Selection Sort

General

Worst case: $O(n^2)$
Best case: $O(n^2)$

Pros: Performance advantage when memory is limited
Performs better than bubble sort

Cons: Performs worse than insertion sort

Description

The algorithm can be reduced to three steps:

1) Find the minimum value in the array
2) Place min value to the i^{th} position in array doing 1 of following:
    a. Move the min value to front of array
        i. Makes add/remove operations more efficient
    b. Swap the min value with the i^{th} element in the array
3) Repeat until the array is sorted

Example

|| 64 25 12 22 11

- 11 is min, move to front

11 || 64 25 12 22

11 12 || 64 25 22

11 12 22 || 64 25

11 12 22 25 || 64

References

https://en.wikipedia.org/wiki/Selection_sort
http://www.algolist.net/Algorithms/Sorting/Selection_sort