DS HW6

Deadline: 2018/11/23

手寫題

8. Find a binary tree whose preorder and inorder traversals create the same result.

16. Find the root of each of the following binary trees:
    a. tree with postorder traversal: FCBDG
    b. tree with preorder traversal: IBCDFEN
    c. tree with inorder traversal: CBIDFGE

26. Find the infix, prefix, and postfix expressions in the expression tree of Figure 6-27.

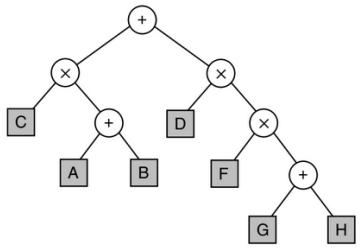

FIGURE 6-27 Expression Tree for Exercise 26

28. Draw the expression tree and find the infix and postfix expressions for the following prefix expression:

```
× - A B + × C D / E F
```

36. Write an algorithm that determines whether a binary tree is complete.

40. Rewrite the binary tree postorder traversal algorithm using a stack instead of recursion.

程式題

48. Write the C implementation for the Huffman algorithm developed in Project 47. After it has been built, print the code. Then write a C program to read characters from the keyboard and convert them to your Huffman code. Include a function in your program that converts Huffman code back to text. Use it to verify that the code entered from the keyboard was converted correctly.

Character	Weight	Character	Weight	Character	Weight
A	7	J	1	S	6
B	2	K	1	T	8
C	2	L	4	U	4
D	3	M	3	V	1
E	11	N	7	W	2
F	2	O	9	X	1
G	2	P	2	Y	2
H	6	Q	1	Z	1
I	6	R	6		

TABLE 6-3 Huffman Character Weights for Project 47