Final Review on Data Structure and Algorithm

Overview

* Data structure:
  + Array
  + Link-List
  + Stack
  + Queue
  + Heap
  + Tree
  + HashMap
  + Graphs
* Algorithm
  + Time complexity
  + Recursion
  + Sorting
  + Mathematical induction

Array

* Array is a basic Data structure that can help us finish various kinds of structures. The most significant feature of Array is the index. From 0 – n – 1 to represent 1 – n.
* Normally, if we have the index, the search efficiency will be *O(1).* And if we don’t have the index, and we want search an element in arrays, the time complexity will be *O(n)* when condition is worst.
* By using Array, we can finish many