Ans to the Q. no:

a) Huffman coding:

Huffman code is data compression algorithm. In our computer each character stored of binary code of find length. the Huffman coding algorithm doesn't use fine length code Huffman coding ~~cost~~. shorter length code which are more number of time and a longer length codeword which used less number of time so we can ~~see~~ say that ~~fo~~ Huffman coding ~~the~~ greedy choice property. we know greedy choice algorithm make the choice that ~~a~~ logically optimal and best at the moment so it is true.

4. Repeat.

Huffman (6)

- My id: 1903002101

$x = 1903002101 \% 100$

$= 1$

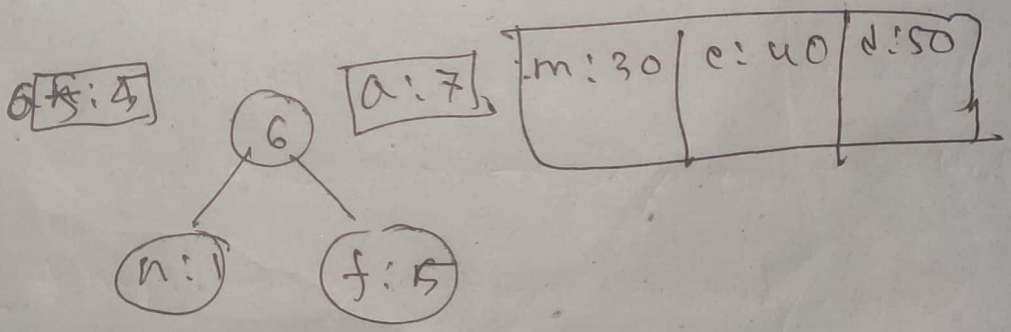
Now,

a:7	c:40	d:5	f:5	m:30	n:1

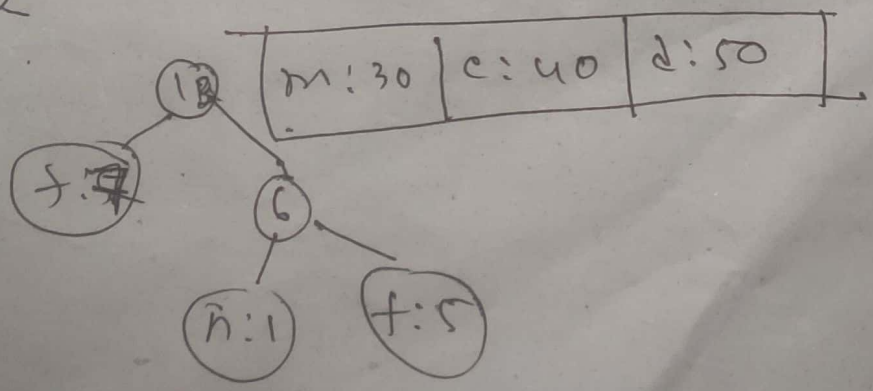
So,

n:1	f:5	a:7	m:30	c:40	d:50

Step-1

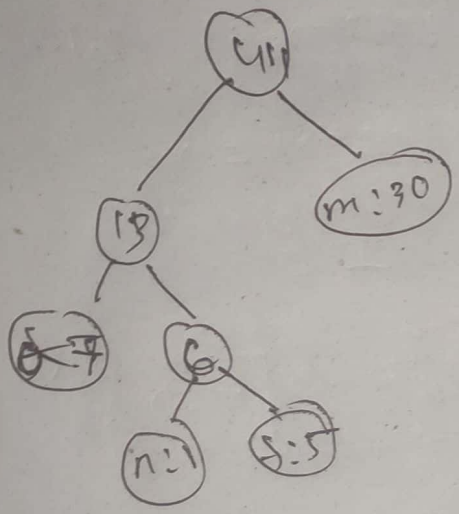


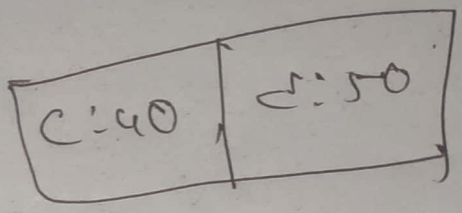
Step-2



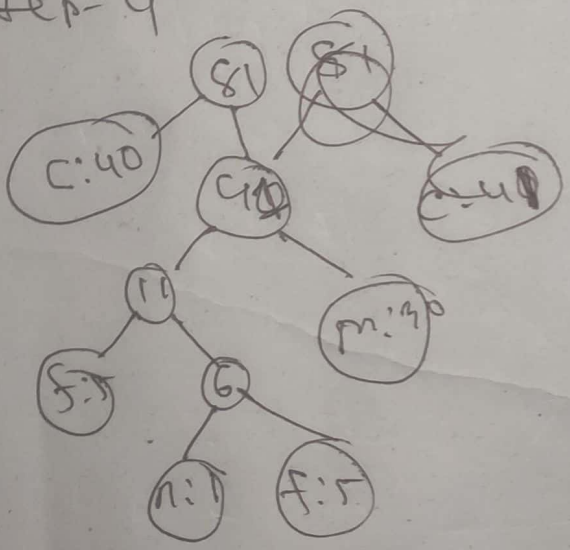
4. Repeat.

Step-3:

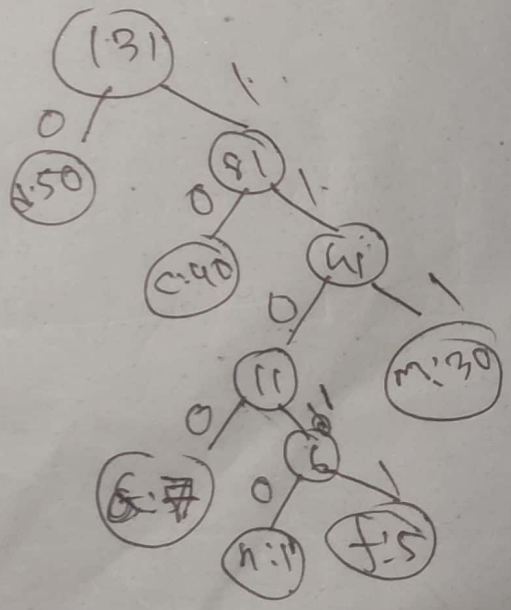




Step-4



Step-5



Ans:

Character	Prefix code
a	1100
c	10
d	0
f	11011
m	111
n	11010

Ans to the Q.no

Divide and conquer	Dynamic Programming
1. Partitions a problem into independent smaller sub problems.	1. Partitions a problem into overlapping sub problems.
2. Don't store solutions of sub-problems.	2. stores solutions of sub problems. thus avoids calculations of same quantity twice

4. Repeat.

Ans to the Q.NO:

kmp:

kmp()

n = sizeof T = 14
= sizeof P = 5

T = A B A A D A A B A A C A B A
P = A B A A C

Step:= 2 i=2, q=0

A B A A D A A B A A C A B A
A B A A C

Step-3

A B A A D A A B A A C A B A
A B A A C

Step-4

A B A A D A A B A A C A B A
A B A A C

Step-5

A B A A D A A B A A C A B A
A B A A C

Step-6

A B A A D A A B A A C A B A
A B A A C

Step-7

A B A A D A A B A A C A B A

A B A A C

Step-8

A B A A D A A B A A C A B A

A B A A C

Step-9

A B A A D A A B A A C A B A

A B A A C

Step-10

A B A A D A A B A A C A B A

A B A A C

Step-11

A B

Difference between NP-complete and

NP-complete	NP-hard problems
NP-complete problems can be solved by Turing machine in Polynomial time	NP-hard problem can be solved if and only if there is a NP-complete problem that is can be reducible into x in polynomial time
It is exclusivly a decision problem	It does not have to be a NP to solve this problem

Ans to the Q.no:

My id: 193002101

$= 193002101 \% 20 + 8$

$= 1 + 8$

$= 9$

now,

item(i)	weight (w_i)	value
1	2	24
2	3	27
3	4	36
4	1	12
5	2	9(x)

we know,

$$P(i, w) = \max \{ v_i + P(i-1, w - w_i), P(i-1, w) \}$$

	0	1	2	3	4	5	6	7
0	0	0	0	0	0	0	0	0
1	0	0	24	24	24	24	24	24
2	0	0	24	27	27	51	51	51
3	0	0	24	27	36	36	60	63
4	0	12	24	36	39	48	60	72
5	0	12	24	36	39	48	60	72

minimum profit : 72