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Greedy Techniques - Part XII

Complete Course on Algorithms - GATE

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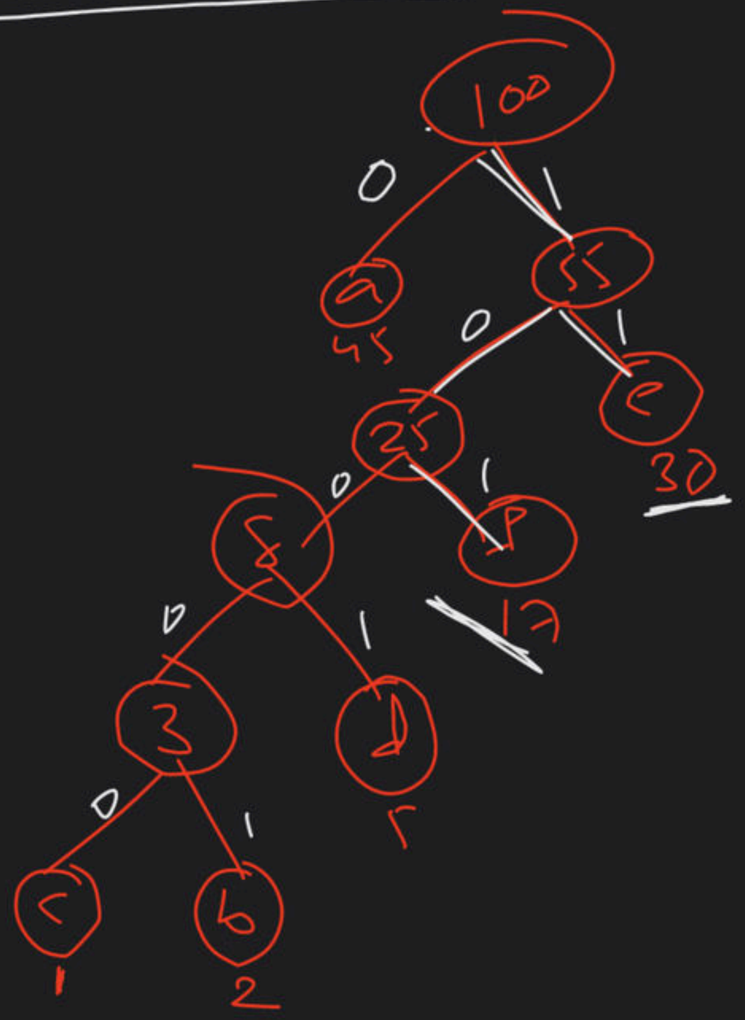
Huffman Coding

L - 0
R - 1



Huffman encoded tree

Huffman code

d - 1001
a - 0
b - 10001
c - 10000
e - 11
f - 101

Total bits = 45*1 + 20*5 + 10*5 + 5*4 + 30*2 + 10*3

100 chs = 191 bits

1-chs = 191/100 = 1.91 bit

Avg

Huffman Coding

⇓

Non-Uniform

⇓

More-Fre = Less bits

Less-Fre = More bits

⇓


ex
m = (a e i o u s t)
BH → O(n)
3 log n
TC (HC)
n t
D1
D2
e-3
u-8
i-9
t-10
11
a-12
19
20
39
46
23
5
85
3 log n
3 log n