http://beesalgorithm.site.altervista.org/Downloads.htm>

### **2.0.15 Lucky Sort**

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

### **2.0.16 Indirect Sort (Pointer Sort)**

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

### **2.0.17 External Sort (Segmented Sort)**

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

### **2.0.18 Shaker Sort / Bidirectional Bubble Sort**

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

### **2.0.19 Shell Sort**

- <https://www.programiz.com/dsa/shell-sort>
- [https://rosettacode.org/wiki/Sorting\\_algorithms/Shell\\_sort](https://rosettacode.org/wiki/Sorting_algorithms/Shell_sort)

### **2.0.20 Comparison of Sorting Methods**

- [http://www.btechsmartclass.com/data\\_structures/comparison-of-sorting-methods.html](http://www.btechsmartclass.com/data_structures/comparison-of-sorting-methods.html)

*End – Of – Week – 9*