

Selection Sort

- divides the array into sorted and unsorted partition
- we traverse the array and we look for the largest element in the unsorted partition
- when we find largest element we swap it with last element in the unsorted partition
- time complexity is $O(n^2)$ – quadratic
- It's unstable algorithm
- It require less swapping tha bubble sort so it will usually perform better

larges – index of larges element

i – next step (we start searching next element on the 1 index of array) till the end of unsorted part of partition

Clg(x) – change largest to index of value x

Swp – swap largest found element with last element in array

Dn – do nothing

Step	20	35	-15	7	55	1	-22	Largest	Description
0	20	35	-15	7	55	1	-22	20	35 > 20 , Clg(35)
1	20	35	-15	7	55	1	-22	35	-15 < 35 , dn
2	20	35	-15	7	55	1	-22	35	7 < 35 , dn
3	20	35	-15	7	55	1	-22	35	55 > 35 , Clg(55)
4	20	35	-15	7	55	1	-22	55	1 < 55 , dn
5	20	35	-15	7	55	1	-22	55	-22 < 55 , dn
6 (swp)	20	35	-15	7	-22	1	55		Unsorted – 1, Repeate