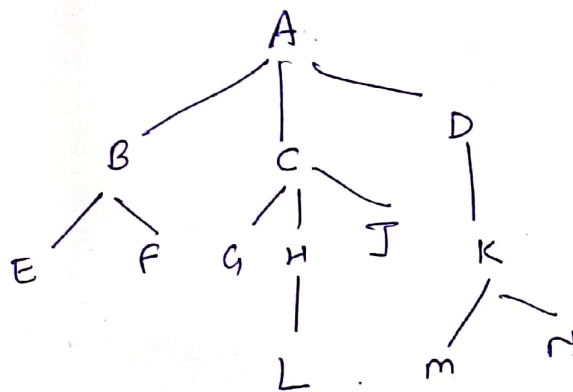


General Tree

A general tree is defined to be a non-empty finite set of elements called nodes such that

- 1) T contain R called root of T.
 - 2) The remaining elements of T form an ordered collection of ZERO or more disjoint trees.
- T_1, T_2, T_3 are called subtree of root R and roots of T_1, T_2, T_3 are successors of R.

for e.g.



GENERAL Tree
T

The node C has 3 children
B & K has 2 children
D & H has one child

E, F, G, L, J, M, N have no children. & called Terminal Node

Diff betⁿ Binary tree & General tree.

- 1) Binary tree T' may be empty but general tree T is nonempty.
- 2) There is left child or right child in binary tree T' but no such distinction exists in general tree T.

Memory Representation of General Trees.

T will be maintained in memory by means of Linked Repⁿ which uses 3 parallel arrays. INFO, CHILD and SIBL such that

- 1) INFO[K] → Contain data at node N.
- 2) CHILD[K] → Contain location of first child of N.
- 3) SIBL[K] → Contain the location of next sibling of N.

Root will contain location of the root R of T.

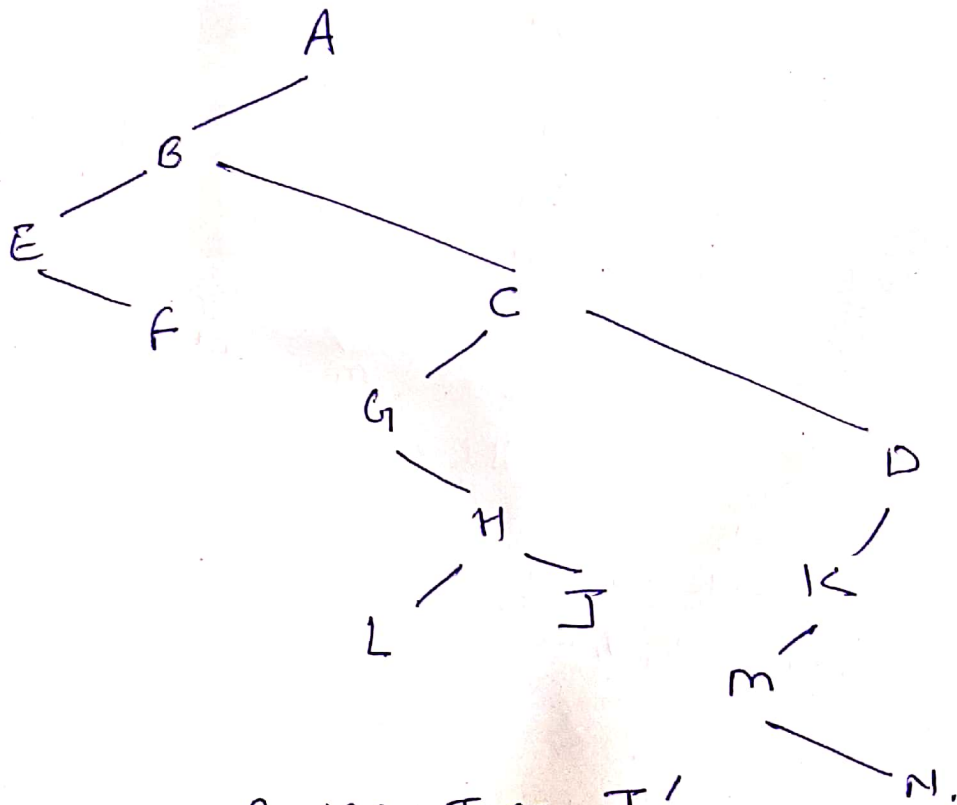
How to Convert Binary Tree from General Tree

The nodes of both tree T & T' will be same.

Root of T' will be root of T .

Left child of N in T' will be the first child of node N in the general tree T and right child of N in T' will be the next siblings of N in general tree T .

The corresponding Binary tree of the General tree T is as follows
(T')



BINARY Tree T'