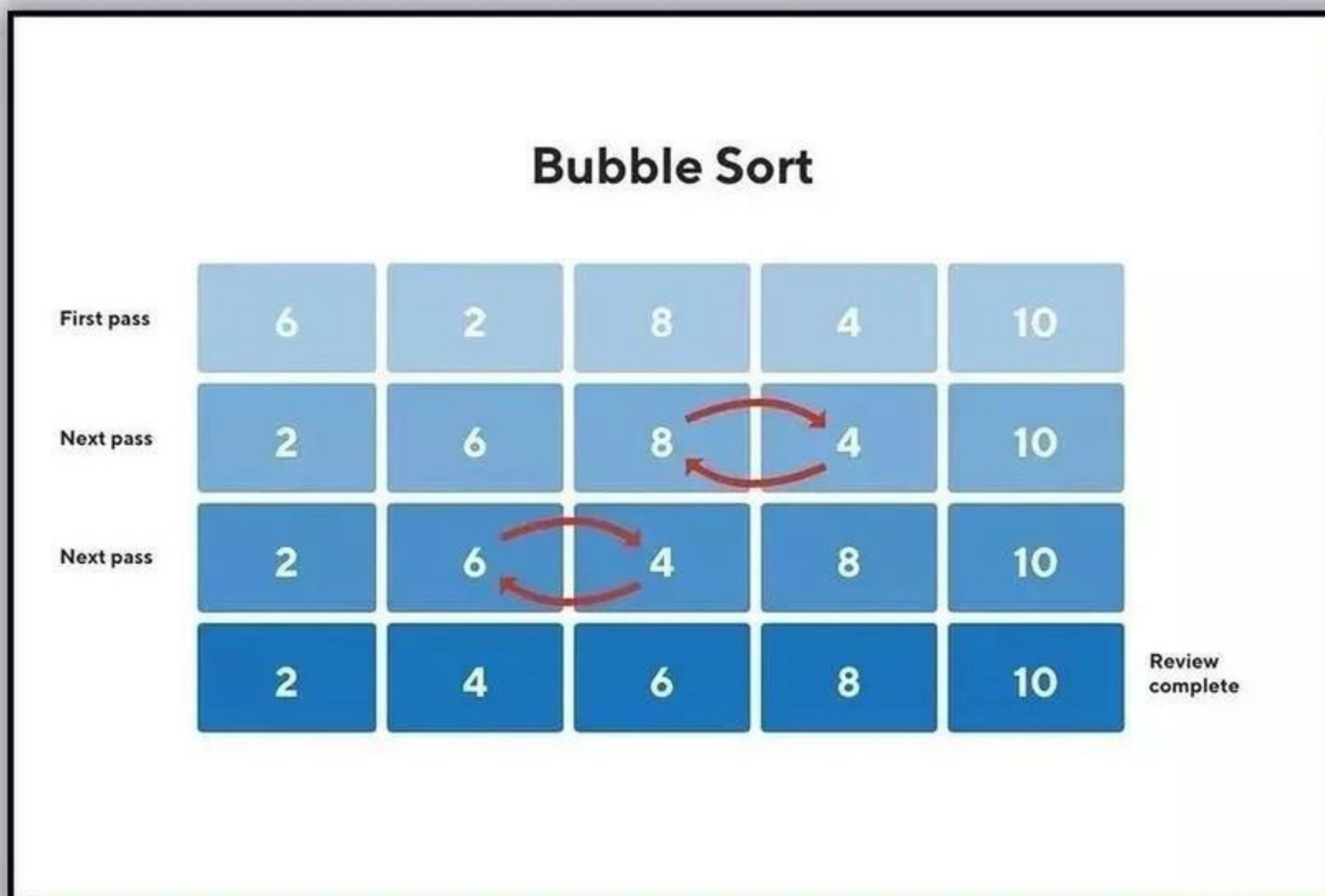


Sorting Algorithms



Bubble Sort

Bubble sort is the simplest sorting algorithm that works by repeatedly swapping the adjacent elements if they are in the wrong order. This algorithm is not suitable for large data sets as its average and worst-case time complexities is quite high.

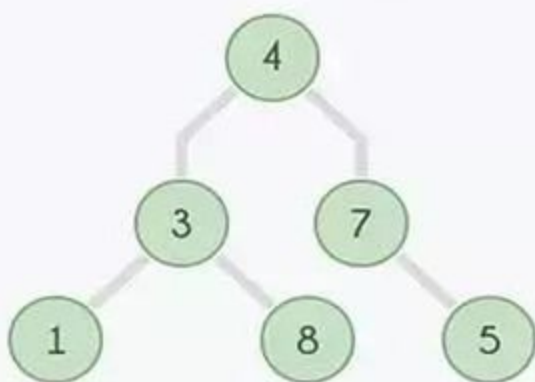


Heap Sort

Heap sort is a comparison-based sorting technique based on Binary Heap data structure. It is similar to the selection sort where we first find the minimum element and place the minimum element at the beginning. Repeat the same process for remaining elements.

Arr		4	3	7	1	8	5
	0	1	2	3	4	5	6

Initial Elements



Max Heap



Insertion Sort

Insertion sort is a simple sorting algorithm that works similar to the way you sort playing cards in your hands. The array is virtually split into a sorted and an unsorted part. Values from the unsorted part are picked and placed at the correct position in the sorted part.

54	26	93	17	77	31	44	55	20
----	----	----	----	----	----	----	----	----

Assume 54 is a sorted list of 1 item

26	54	93	17	77	31	44	55	20
----	----	----	----	----	----	----	----	----

inserted 26

26	54	93	17	77	31	44	55	20
----	----	----	----	----	----	----	----	----

inserted 93

17	26	54	93	77	31	44	55	20
----	----	----	----	----	----	----	----	----

inserted 17

17	26	54	77	93	31	44	55	20
----	----	----	----	----	----	----	----	----

inserted 77

17	26	31	54	77	93	44	55	20
----	----	----	----	----	----	----	----	----

inserted 31

17	26	31	44	54	77	93	55	20
----	----	----	----	----	----	----	----	----

inserted 44

17	26	31	44	54	55	77	93	20
----	----	----	----	----	----	----	----	----

inserted 55

17	20	26	31	44	54	55	77	93
----	----	----	----	----	----	----	----	----

inserted 20

Merge Sort

Merge Sort is a algorithm that is considered an example of the divide and conquer strategy. So, in this algorithm the array is initially divided into two equal halves and then they are combine in a sorted manner.

