



題目

### 題目與注意事項

作答區

## 解題

完成作業小時數

# Homework 11 題目

- (Prob. 1) page 791, chapter 11.1 Exercise 4
- (Prob. 2) page 806, chapter 11.2 Exercise 22
- (Prob. 3) page 820, chapter 11.3 Exercise 8
- (Prob. 4) page 832, chapter 11.4 Exercise 12
- (Prob. 5) page 839, chapter 11.5 Exercise 2

# 注意事項

- (a) 要熟悉 LaTeX 請翻閱 [lshort](#)。
- (b) 記得在最後一頁，回報完成作業小時數 (估算，取整數)。
- (c) 將檔案夾命名為 hw11\_107820xxx，將檔案夾壓縮成 hw11\_107820xxx.zip，上傳到[網路學園](#)。
- (d) LaTeX 數學符號請查此表: [List of LaTeX mathematical symbols](#)。
- (e) 作業抄襲，以零分計。作業提供給他人抄襲，以零分計。
- (f) 作業遲交一週內成績打五折，作業遲交超過一週以零分計。

## Problem 1 (11.1 Exercise 4)

- (a) vertex  $a$  is the root
- (b) vertex  $a, b, d, e, g, h, i$ , and  $o$  are internal vertices.
- (c) vertex  $c, f, j, k, l, m, n, p, q, r$ , and  $s$  are leaves vertices.
- (d) vertex  $j$  does not have any children.
- (e) The parent of  $h$  is the vertex  $d$ .
- (f) The siblings of  $o$  is the vertex  $p$ .
- (g) The ancestors of  $m$  are  $a, b$ , and  $g$ .
- (h) The descendants of  $b$  are  $e, f, g, j, k, l$ , and  $m$ .

## Problem 2 (11.2 Exercise 22)

- (a) test
- (b) beer
- (c) sex
- (d) tax

## Problem 3 (11.3 Exercise 8)

Ans:  $a, b, d, e, i, j, m, n, o, c, f, g, h, k, l, p.$

## Problem 4 (11.4 Exercise 12)

- (a) 1
- (b) 2
- (c) 3



## Problem 5 (11.5 Exercise 2)

Ans:

We start with the minimum weight edge  $a, b$ . The least weight edge incident to the tree constructed so far is edge  $\{a, e\}$ , with weight 2, so we add it to the tree. Next we add edge  $\{c, e\}$ , and then edge  $\{c, d\}$ . This completes the tree, whose total weight is 6.

完成作業小時數

完成作業小時數:共3小時(估算,取整數)