SNS COLLEGE OF TECHNOLOGY

(Autonomous)

COIMBATORE-35

Application of Trees

My Family Tree

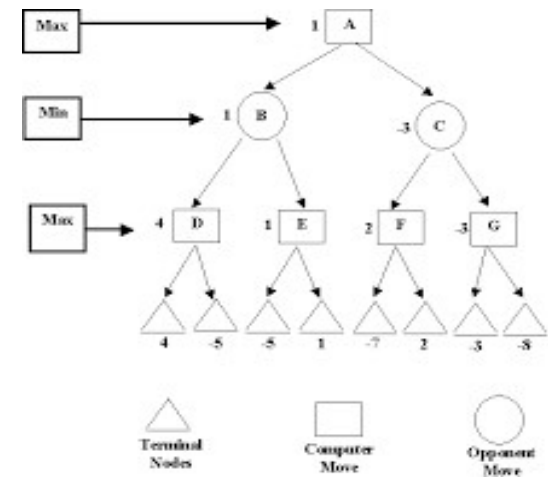*Prepared by*
V.Savitha

Application of Trees

• Tree Applications
- –decision trees
- –game trees
- –heaps
- –binary search trees

19ITT201/Data Structures- Unit - II/Application
of Trees/V.Savitha, AP/CSE

10/19/2022

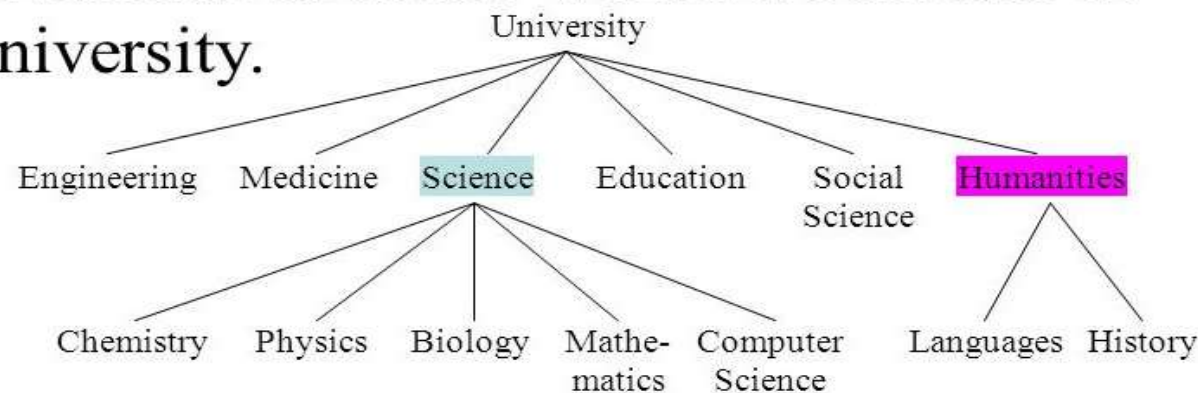## Applications of trees

Trees occur frequently in real life:

- An **organization tree** records the structure of a hierarchical organization, such as the divisional structure within a business or university.

Application of Trees

Applications of Trees

Trees are very important data structures in computing.

They are suitable for:

- Hierarchical structure representation, e.g.,
  - File directory.
  - Organizational structure of an institution.
  - Class inheritance tree.
- Problem representation, e.g.,
  - Expression tree.
  - Decision tree.
- Efficient algorithmic solutions, e.g.,
  - Search trees.
  - Efficient priority queues via heaps.

Application of Trees

- **Other Applications :**

- Heap is a tree data structure which is implemented using arrays and used to implement priority queues.

- B-Tree and B+ Tree : They are used to implement indexing in databases.

- Syntax Tree: Used in Compilers.

- K-D Tree: A space partitioning tree used to organize points in K dimensional space.

- Trie : Used to implement dictionaries with prefix lookup.

- Suffix Tree : For quick pattern searching in a fixed text.