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Department	BS(CS)
Subject	Design and Analysis of Algorithms
Semester	4 th
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Q1

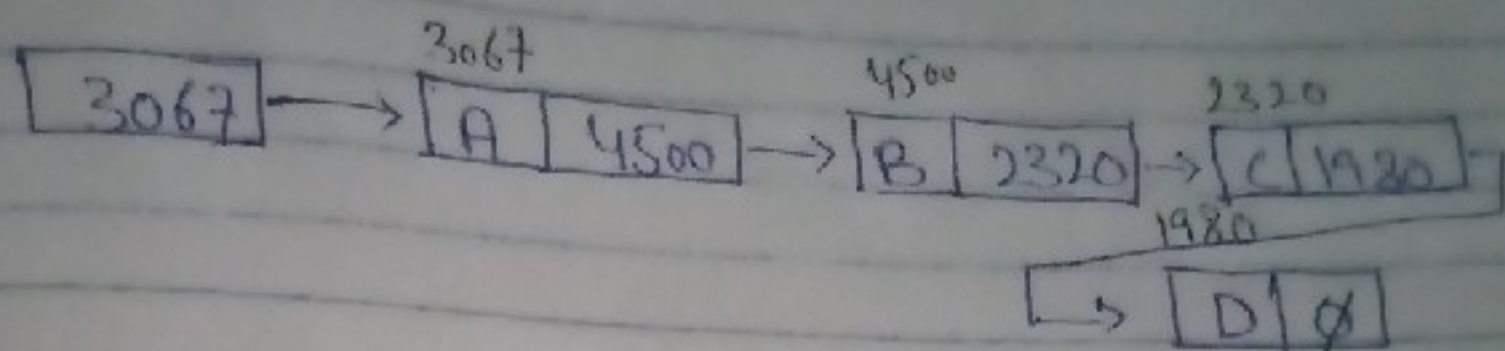
A) LINKED LIST:

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

Section of web browsers, where it creates a linked list of web-page visited, so that when you check history, or press ok button, the previous nodes are fetched.

Q 1 Part b

Execution:-



- 1) $P \leftarrow \text{getnode}(3067)$
- 2) $\text{Head} \leftarrow P$
- 3) $\text{info}(P) \leftarrow \text{data}$
 - $3067 \leftarrow A$
 - $4500 \leftarrow B$
 - $2320 \leftarrow C$
 - $1980 \leftarrow D$
- 4) $\text{Link}(P) \leftarrow \phi$
 $(3067) (4500) (2320) (1980)$
- 5) $q \leftarrow P (3067) (4500) (2320) (1980)$
- 6) $Y \cdot Y \cdot Y \cdot Y \cdot N$
- 7) $P \leftarrow \text{getnode} (4500) (2320) (1980)$
- 8) $\text{Link}(q) \leftarrow P (4500) (2320) (1980)$
- 9) $\text{goto } (3)$
- 10) exist.

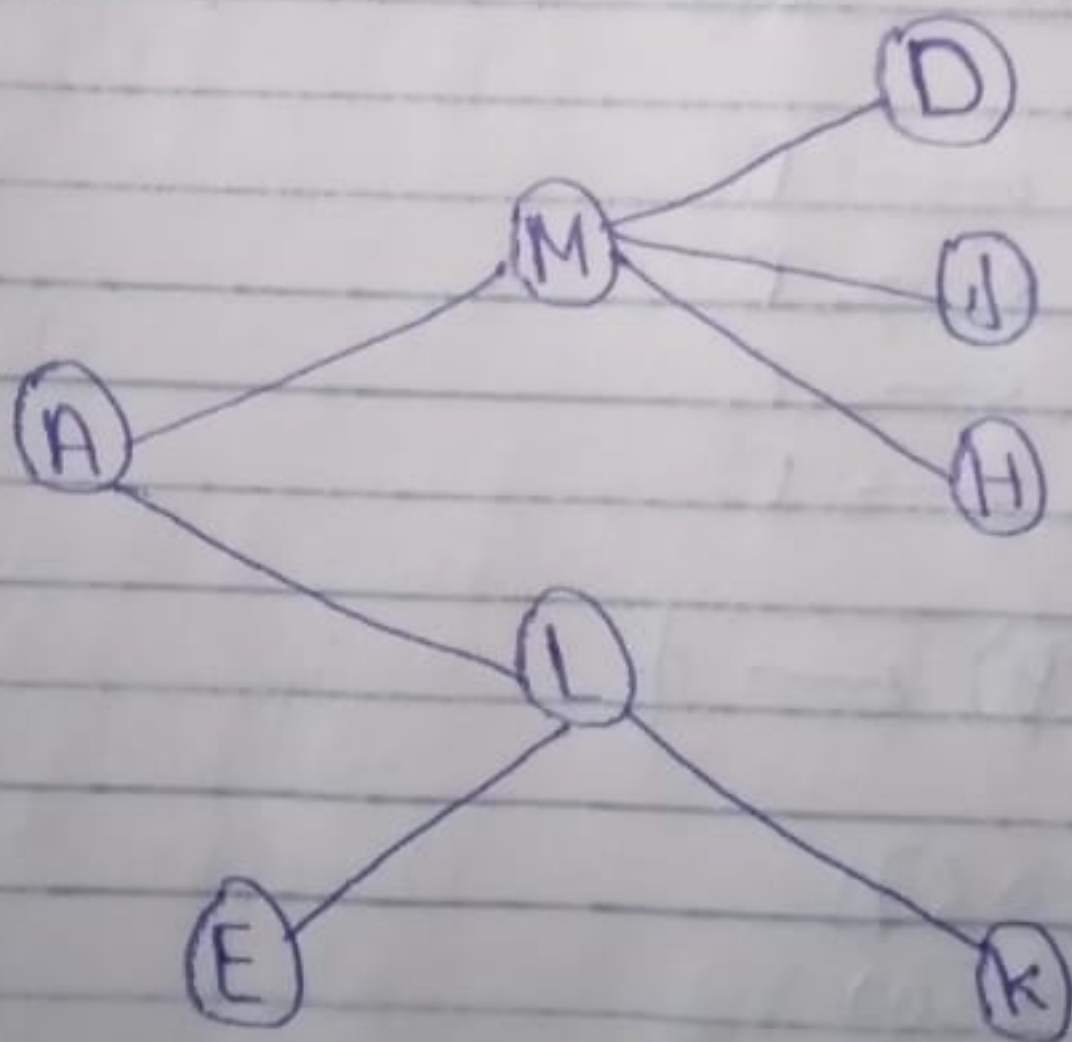
8) link (4) ← P(4500) (2320) (1920)

9) gato (3)

10) exist.

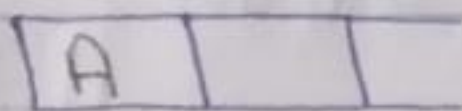
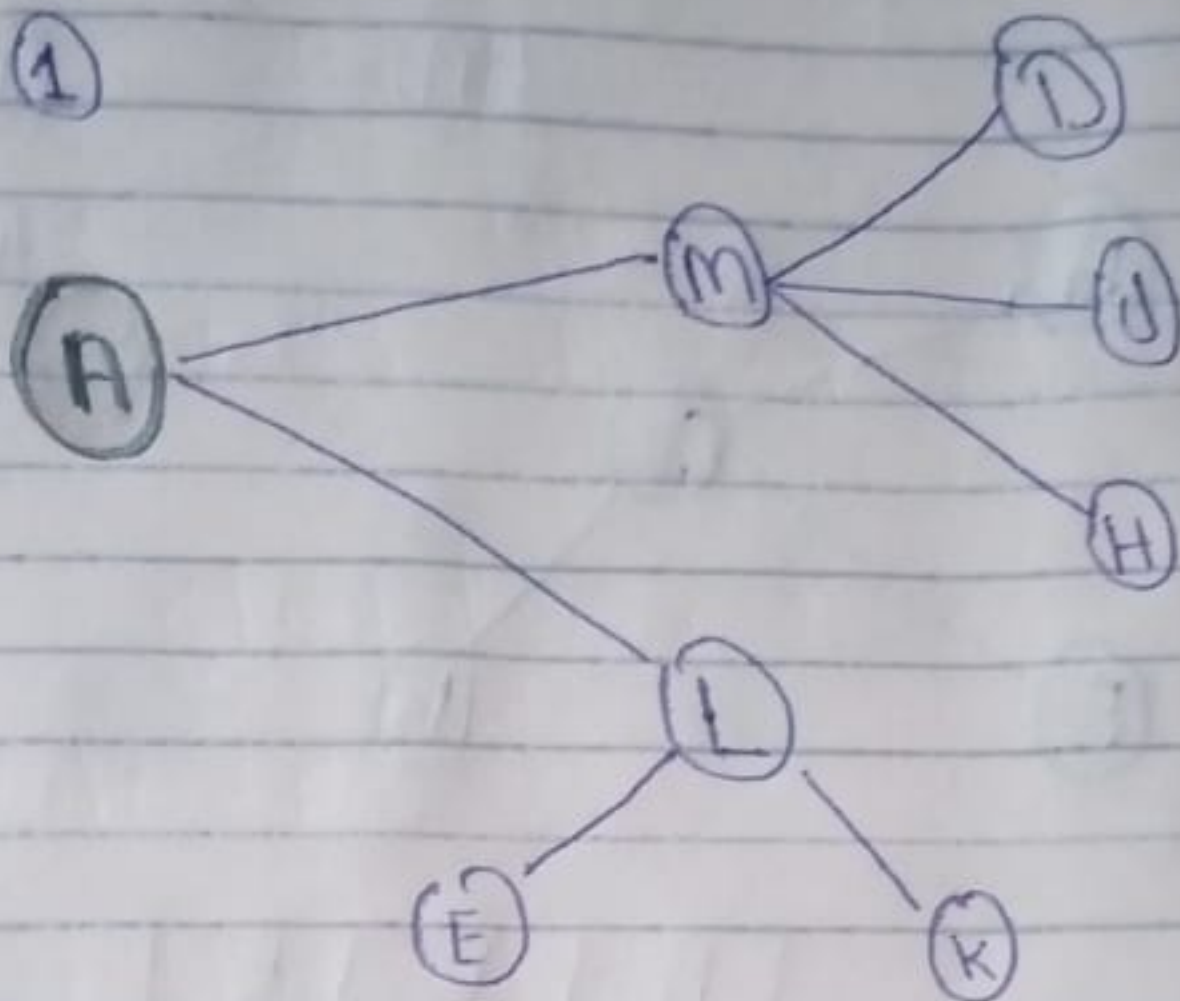
Q2

Apply on the Depth-first technique
on the given Tree.



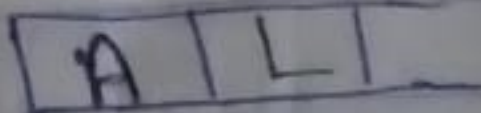
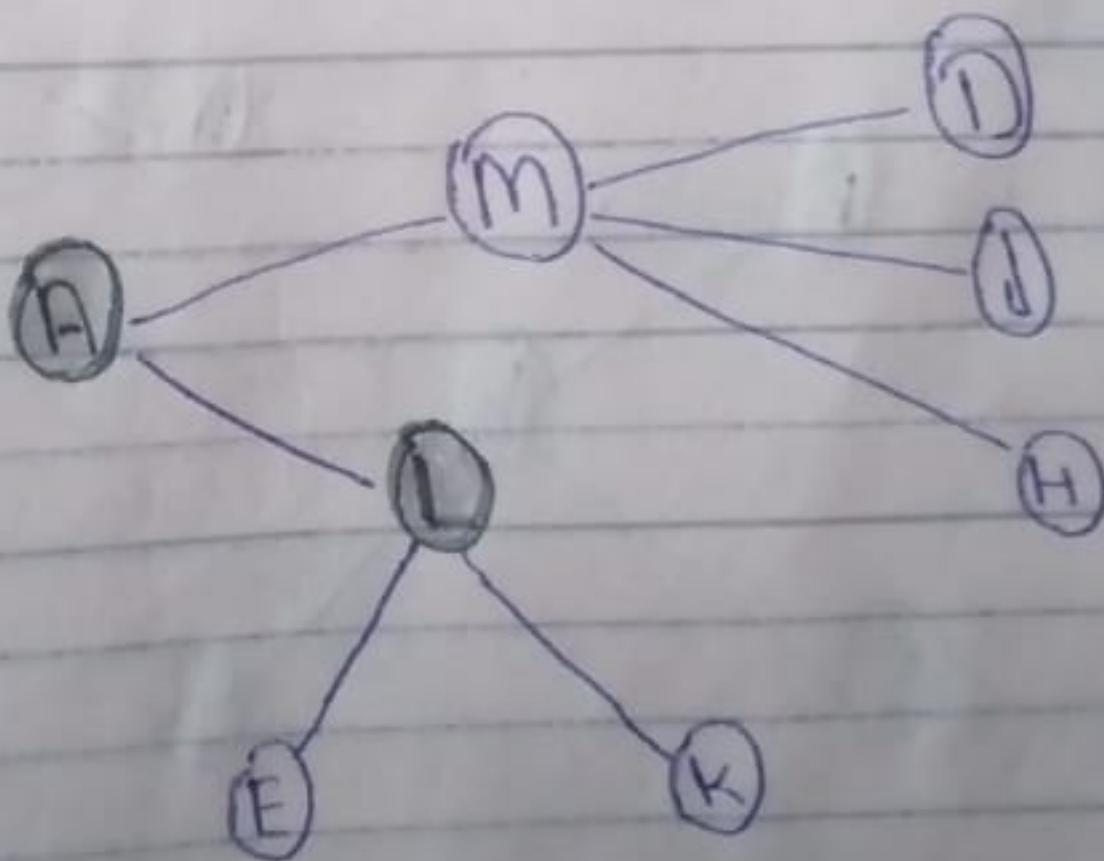
Solution:-

Step ①



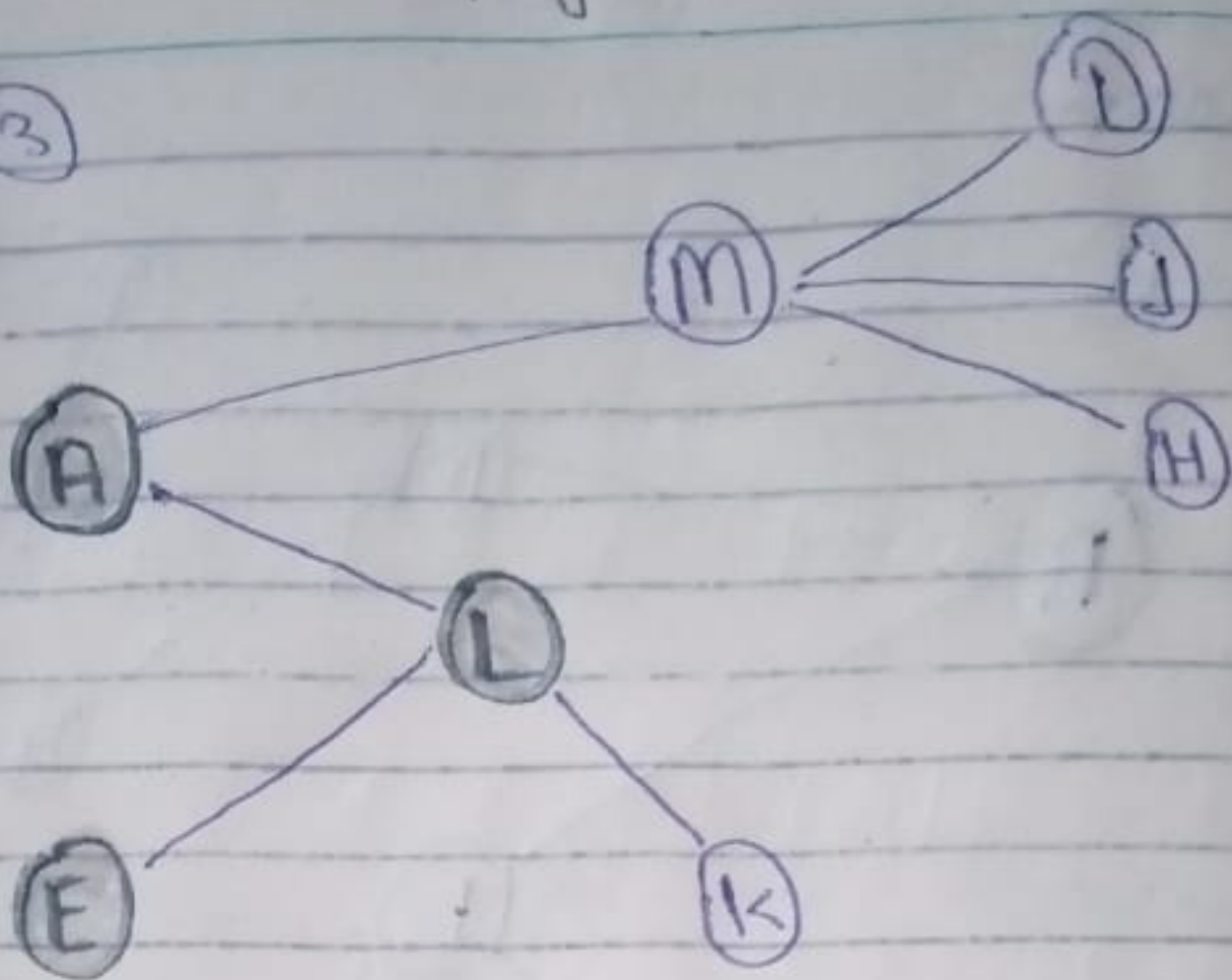
Output Sequence
A,

Step ②



Output Sequence
A, L

Step (3)

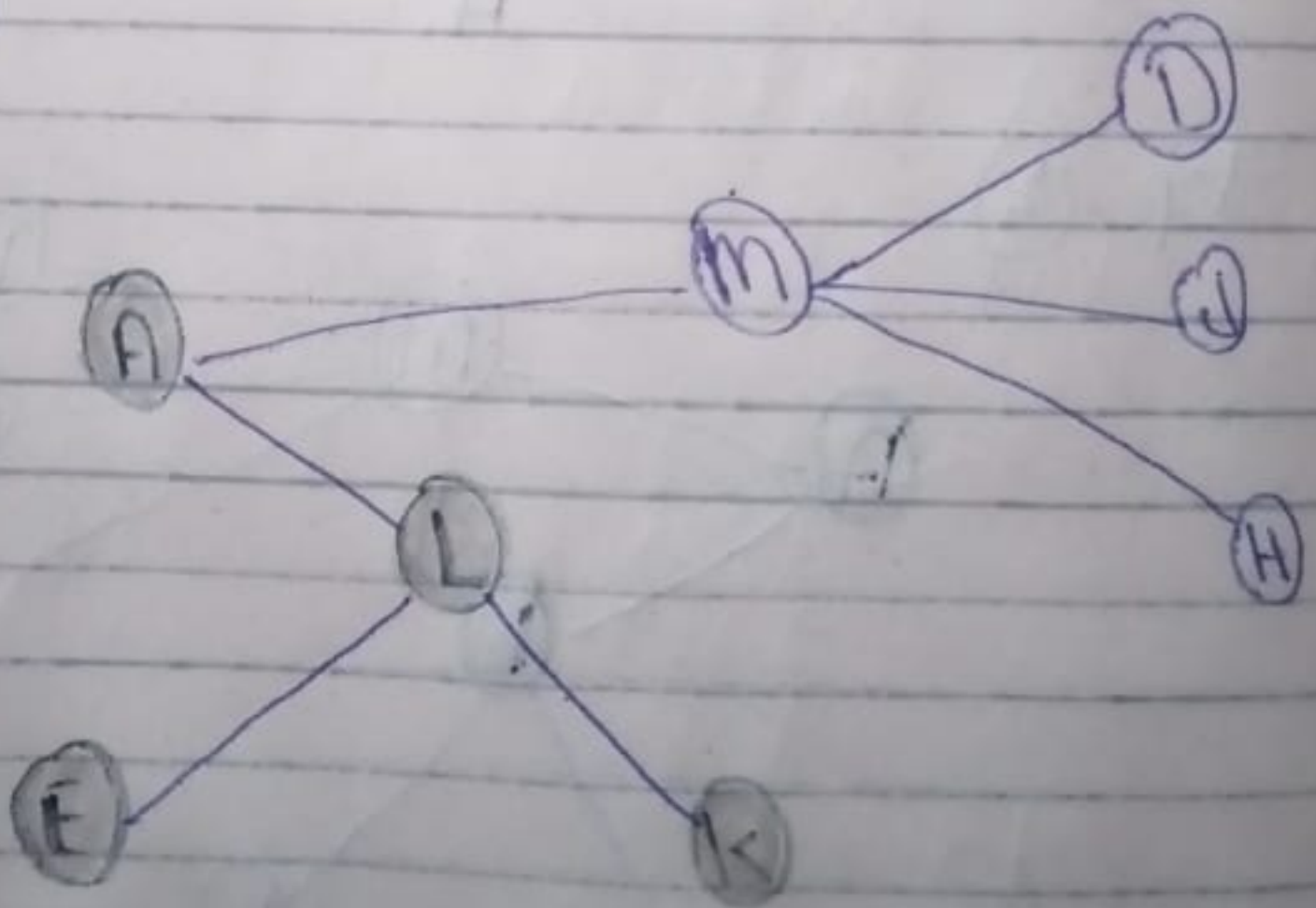


A	L	E
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Output Sequence

A, L, E

Step (4)

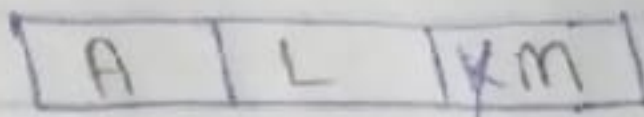
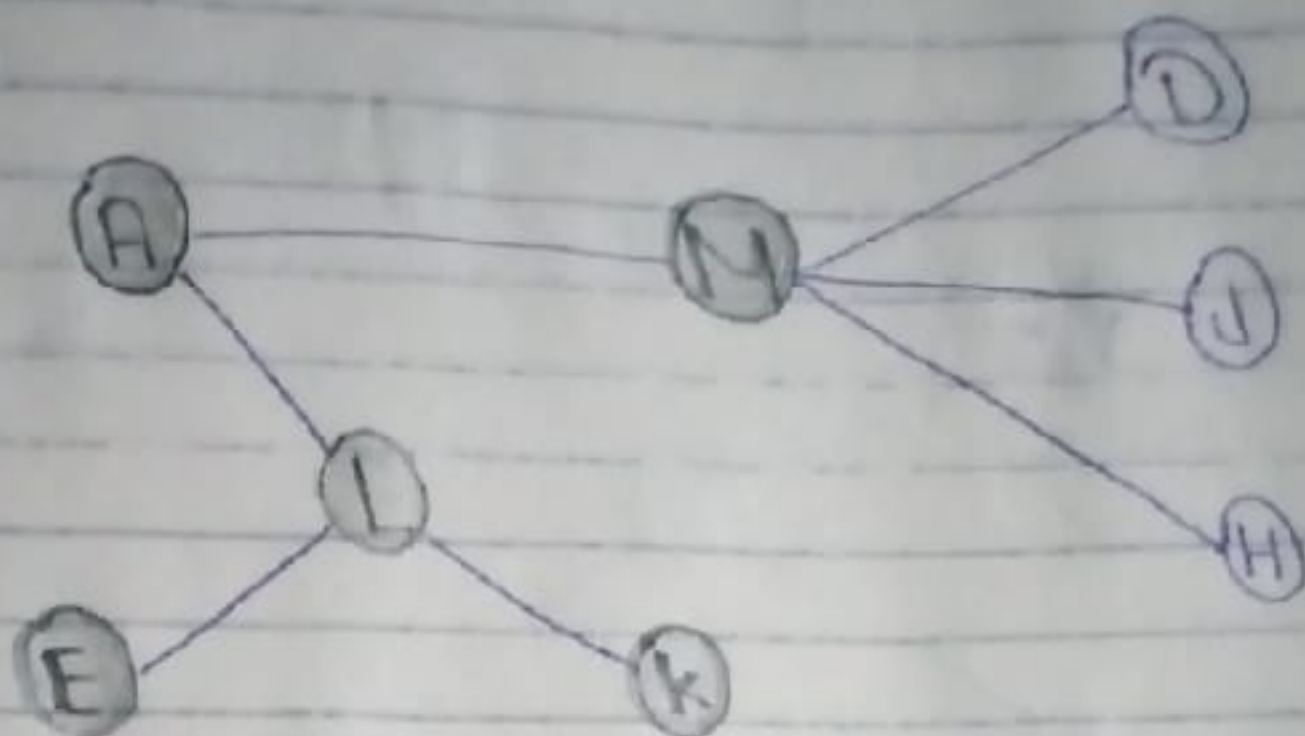


A	L	E	K
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Output Sequences

A, L, E, K

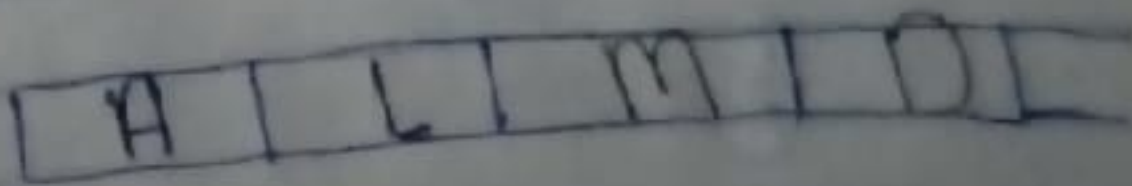
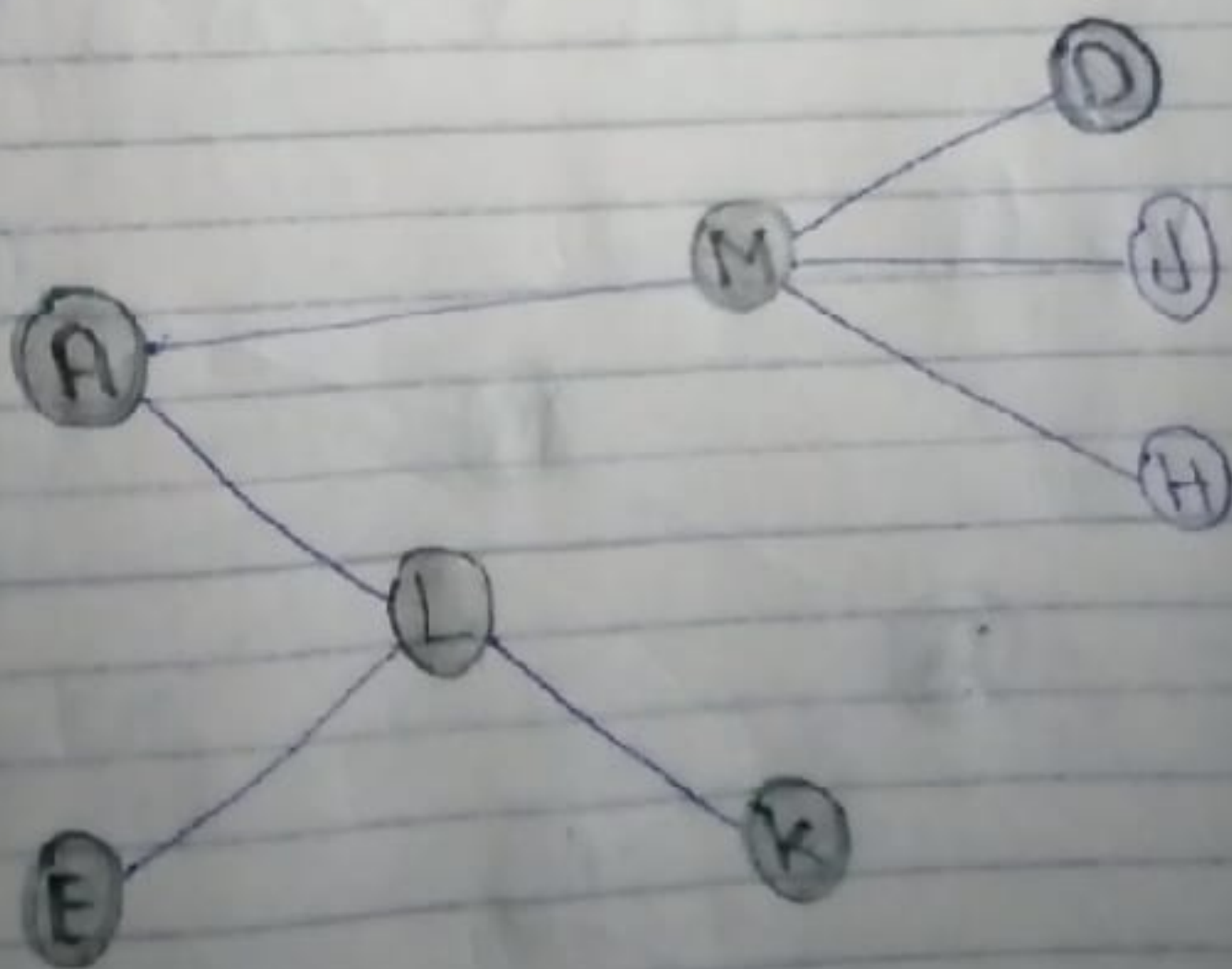
Step (5)



Output Sequence:

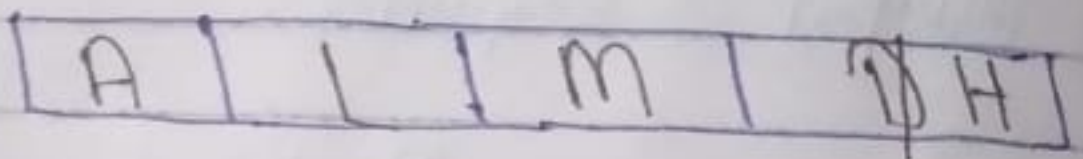
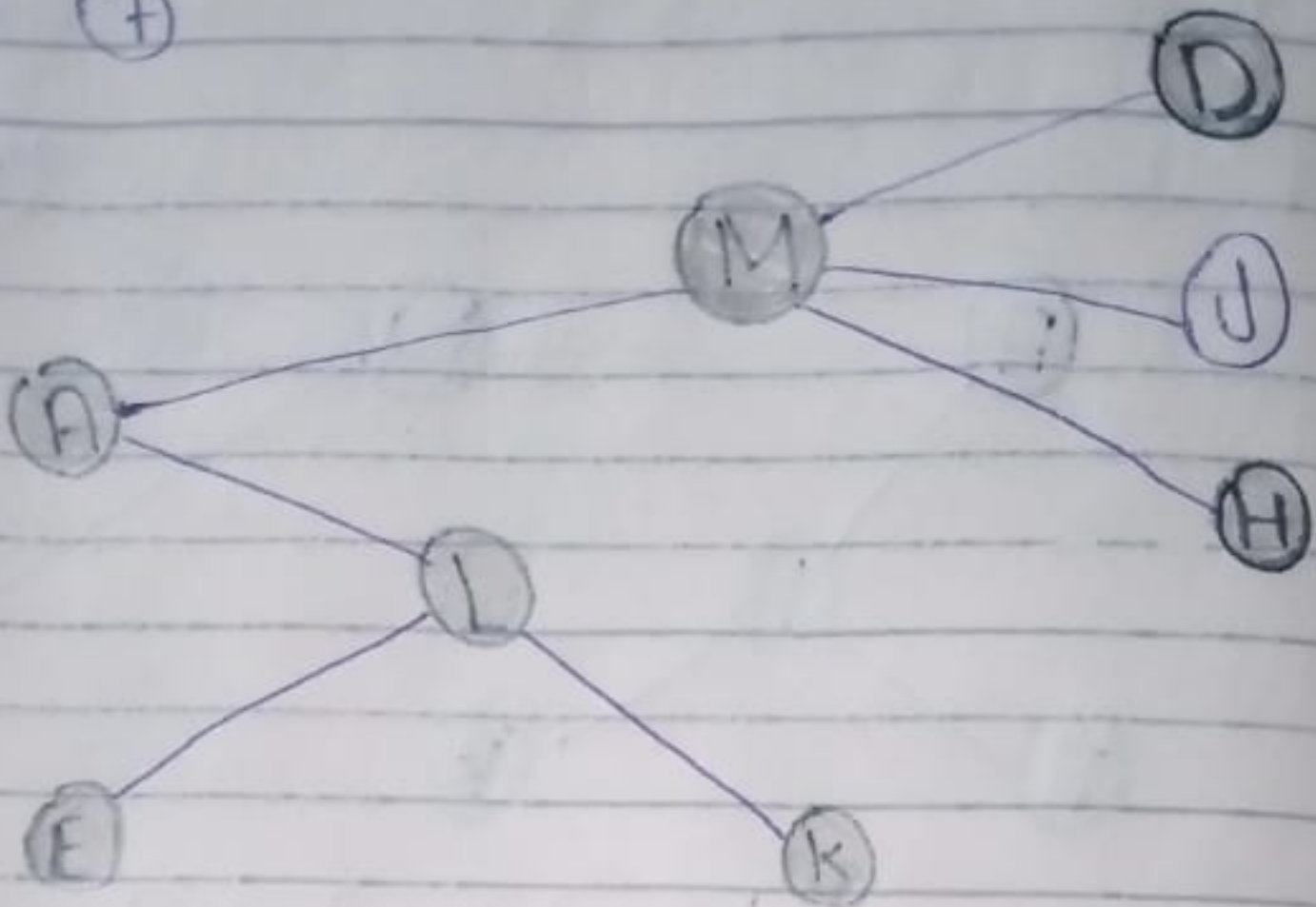
A, L, E, K, M

Step (6)



Output Sequence: A, L, E, K, M, D.

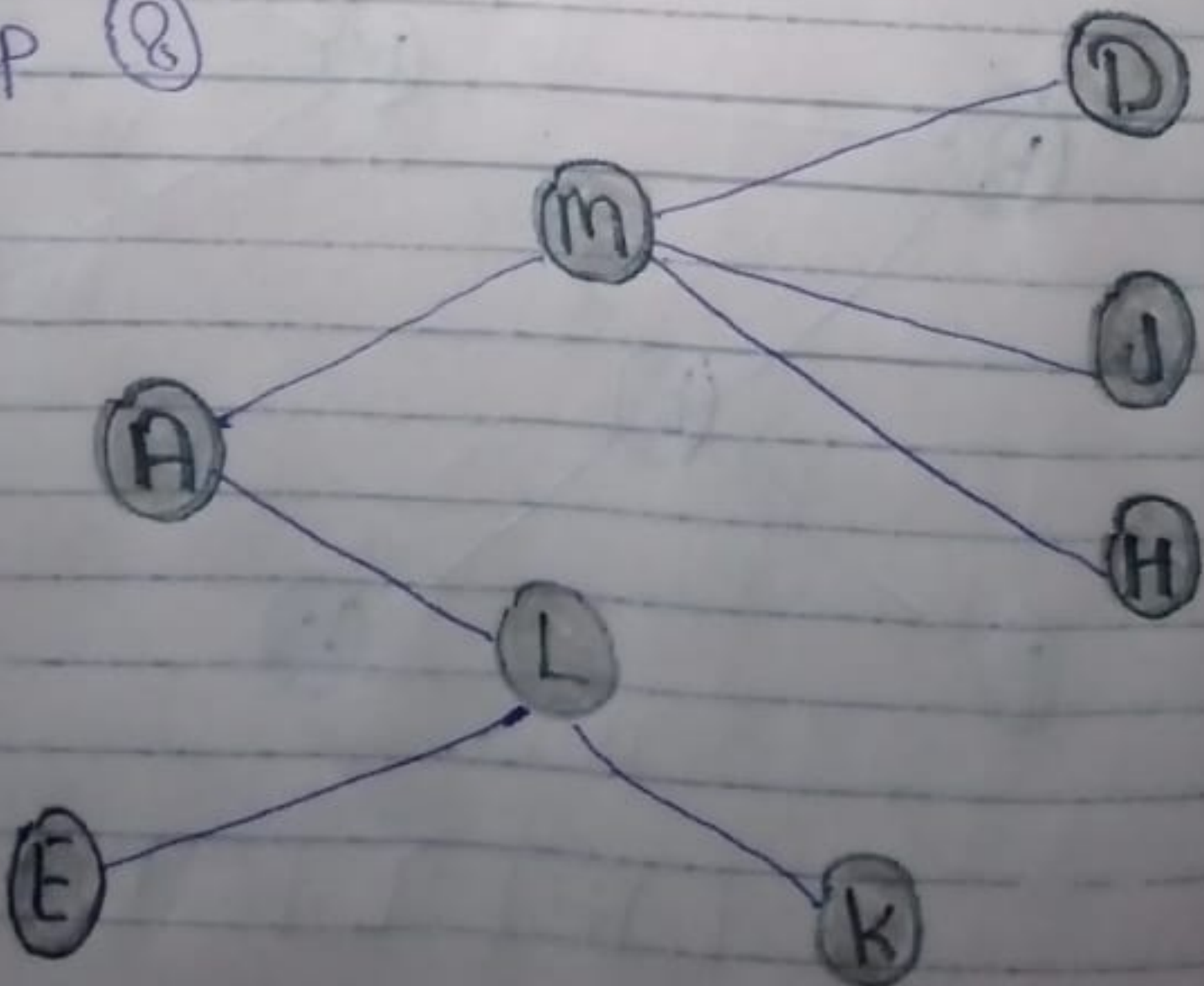
Step 7

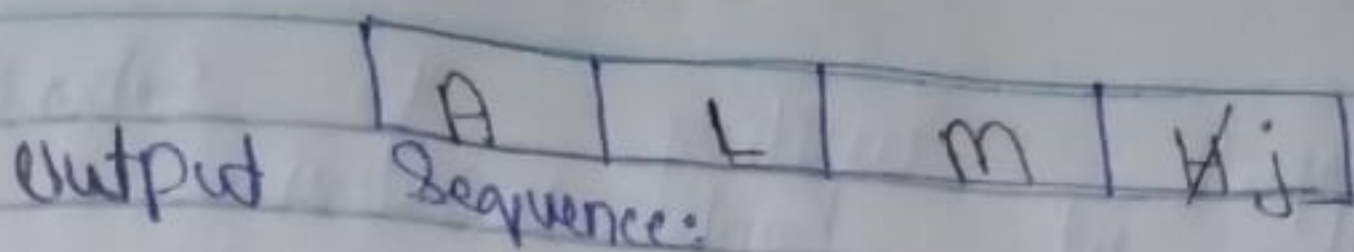


Output Sequences:

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

Step 8





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

Q 3

Ans:-

QUEUE:-

A Sequence list in which element are inserted from one end and are deleted / Retrived from end is called Queue.

The End from where an element can be inserted is called Rear of the Queue.

The End from where are element can be deleted / reterived is called Front of the Queue.

Working Principle of "A Queue first In - first out" or "Last In - Last out."

Examp les:-

A ~~car~~ Car is waiting to pass through a signal.

* People waiting to submit
bill out bank windows.