

## Tutorial 4 Preparation

### Problem 1

Counting Sort with large input is slower than counting sort with small input due to the maximum element in the sequence is related to the size of count list and position list.

### Problem 2

a. Input: A sorted list

Worst-case complexity:  $O(n^2)$

b. Input: Any list

Worst-case complexity:  $O(n^2)$

c. Input: A list of identical element

Worst-case complexity:  $O(n^2)$

d. Input: Any list

Worst-case complexity:  $O(n \log n)$