DATA STRUCTURE

tree → ttierarichal structure

→ notes

- parents vs children
- siblings
- ancestor vs descentants

→ binary tree

bst → binary search tree

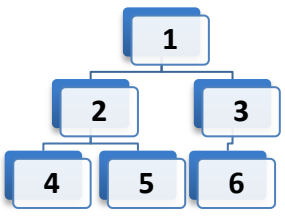
★ **tree**

- pre-order

-in-order

-Post-order → bfs

→ Dfs



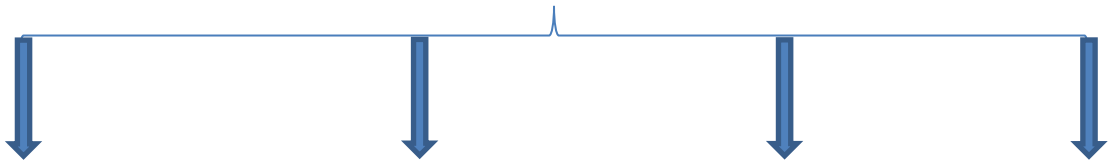
1- Bfs

-Dijkestra

-Floyedd } *shorter path*

-Beli man-ford

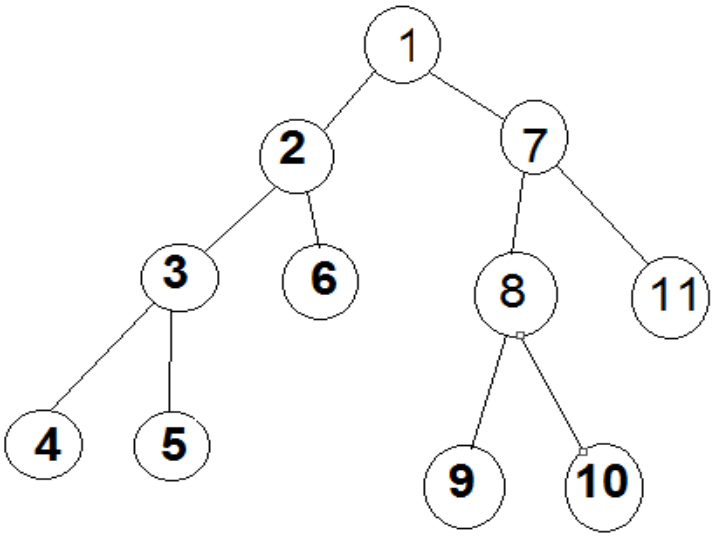
Algorithm



Liner search *binary* *sontag* *buble sont*

Data structure as; array,linked list

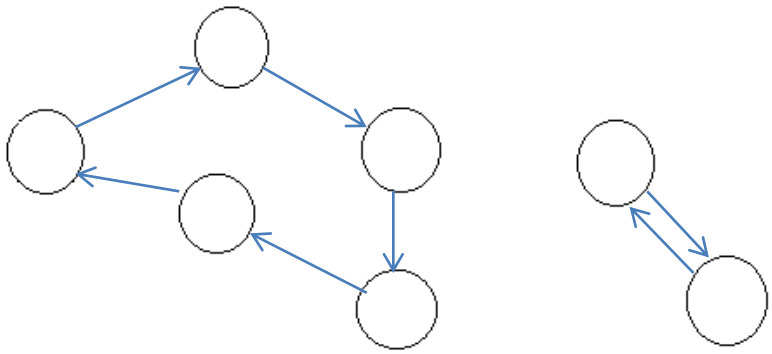
2-Dfs



Tree → **special type from data type called graph**

Tree → **is the simplest from the graph**

graph



- connected vs not connect

- directed or undirected (have no dirction for the edges)

- weighted vs no weighted

- edge have value

- cyclic vs a cyclic

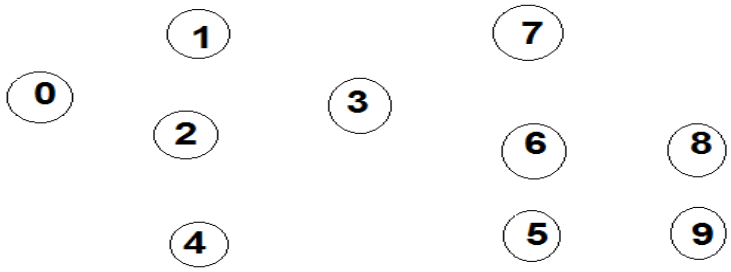
- dens vs spowse

1- how to implement the graph undirected and weighted by 2D array any matrix array ?

2 - undirected and weight put the value of the edges on matrix ?

3 – if it is directed and weighted graph by using adjancency matrix ?

4 – if it is sparse graph have no edges by adjancency list ?



Code int main(void){

Intg [10] [1] = 5j

g [0] [1] = 5j

g [0] [2] = 2j

g [1] [0] =5j

g [2] [0] =2j

g [5] [6] =3j

g [6] [5] = 3j

adjancecy list

int max (void) {using 52 bytes in memory

structure node {4

int key ;

int weight ; struct node * next ;};

struct node g [10]; ⟶ g[i]=nul ptr;

struct node g1; g1 key =1

g1 weight=5;

g[0]=g1 ⟶struct node g2;

g2key=2

g2 weight =2;

g1.next=g2;}