Sorting Algorithms:

* Bubble Sort
* Quick Sort
* Merge Sort
* Insertion Sort
* Selection Sort
* Bucket Sort
* Heap Sort
* Topological Sort

Difference:

|  |  |  |
| --- | --- | --- |
| **Algorithm** | **Best** **Case** | **Worst Case** |
| Bubble Sort | O(N) | O(N\*N) |
| Quick Sort | O(NlogN) | O(N\*N) |
| Merge Sort | O(NlogN) | O(NlogN) |
| Insertion Sort | O(N) | O(N\*N) |
| Selection Sort | O(N\*N) | O(N\*N) |
| Bucket Sort | O(N + K) | O(N\*N) |
| Heap Sort | O(NlogN) | O(NlogN) |
| Topological Sort | O(V + E) | O(V + E) |

Real Life Use Case of Bubble Sort, Quick Sort and Merge Sort:

* Bubble Sort: It is used in programming TV to sort channels based on audience viewing time.
* Merge Sort: It is extensively used by Databases to sort data that is too large to be loaded directly into memory.
* Quick Sort: It’s used in quickly arranging sports score in real-time.