**Day 5: 22 February 2025**

Sorting user defined object property with help to sort function in ascending or descending order.

Pre defined sorting algorithms.

**Time complexity: (Best, Worst and Average) :** In Soring algorithms time complexity describe how the run the of an algorithms increase as the input of values or data grow.

Best (Omega notation): **Ω**

Average (Theta notation): Θ-Notation

Worst (Big O Notation): Notation

**Bubble sort** Bubble sort is a simple sorting technique which also known as comparison – based sorting algorithms that repeatedly steps through a list or array, it compared adjacent element and swap them if are in the wrong order. This process continues util the entire list or array is sorted with each pass “bubble “ the largest unsorted element to its correct position. This technique is good if list hold very less data.

Best case : if data already sorted 🡪 only one pass needed.

Average case : random input or data 🡪 multiple passed required.

Worst case : reverse sorted 🡪 maximum swap is required.

**Selection sort :** selection sort is another simplest sorting technique it works repeatedly find the smallest or largest elements from the unsorted portion of the array and swapping it with the first unsorted elements. This process divides the array into a sorted and unsorted part, gradually growing the sorted section.