HW-2

Your Name : Desireddy Sai Sankeerthana

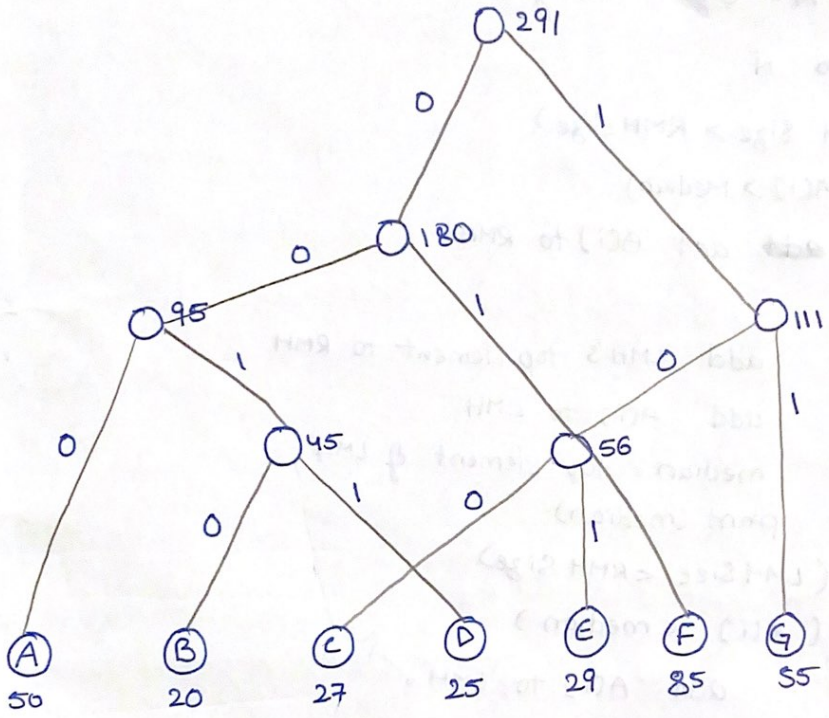
Your Student ID : 50465523

1)

Symbols	a	b	c	d	e	f	g
Frequencies	50	20	27	25	29	85	55

Huffman Code

A : 000 B : 0010 C : 100 D : 0011 E : 101 F : 01 G : 11



20 25 27 29 50 55 85

b d c e a g f

Length : A 3

B 4

C 3

D 4

E 3

F 2

G 2

Cost = 50×3 + 20×4 + 27×3 + 25×4 + 29×3 + 85×2 + 55×2

Cost = 778 //

2)

heapMedian {

x = Lower half
y = upper half

m=0, n=Size

while (i=0 to N) do

if (x < y) and (A[i] < m) then

A[i] += x

else

ADD y top ele to x

ADD A[i] += y

m = top ele of y

print(m)

else if (x > y) and (A[i] > m) then

ADD A[i] += y

else

ADD x top ele to y

ADD A[i] += x

m = top ele of x

print (m)

else if (x = y) and (A[i] ≤ m) then

ADD A[i] += x

m = top ele of x

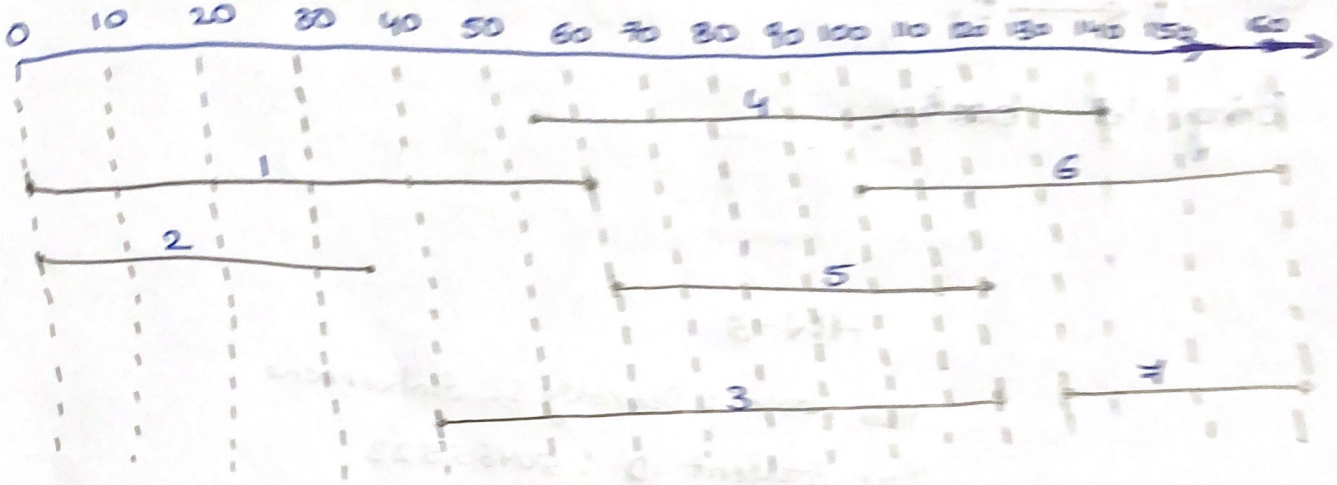
else

ADD A[i] += y

m = top ele of y

print(m)

3) Given that, In the interval covering problem, we are given n intervals $[s_1, t_1)$, $[s_2, t_2)$ . . . . $[s_n, t_n)$ such that $\bigcup_{i \in [n]} [s_i, t_i) = [0, T]$



Intervals are (0,60], (0,35], (40,120], (55,140], (60,80], (100,160), (130,160)

3 intervals indexed by 1,4,7 to cover interval (0,160]

The main aim of problem is to give Smallest Size set where s belongs to n such that

$S_i, t_i = [0, T]$

the Stretch I_{max} which Contains 's' has Largest completion time. t_{max} is an ideal arrangement the Span of $[s_1, t_1] \ldots\ldots [s_n, t_n]$ to Such extent that s, t belongs to Subset of s_i, t_i

$S \subset \{1, 2, 3 \ldots n\}$ to an extent that $[s, t]$ belong to Subset of $[s_i, t_i]$ for $([s_1, t_1] \ldots [s_n, t_n])$

$s \leftarrow \emptyset$, $t \leftarrow s$

while $t \leq s$ do

$t_i \leftarrow \max \{[t_j, s_j \leq t \leq t_j\}$

$s \leftarrow s$ b Union $\{i\}$

$t \leftarrow t_i$

Get 's' back//.