

E14056114 徐顯舜 作業三

Step01 執行程式:

C:\Users\Rubio\Desktop\大四下\資料結構緒論\Hw3_E14056114_徐顯舜\Hw3_E14056114_徐顯舜.exe

Input a string:

Step02 輸入字串:

C:\Users\Rubio\Desktop\大四下\資料結構緒論\Hw3_E14056114_徐顯舜\Hw3_E14056114_徐顯舜.exe

Input a string: AADDTSRSSRUUCEE_

Step03 按下 enter(及跑出資訊):

C:\Users\Rubio\Desktop\大四下\資料結構緒論\Hw3_E14056114_徐顯舜\Hw3_E14056114_徐顯舜.exe

Input a string: AADDTSRSSRUUCEE_

Your input size[int]: 9

Your input symbol[char]: A C D E R S T U

Your input frequency[int]: 2 1 2 2 1 3 1 2 1

=====MinHeap Tree:

1

1_1

1_2_3_2_

2_2_

Max Level: 3

=====

Huffman Tree:

Preorder: 15 8 4 2 1 1 2 1 1 4 2 2 7 4 2 2 3

Inorder: 1 2 1 4 1 2 1 8 2 4 2 15 2 4 2 7 3

Max Level: 3

Number of node: 17

=====

: 1111

T: 1110

R: 1101

C: 1100

E: 101

U: 100

D: 011

A: 010

S: 00

=====

Input sequence for decode:

註記:Huffman tree 不唯一，因此碼跟 traversal 可能有些許出入

Step04 輸入欲解碼的 01 碼:

C:\Users\Rubio\Desktop\大四下\資料結構緒論\Hw3_E14056114_徐顯舜\Hw3_E14056114_徐顯舜.exe

```
Input a string: AADDTSSSRUUCEE_
Your input size[int]: 9
Your input symbol[char]: A C D E R S T U
Your input frequency[int]: 2 1 2 2 1 3 1 2 1
=====MinHeap Tree:
1
1__1
1__2__3__2__
2__2__
Max Level: 3
=====
Huffman Tree:
Preorder: 15 8 4 2 1 1 2 1 1 4 2 2 7 4 2 2 3
Inorder: 1 2 1 4 1 2 1 8 2 4 2 15 2 4 2 7 3
Max Level: 3
Number of node: 17
=====
_: 1111
T: 1110
R: 1101
C: 1100
E: 101
U: 100
D: 011
A: 010
S: 00
=====
Input sequence for decode: 011010111001011110011101101100110011101001101101
```

註記: 輸入 011010111001011110011101101100110011101001101101 預計輸出

DATA_STRUCTURE

C:\Users\Rubio\Desktop\大四下\資料結構緒論\Hw3_E14056114_徐顯舜\Hw3_E14056114_徐顯舜.exe

1__2__3__2__

2__2__

Max Level: 3

Huffman Tree:

Preorder: 15 8 4 2 1 1 2 1 1 4 2 2 7 4 2 2 3

Inorder: 1 2 1 4 1 2 1 8 2 4 2 15 2 4 2 7 3

Max Level: 3

Number of node: 17

L: 1111

T: 1110

R: 1101

C: 1100

E: 101

U: 100

D: 011

A: 010

S: 00

Input sequence for decode: 011010111001011110011101101100110011101001101101

Decoded Huffman Data:

DATA_STRUCTURE