Sorting

1) Inbuilt sort :

→ In C++ ; sort(arr, arr+n), sort(v.begin(), v.end())

→ In Java ; Arrays.sort(arr)

2) Selection Sort :

→ Find min. element in array and compare it with 1st element.

→ If it is smaller than 1st element, swap it, otherwise move the pointer.

→ TC: $O(N^2)$ in both cases.

3) Bubble sort :

→ Start with 1st element & compare to the next one, until it is smaller than every element, keep on swapping.

→ TC: $O(N^2)$ & $O(N)$

4) Insertion sort :

→ Array is split into sorted & unsorted array.
→ Values from unsorted part are picked & placed in sorted array.

→ TC: $O(N^2)$ & $O(N)$

5) Cycle sort :

→ Used whenever asked to sort array of: $[1, n]$ or $[0, n]$ values.

→ Check if element is present at its correct index.
→ Correct index = value − 1 or value, depending upon wether it is $[1, n]$ or $[0, n]$. Swap if it isn't matching to original index.

→ TC: $O(N^2)$ in both cases