Consider the following list of integers: [1,2,3,4,5,6,7,8,9,10]. Show how this list is sorted by the following algorithms:

- bubble sort
- selection sort
- insertion sort

Bubble Sort

1	<	2
no swapping		

1	2	3	4	5	6	7	8	9	10

2	<	3
no swapping		

1	2	3	4	5	6	7	8	9	10

3	<	4
no swapping		

1	2	3	4	5	6	7	8	9	10

4	<	5
no swapping		

1	2	3	4	5	6	7	8	9	10

5	<	6
no swapping		

1	2	3	4	5	6	7	8	9	10

6	<	7
no swapping		

1	2	3	4	5	6	7	8	9	10

7	<	8
no swapping		

1	2	3	4	5	6	7	8	9	10

8	<	9
no swapping		

1	2	3	4	5	6	7	8	9	10

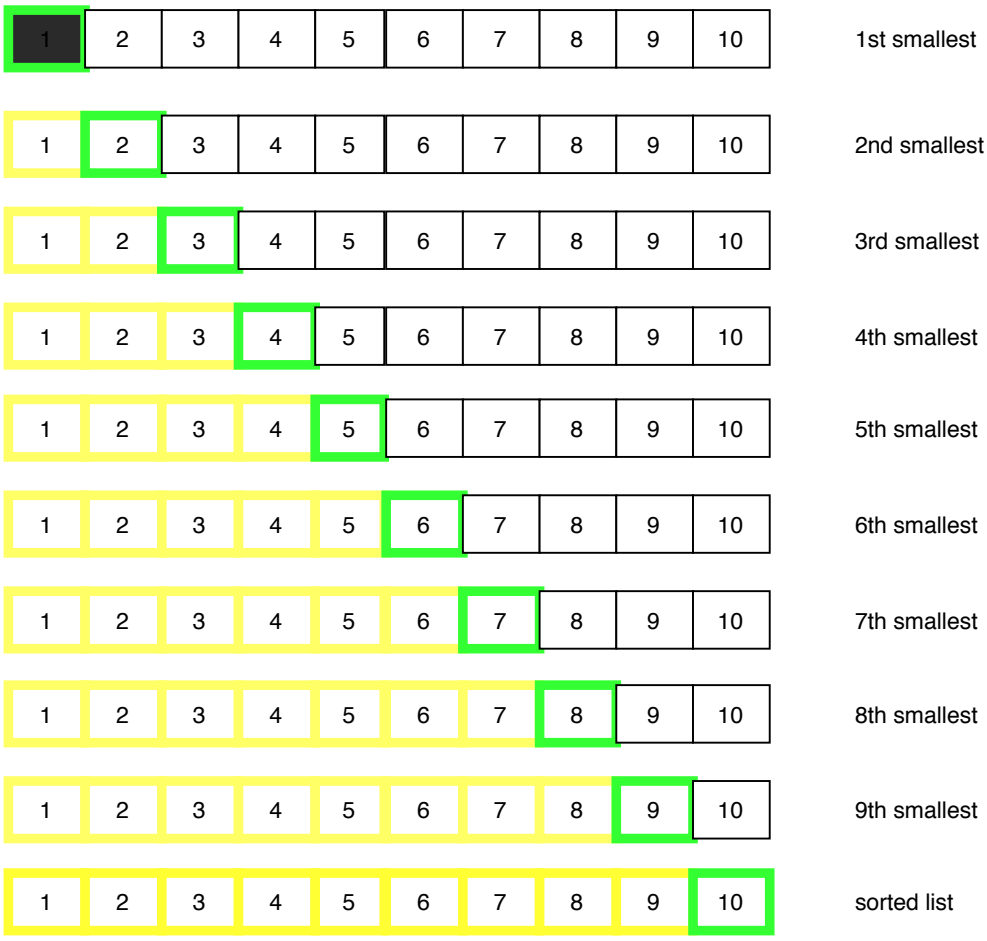
9	<	10
no swapping		

1	2	3	4	5	6	7	8	9	10

Selection Sort

Sorted List
Current Element
Exchange

Total comparisons = n(n-1)/2 ~$O(n^2)$



Insertion Sort

To sort an array of size n in ascending order:

1. Iterate from arr[1] to arr[n] over the array.

2. Compare the current element(key) to its predecessor.

3. If the key element is smaller than its predecessor, compare it to the elements before. Move the greater element one position up to make space for the swapped element.