2020/04/01 Algorithm Homework

Note: When the exercise asks you to "design an algorithm for…," it always means that "designs an EFFICIENT algorithm for … and ANALYZES your algorithm and write pseudo code". You should keep this in mind when writing solutions.

1. **[CLRS 3rd] Exercise 6.1-4**

2. 投影片unit03 p.6, priority queue 基本implementation。
   如何分別用(a) unsorted list (b) sorted list (c) heap (d) binary search tree
   四種不同結構做priority queue，並回答用在sort ≅ _____ sort

3. **[CLRS 3rd] Exercise 15.1-1**

4. **[CLRS 3rd] Exercise 15.1-2**

5. **[CLRS 3rd] Exercise 15.1-3**

6. **[CLRS 3rd] Exercise 15.1-4**

7. **Rod Cutting Problem(要寫Code)**
   Suppose you have a rod of length M, and you want to cut up the rod and sell the pieces in a way. A piece of length i is worth p_i dollars, when $i \leq n$. Now M is greater than n. Assume the length of a rod is always an integer. Design an algorithm to maximize the total profit you get.