

## Chapter 18 notes

# Trees

Friday, November 12, 2021

1:35 PM

A fundamental structure in cs. Almost all operating systems store files in trees or treelike structures. Trees are used in compiler design

A general tree and discuss how it is used in a file system.

**Define a tree nonrecursively**

Tree consists a set of nodes and a set of directed edges that connect pairs of nodes

The roots are on the top

One node is distinguished as the root.

What you need to program it

- Instant variable for root that is a node
- Children would be an array of nodes, or list of nodes
- Could also maybe just use the linked list but it takes up space.
- Another ideas is that nodes only have 2 pointers points to siblings and children

Will be on the test

**Walking the tree**

In order

Pre order

Post order

Level order

Breadth first search

Level order has a starting spot then

Level order