1 3.1

a D M N J K L

b A

c A

d F G H

e A B

f I M N

g F G H

h F H

i 1

j 2

2 3.2

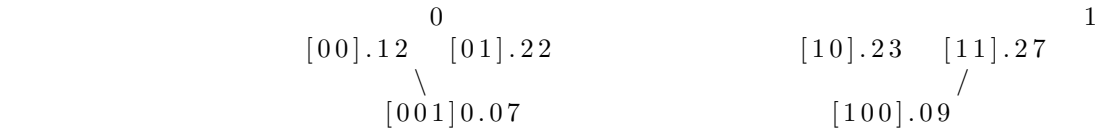
1. ABD
2. ABE
3. BEM
4. BEN
5. ACF
6. ACJ
7. ACK
8. ACH
9. CHL

3 3.6

	preorder(n)<preorder(m)	inord
n–m	true	
m–n	false	
n prop anc of m	true	
n is prop desc m	false	

4 3.20

Suppose characters a, b, c, d, e, f have probabilities .07, .09, .12, .22, .23, .27, respectively. Find an optimal Huffman code and draw the Huffman tree. What is the average code length?



0.27 = 11
0.23 = 10
0.22 = 01
0.12 = 00
0.09 = 110
0.07 = 001

5 Question 5

The minimum height of the tree is: 0
The maximum height of the tree is: $log_2(n)$

6 Question 6

b children, n number nodes
$b = \#children$
$n = \#nodes$
$height = log_b(n)$