Week 6

Topic: Backtracking

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46. Permutations

- Difficulty: Medium
- Problem URL: https://leetcode.com/problems/permutations/description/
- Description:
  給定一個由不重複整數組成的陣列 nums，返回該陣列的所有可能排列。排列的順序可以任意，且每個排列必須包含所有元素。

Example1:

Input: nums = [1,2,3]
Output: [[1,2,3], [1,3,2], [2,1,3], [2,3,1], [3,1,2], [3,2,1]]

Example2:

Input: nums = [0,1]
Output: [[0,1], [1,0]]

Example3:

Input: nums = [1]
Output: [[1]]

詳細說明與約束條件請參考 Leetcode 網站。

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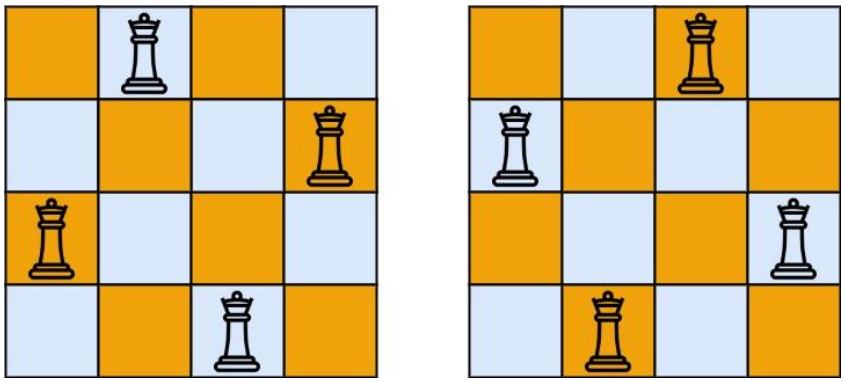
51. N-Queens

- Difficulty: Hard
- Problem URL: https://leetcode.com/problems/n-queens/description/
- Description:
  給定一個 n × n 的棋盤，請擺放 n 個皇后，使得任意兩個皇后不會相互攻擊（即不能在同一列、同一行或同一對角線上）。請返回可能的擺放方式，解法以 字串陣列 表示，其中：'Q' 代表皇后, '.' 代表空格。

Example1:



Input: n = 4
Output: [[".Q..","...Q","Q...","..Q."], ["..Q.","Q...","...Q",".Q.."]]

Explanation:
There exist two distinct solutions to the 4-queens puzzle as shown above

Example2:

Input: n = 1
Output: [["Q"]]

詳細說明與約束條件請參考 Leetcode 網站。

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140. Word Break II

- Difficulty: Hard
- Problem URL: https://leetcode.com/problems/word-break-ii/description/
- Description:
  給定一個字串 s 和一個字典 wordDict，我們需要將字串 s 拆分成一個或多個字典中的單詞，並且每個字典中的單詞之間用空格隔開。最終返回所有可能的有效句子。

Example1:

Input: s = "catsanddog", wordDict = ["cat","cats","and","sand","dog"]
Output: ["cats and dog","cat sand dog"]

Example2:

Input: s = "pineapplepenapple",
wordDict = ["apple","pen","applepen","pine","pineapple"]
Output: ["pine apple pen apple","pineapple pen apple","pine applepen apple"]

Explanation: Note that you are allowed to reuse a dictionary word.

Example3:

Input: s = "catsandog", wordDict = ["cats","dog","sand","and","cat"]
Output: []

詳細說明與約束條件請參考 Leetcode 網站。