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SUBJECT	DESIGN AND ANALYSIS ALGORITHM
DATE	13/04/2020

1 a) LINKED LIST:-

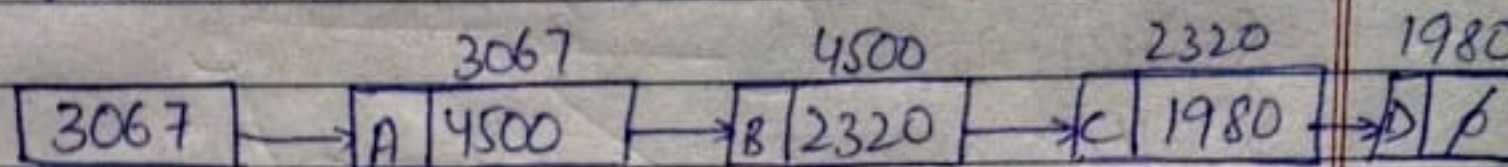
A linked list is a list whose elements may not occupy continuous memory locations and whose elements are connected by means of links between them.

Example:-

Consider the history section of web browsers, where it creates a linked list of webpages visited, so that when you check history or press OK button, the previous nodes data is fetched.

b) ONE WAY LINKED LIST:-

Execution:-

① $P \leftarrow \text{getnode}(3067)$ ② $\text{Head} \leftarrow P$ ③ $\text{info}(P) \leftarrow \text{data}$ 3067 \leftarrow A4500 \leftarrow B2320 \leftarrow C1980 \leftarrow D④ $\text{Link}(P) \leftarrow \rho$ ~~(3067)(4500)(2320)(1980)~~⑤ $q \leftarrow P(3067)(4500)(2320)(1980)$

⑥ Y.Y.Y.Y.N

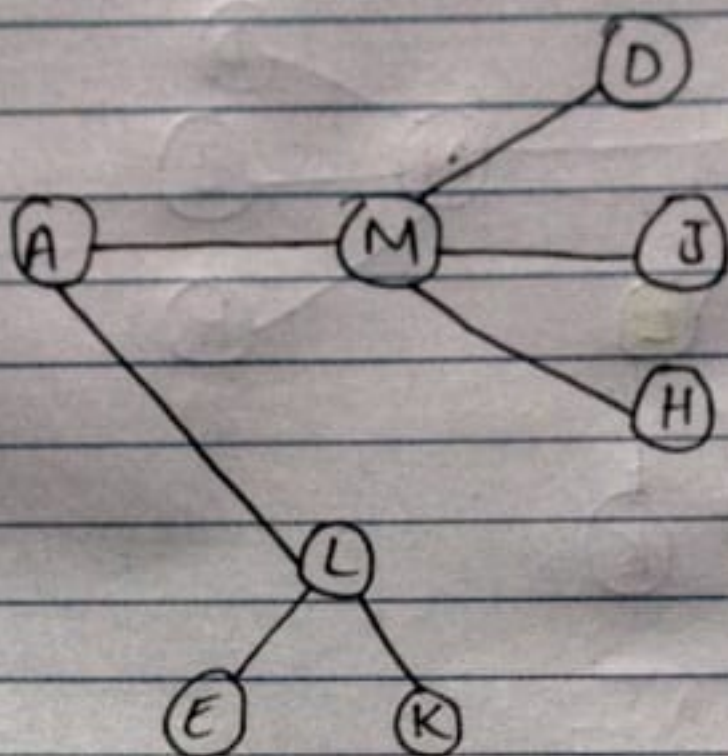
⑦ $P \leftarrow \text{getnode}(4500)(2320)(1980)$ ⑧ $\text{Link}(q) \leftarrow P(4500)(2320)(1980)$

⑨ goto 3

⑩ exit.

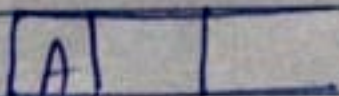
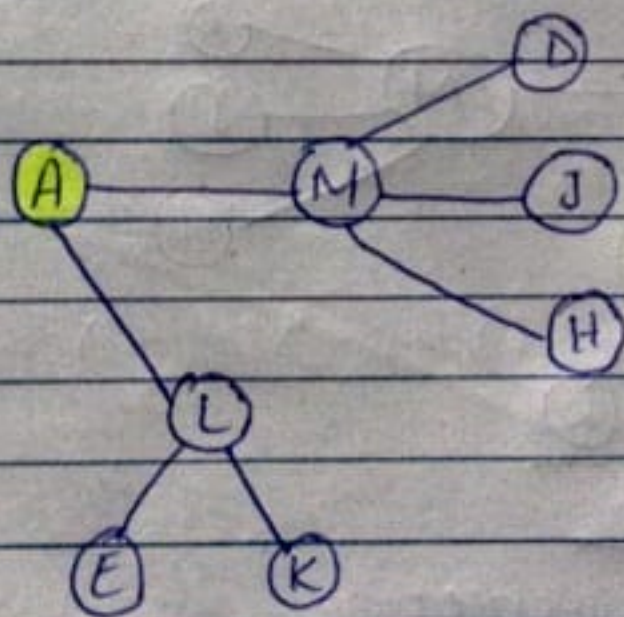
Q (2)

DEPTH - FIRST TECHNIQUE



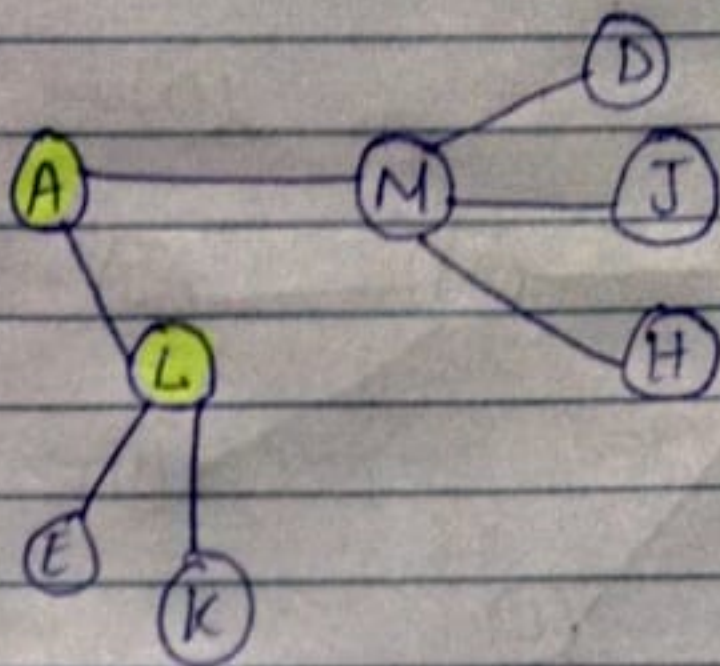
Solution:-

Step (i)



output sequence:-
A,

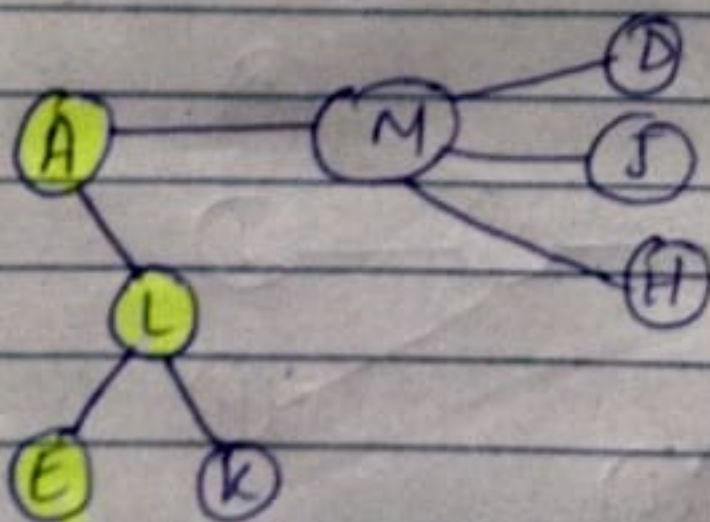
Step (ii)



A	L	
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output sequence:-
A, L

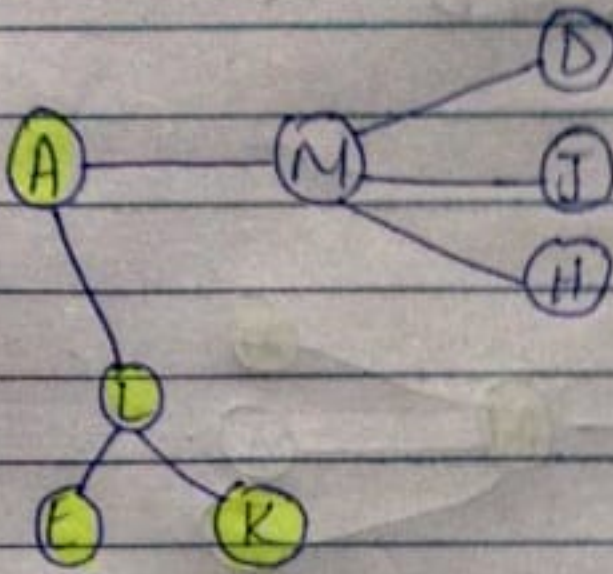
Step (iii)



A	L	E
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output sequence:-
A, L, E

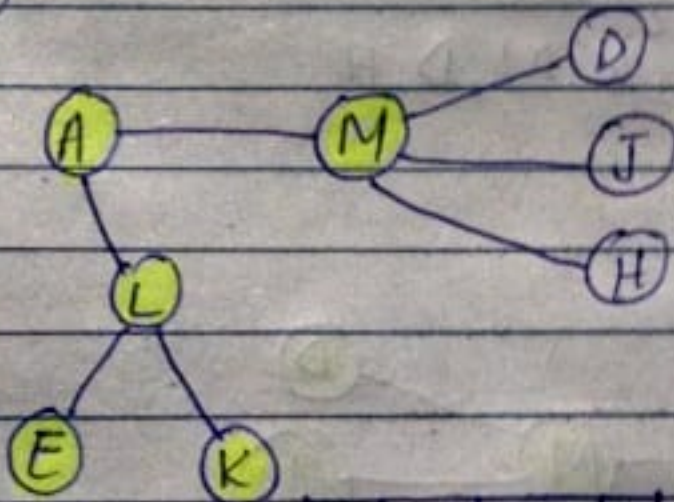
Step (iv)



A | L | K | K

output sequence:
A, L, E, K

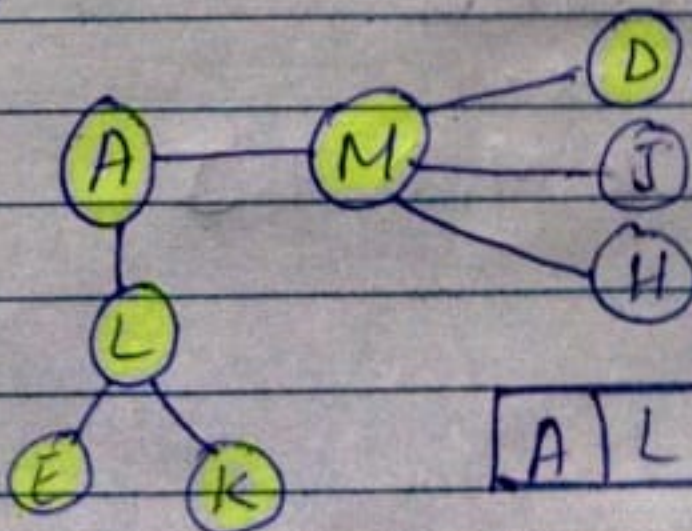
Step (v)



A | L | K | M

output sequence:
A, L, E, K, M

Step (vi)

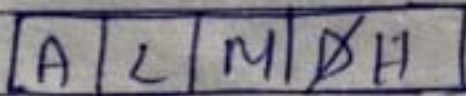
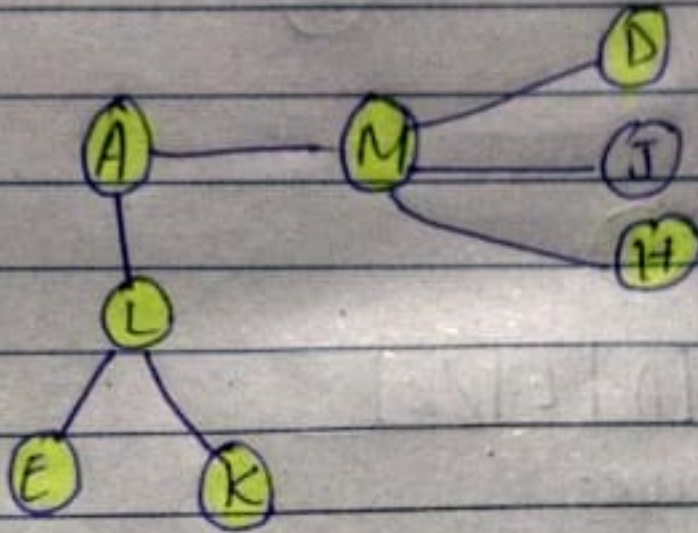


A | L | M | D

output sequence:

A, L, E, K, M, D

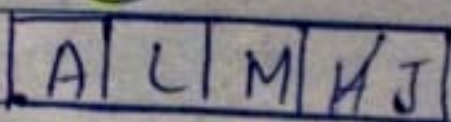
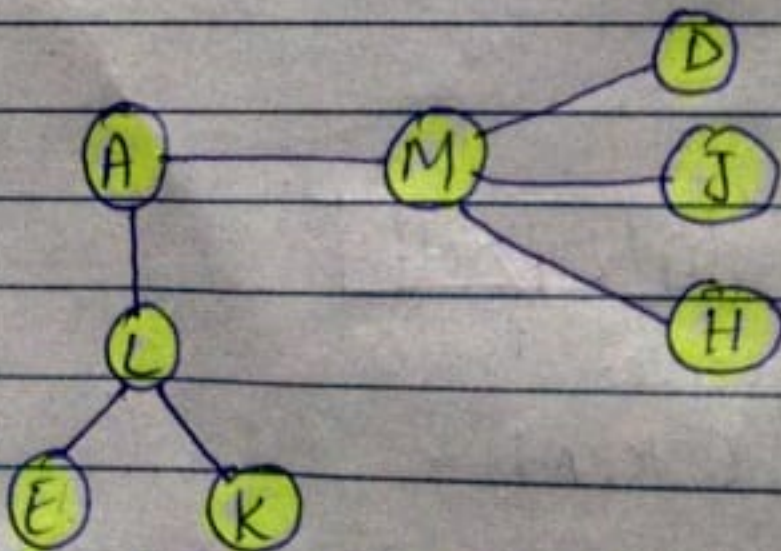
Step (vii)



output sequence:-

A, L, E, K, M, D, H

Step (viii)



output sequence:-

A, L, E, K, M, D, H, J

Q (3)

Queue:-

A sequential list in which elements are inserted from one end and are deleted/retrieved from other end is called a queue.

* The end from where an element can be inserted is called Rear of the queue.

* The end from where an element can be retrieved is called front of the queue.

* "First in First out"

Examples:

* A car is waiting to pass through a signal.

* Peoples waiting to submit their bills at bank window.

Checked By:.....Parents.....

Excellent

Good



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