

CMSC 204
Huffman Lab

El Hadji Sy

- 1) Create a Huffman Tree and generate the codes for each character of the following input:

create a huffman tree

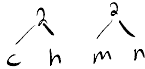
For consistency:

1. If same frequency – put in priority queue alphabetically; put space before other characters of the same frequency
2. Add subtrees to end of group with same priority
3. Lower number has higher priority (goes to front)

c 1 h 1 m 1 n 1 u 1 f 2 r 2 t 2 a 3 _ 3 e 4



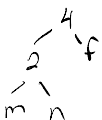
ch 2 h 1 m 1 n 1 u 1 f 2 r 2 t 2 a 3 _ 3 e 4



cha 3 mn 2 u 1 f 2 r 2 t 2 a 3 _ 3 e 4



chu 3 mn 2 f 2 r 2 t 2 a 3 _ 3



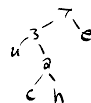
chu 3 mnf 4 r 2 t 2 a 3 _ 3 e 4



chu 3 mnf 4 rt 4 a 3 _ 3 e 4

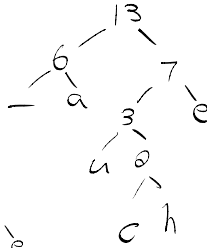
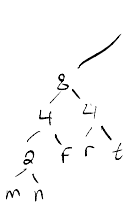
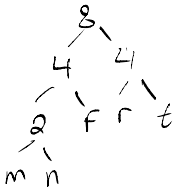


chu 3 mnf 4 rt 4 _ a 6 e 4

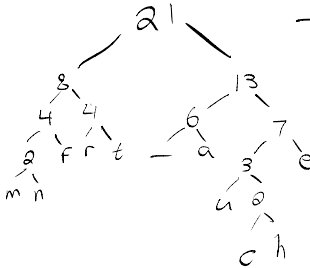


chue 7 mnfrt 8 -a6

chue 7 mnfrt 8 -a6



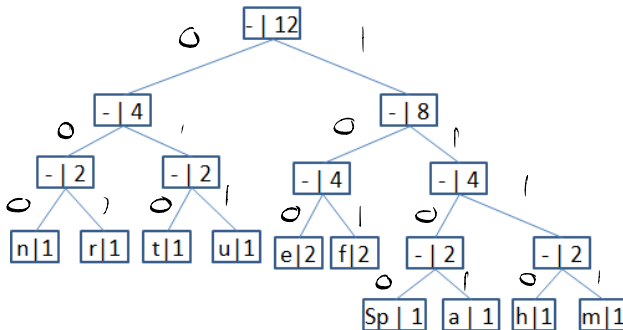
Finally:



Now encode "create a huffman tree"

11010 010 111 101 011 111 101 11011 1100 001 001 0000
101 0001 011 010 111 111

2) Based on the following Huffman tree and binary sequence, what is the text



1110011101101111111010001100010001100100

huffman_tree