Week 11

Topic: Interview Prep

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875. Koko Eating Bananas

- Difficulty: Medium
- Problem URL: https://leetcode.com/problems/koko-eating-bananas
- Description:
  給定一個長度為 n 的正整數陣列 piles 代表 N 堆香蕉，piles[i] 則是第 i 堆香蕉的數量。Koko 需要在 H 小時之內吃完這些香蕉，Koko 吃香蕉的速度為每小時 k 根，而且每小時最多吃一堆香蕉，若吃不下則留到下一小時再吃。如果吃完這堆還有胃口，他也要等到下一小時才吃下一堆。

  在以上條件下，回傳 Koko 每小時至少要吃幾根香蕉，才能在 h 小時之內吃完?

Example1:

Input: piles = [3,6,7,11], h = 8
Output: 4

Example2:

Input: piles = [30,11,23,4,20], h = 5
Output: 30

Example3:

Input: piles = [30,11,23,4,20], h = 6
Output: 23

詳細說明與約束條件請參考 Leetcode 網站。

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855. Exam Room

- Difficulty: Medium
- Problem URL: https://leetcode.com/problems/exam-room
- Description:
  假設有一考場，其內有一排共 n 個座位，索引分別是 [0 .. n-1]，考生會陸續進場，並可能隨時離場。

  現需安排考生座位，每當一個考生進場時，需要最大化他和最近其他人的距離，而如果有多個滿足條件的座位，則安排該考生到索引較小的座位。

Example1:

Input: ["ExamRoom", "seat", "seat", "seat", "seat", "leave", "seat"]
[[10], [], [], [], [], [4], []]
Output: [null, 0, 9, 4, 2, null, 5]

Explanation:

ExamRoom examRoom = new ExamRoom(10);
examRoom.seat(); // return 0, no one is in the room, then the student sits at seat number 0.
examRoom.seat(); // return 9, the student sits at the last seat number 9.
examRoom.seat(); // return 4, the student sits at the last seat number 4.
examRoom.seat(); // return 2, the student sits at the last seat number 2.
examRoom.leave(4);
examRoom.seat(); // return 5, the student sits at the last seat number 5.

詳細說明與約束條件請參考 Leetcode 網站。

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42. Trapping Rain Water

- Difficulty: Hard
- Problem URL: https://leetcode.com/problems/trapping-rain-water
- Description:
  給定一個長度為 n 的 nums 非負整數陣列，代表二維平面內一排寬度為 1 的柱子，nums[i] 表示第 i 個柱子的高度，請計算下雨後這些柱子能夠裝下多少雨水。

Example1:

Input: height = [0,1,0,2,1,0,1,3,2,1,2,1]
Output: 6

Explanation: The above elevation map (black section) is represented by array [0,1,0,2,1,0,1,3,2,1,2,1]. In this case, 6 units of rain water (blue section) are being trapped.

Example2:

Input: height = [4,2,0,3,2,5]
Output: 9

詳細說明與約束條件請參考 Leetcode 網站。
