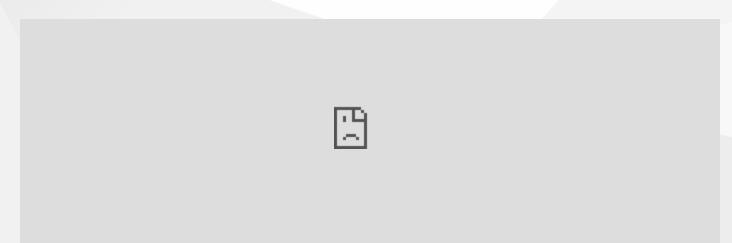
# **CE205 Data Structures**

# Week-9

**Sorting Algorithms, Taxonomy and Comparisons** 

Download PDF, DOCX, SLIDE, PPTX





# 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



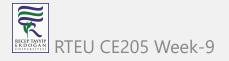
### **Heap Sort**

- 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



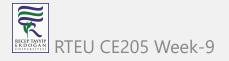
## **Comb Sort**

- https://www.geeksforgeeks.org/comb-sort/
- https://rosettacode.org/wiki/Sorting\_algorithms/Comb\_sort



## Flash Sort

- https://en.wikipedia.org/wiki/Flashsort
- https://www.drdobbs.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



$$End-Of-Week-9$$

