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Registration Number: 2019831055

SWE-127

Part - A

Ans: to the que: NO - 1

(a)

(i)

$s = \text{"WE THE PEOPLE"}$

$\text{INSERT}(s, 3, 'xyz')$

= 'WExyz THE PEOPLE'

= 'WE' || 'xyz' || 'THE PEOPLE'

$t = \text{'OF THE UNITED STATES'}$

$\text{INSERT}(t, 3, 'xyz')$

= 'OFxyz THE UNITED STATES'

(ii)

$S = \text{'WE THE PEOPLE'}$

$\text{DELETE}(S, 1, 3)$

= 'THE PEOPLE'

$T = \text{'OF THE UNITED STATES'}$

$\text{DELETE}(T, 1, 7)$

= 'UNITED STATES'

(iii)

$\text{INDEX}(S, 'E') = 2$

$\text{INDEX}(T, 'THE') = 4$

(iv)

$\text{SUBSTRING}(S, 4, 8)$

= 'THE PEOP'

SUBSTRING($T, 10, 5$)

= 'ITED'

(V)

REPLACE($s, 'WE', 'ALL'$)

= 'ALL THE PEOPLE'

REPLACE($T, 'THE', 'THESE'$)

= 'OF THESE UNITED STATES'

Ans: to the que: NO - 1

(to)

Ans: to the que: NO - 1

(b)

12, 34, 2, 1, 13, 14, 4

(V)

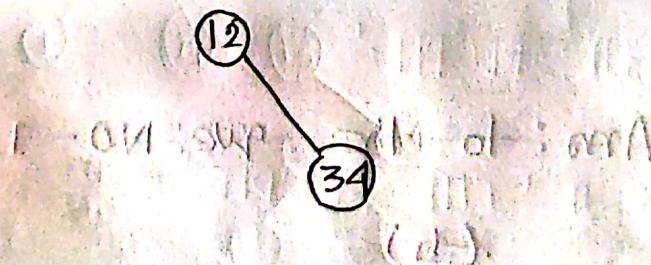
Consider the first element 12 as root.

Insert 12 :

(12)

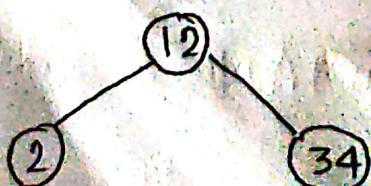
Insert 34 :

- As $34 > 12$, inserting 34 to the right side of 12.



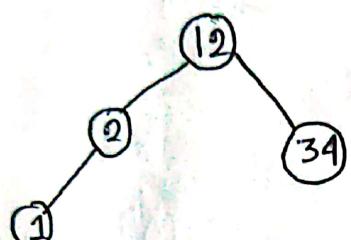
Insert 2 :

- As $2 < 12$, inserting 2 to the left side of 12.



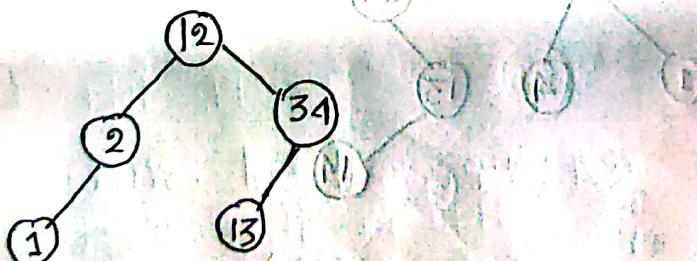
Insert 1:

- As $1 < 12$, inserting 1 to the left side of 12.
- As $1 < 2$, inserting 1 to the left side of 2.



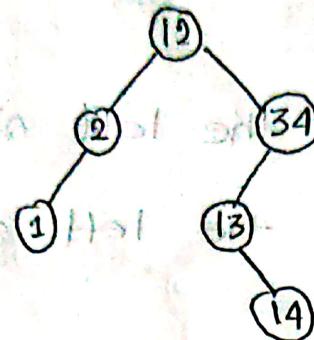
Insert 13:

- As $13 > 12$, inserting 13 to the right side of 12.
- As $13 < 34$, inserting 13 to the left side of 34.



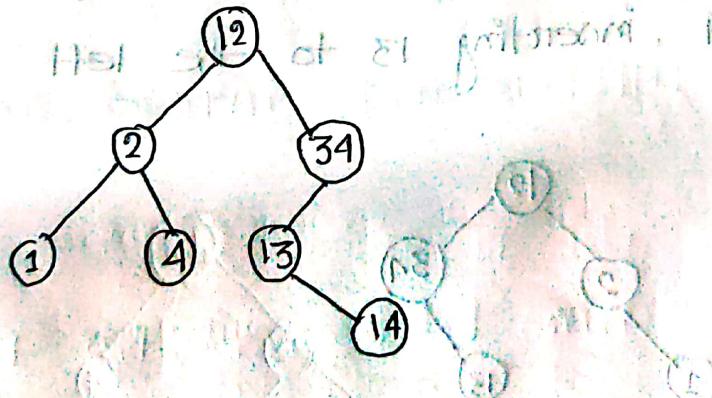
Insert 14:

- As $14 > 2$, inserting 14 to the right side of 12.
- As $14 < 34$, inserting 14 to the left side of 34.
- As $14 > 13$, inserting 14 to the right side of 13.



Insert - 4:

- As $4 < 12$, inserting 4 to the left of 12.
- As $4 > 2$, inserting 4 to the right side of 2.

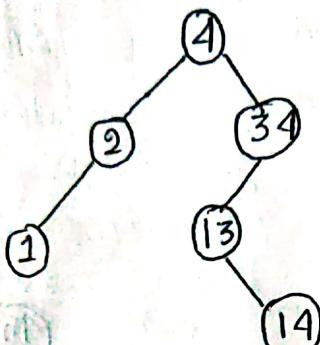


This is the ~~as~~ binary search tree from given data

The root is 19.

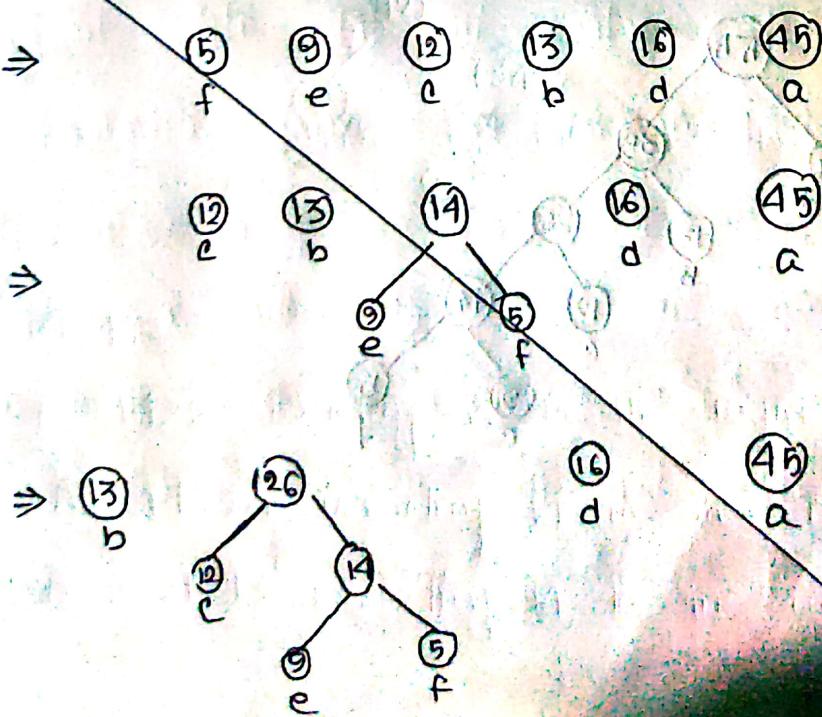
Greatest value of the left-subtree is 4.

Replacing root (12) with 1 and regenerating the whole tree.



Ans: to the que. No - 2

Given frequency: e:9, f:5, d:16, a:15, c:12, b:13



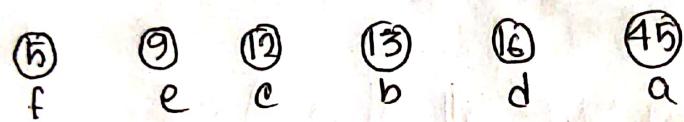
Ans: to the que: NO-2

Here, given frequency are:

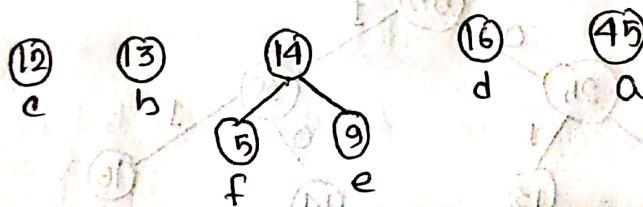
$$e: 9, f: 5, d: 16, a: 45, c: 12, b: 13$$

Now, Using Huffman algorithm:

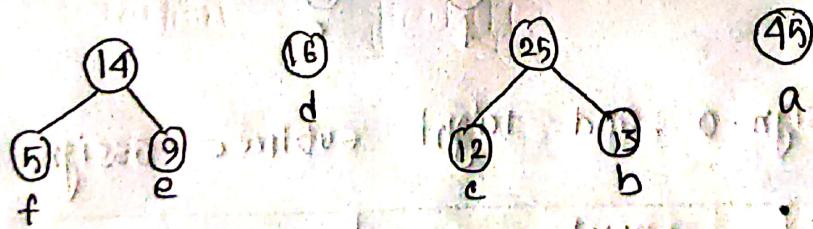
Step 1:



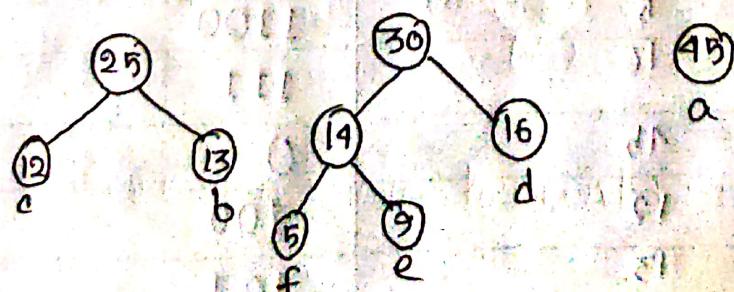
Step 2:



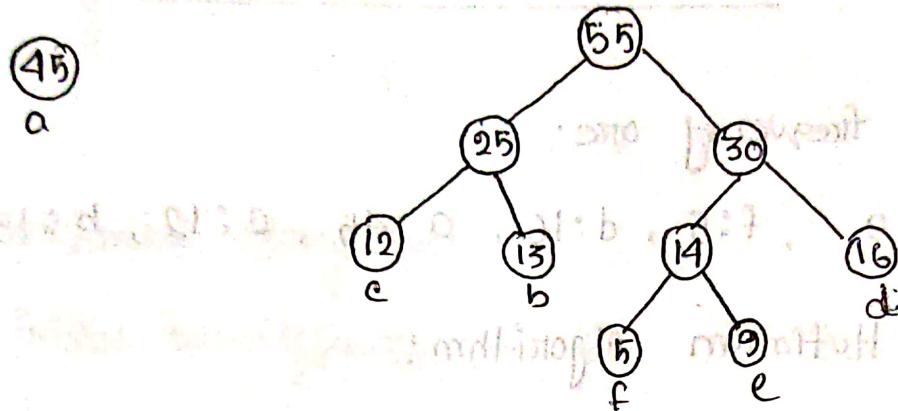
Step 3:



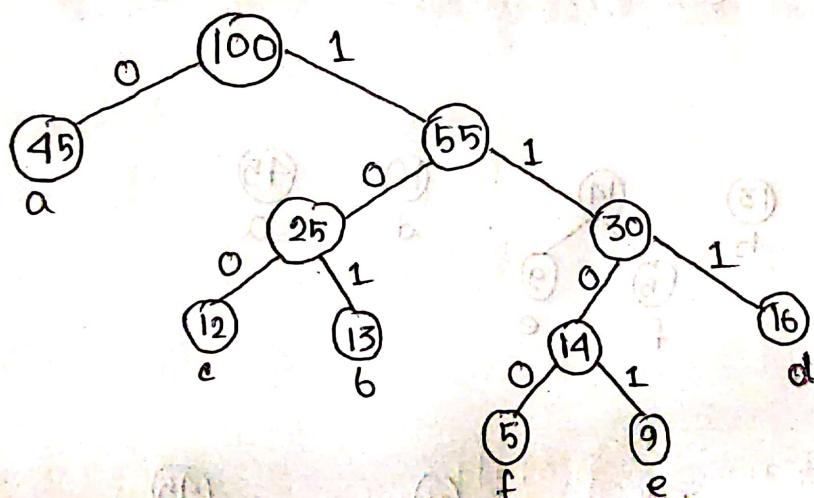
Step 4:



Step 5 :



Step 6 :



left subtree assign 0 , and right subtree assign 1 .

character	count	code
e	9	1101
f	5	1100
d	16	111
a	45	0
c	12	100
b	13	101