

1. Quick Sort Implementation
2. Quick Sort Complexity: Time Complexity = $O(N \log N)$ USUALLY, Worst Case = $O(n^2)$, Best Case = $O(N \log N)$. Complexity differs based on choosing pivot value.
3. Array Basics: How array works in memory
4. Linked List Intro : Linear DS, Dynamic DS, Head/Root

Benefits :

- a. Utilize the memory FULLY
 - b. Can create memory/array size over 10^9 which a static Array can't
 - c. Need to make Stack DS
 - d. Need to make Queue DS
 - e. Need to make Dequeue DS
5. Linked List Theory & Structure :
- [Head/Root]Value + address of next value.....value+"NULL"[Last]

Insertion at Head/Root : Changing head by connecting previous value by new value. Its complexity $O(1)$ where static array insertion cost $O(n)$ complexity

Search for Values: Same as Static Array. But to access an index it cost $O(n)$ complexity where array can with $O(1)$ complexity. We will do Linear Search no Binary Search for searching values.