



جامعة المستقبل
AL MUSTAQBAL UNIVERSITY



قسم الأمن السيبراني

DEPARTMENT OF CYBER SECURITY

SUBJECT:

SEARCHING AND SORTING ALGORITHMS

CLASS:

SECOND

LECTURER:

M.SC.MUNTATHERALMUSSAWEE

LECTURE: (8)

**TRANSFORMATION A TREE TO
BINARY TREE**

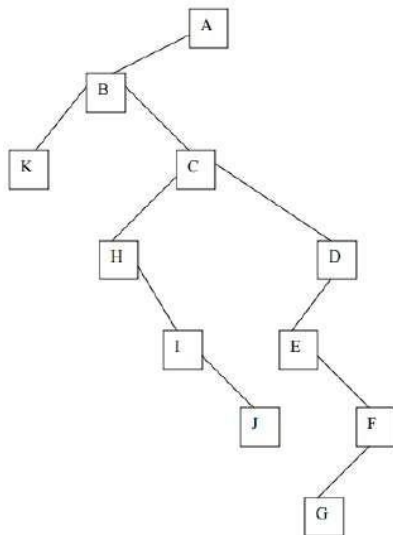
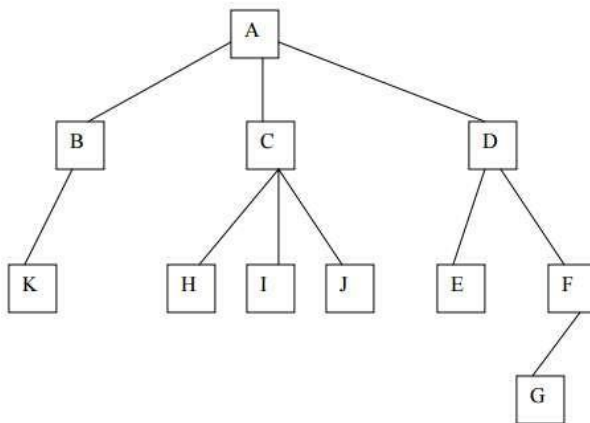
2.4 Transformation a tree to binary tree:

To convert the general a tree in to binary tree use the following process:

1. The root of the general tree is the becomes the root of the binary tree.
2. The left child of the general tree becomes the left child of the binary tree.
3. The brothers of the left child in the general tree becomes his right child in the binary tree.
4. Repeat the same process on the left child considering him as a root.

Example:

Convert the following tree to binary tree.

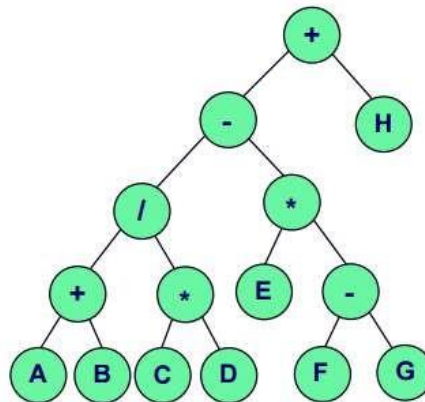


2.5 Representation of arithmetic using Binary tree

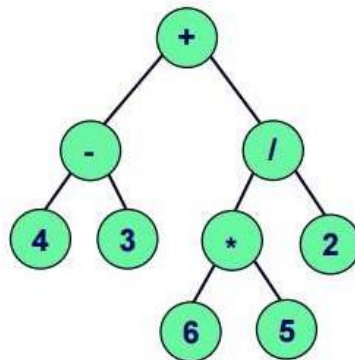
Binary trees can be used to represent arithmetic expressions such as the internal vertices represent operators, and the leaves represent operands.

Examples:

1. $(A + B) / (C * D) - E * (F - G) + H$



2. $4 - 3 + 6 * 5 / 2$



3. $A + B * (C / D)$

