

# Summary

- Insertion sort:  $\Theta(Nk)$  comparisons and moves, where  $k$  is maximum amount data is displaced from final position.
  - Good for small datasets or almost ordered data sets.
- Quicksort:  $\Theta(N \lg N)$  with good constant factor if data is not pathological. Worst case  $O(N^2)$ .
- Merge sort:  $\Theta(N \lg N)$  guaranteed. Good for external sorting.
- Heapsort, treesort with guaranteed balance:  $\Theta(N \lg N)$  guaranteed.
- Radix sort, distribution sort:  $\Theta(B)$  (number of bytes). Also good for external sorting.