

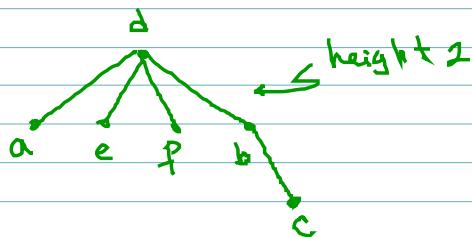
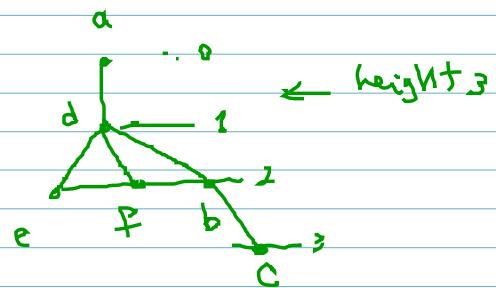
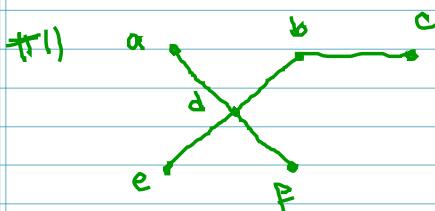
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MTH 354

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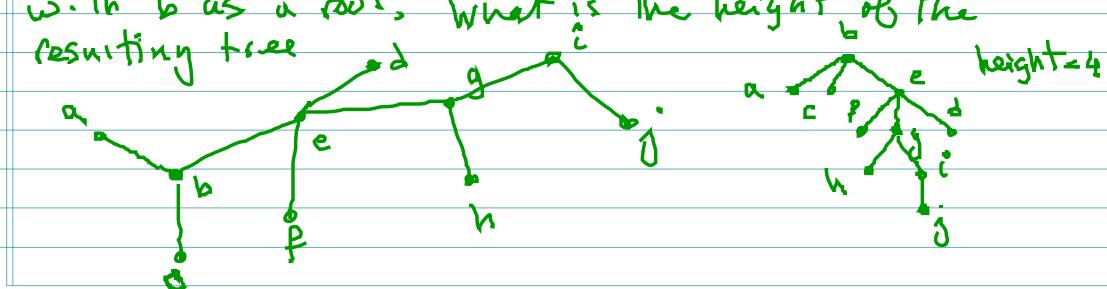
§9.1 Intro to Trees

Def: A (Free) Tree T is a simple graph satisfying if the following: If v and w are vertices in T , there is a unique simple path from v to w . A rooted tree is a tree in which a particular vertex is designated the root.



Def: The level of a vertex v is the length of the simple path from the root to v . The height of a rooted tree is the max number that occurs level

#(1) Draw the tree T of figure 9.1.5 as a rooted tree with b as a root. What is the height of the resulting tree?

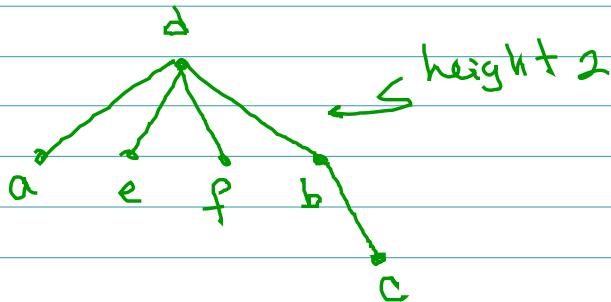
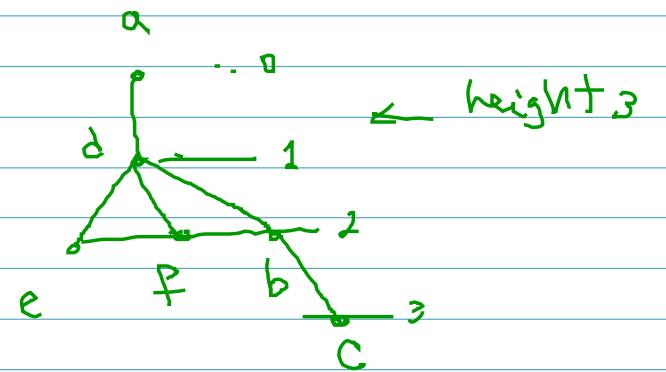
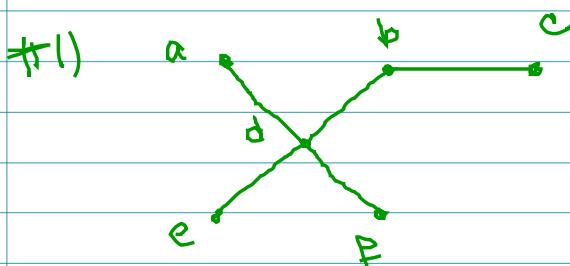


11.13.2017 2:01p

11/13/17, 5:03 AM, 20m 25s

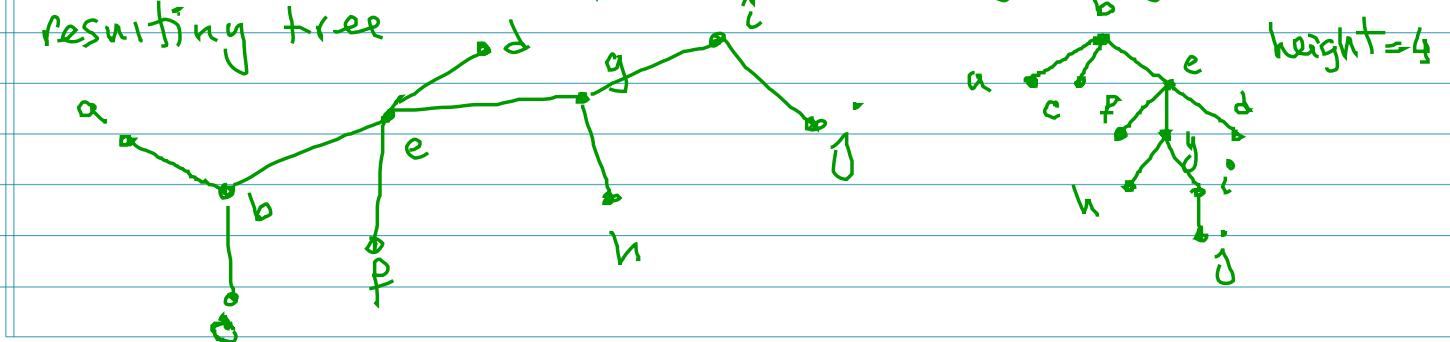
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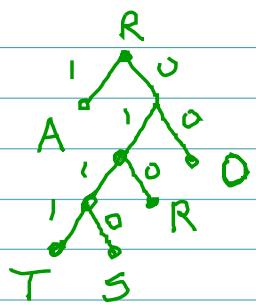
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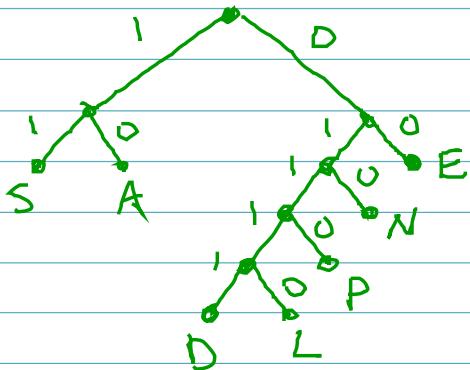
Decode 01010111

RAΓ

Exercises

#.5) 01110100110

LAP



#(a) Encode the word NEED using the same Huffman code tree.

01000001111

Constructing a Huffman Code Tree

T 9.1.2

character	Frequency
!	2
@	3
#	7
\$	8
%	12

$$2, 3, 7, 8, 12 \rightarrow 2+3, 7, 8, 12$$

$$5, 7, 8, 12 \rightarrow 5+7, 8, 12$$

$$8, 12, 12 \rightarrow 8+12, 12$$

12, 20

