sort algorithms	best case	worst case	average	description
bubble sort	O(n)	O(n^2)	O(n^2)	Takes the most time but is stable.
shell sort	O(nlog(n))/ O(nlog^2(n))	O(n^2)/ O(nlog^2(n))	depend on gap sequence	Shell sort requires a small amount of code, and it uses no extra space. Shell sort is not stable, it may change the relative order of elements with equal values.
binary insertion sort	O(nlog(n))	O(n^2)	O(n^2)	Improved from insertion sort using binary search algorithm.
quick sort	O(nlog(n))	O(n^2)	O(nlog(n))	Quicksort uses less compares and moves. The efficiency of sort depends on how well the partitioning divides the arry.

source:
https://en.wikipedia.org/wiki/Shellsort
https://en.wikipedia.org/wiki/Insertion_sort
source: Algorithms, 4th edition(Sedgewick, 1983)