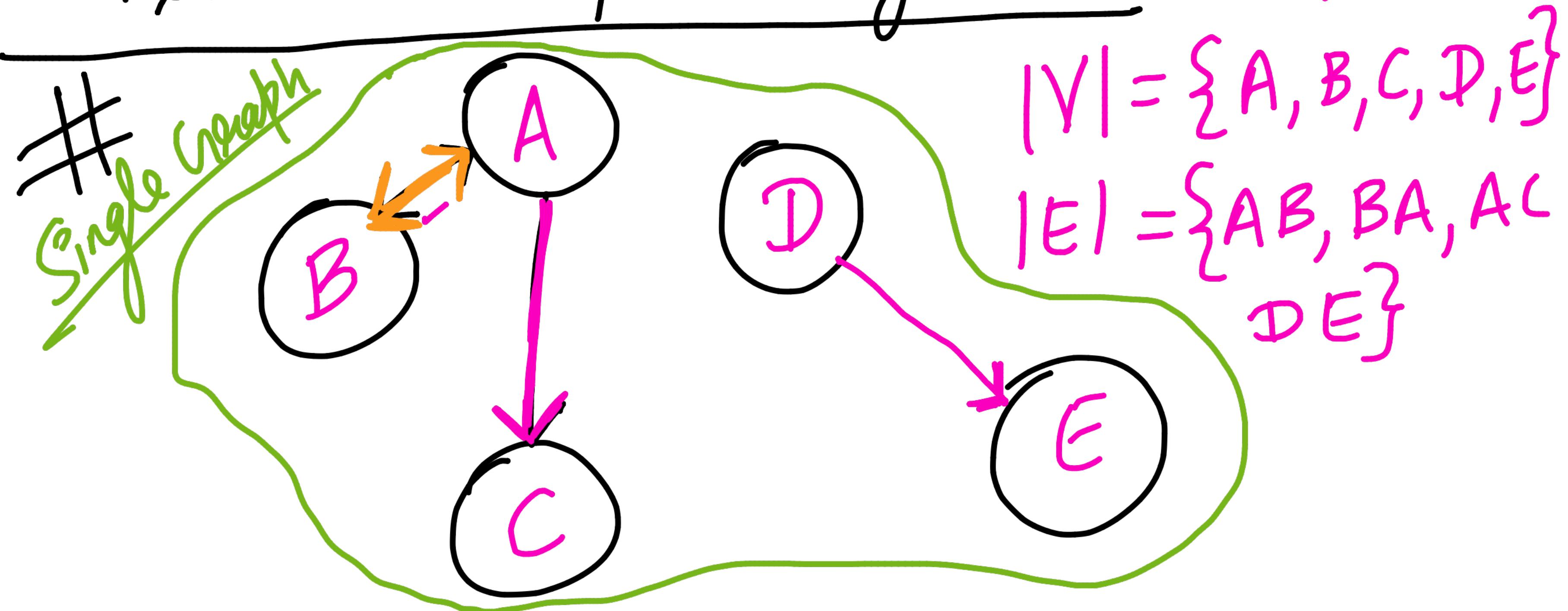


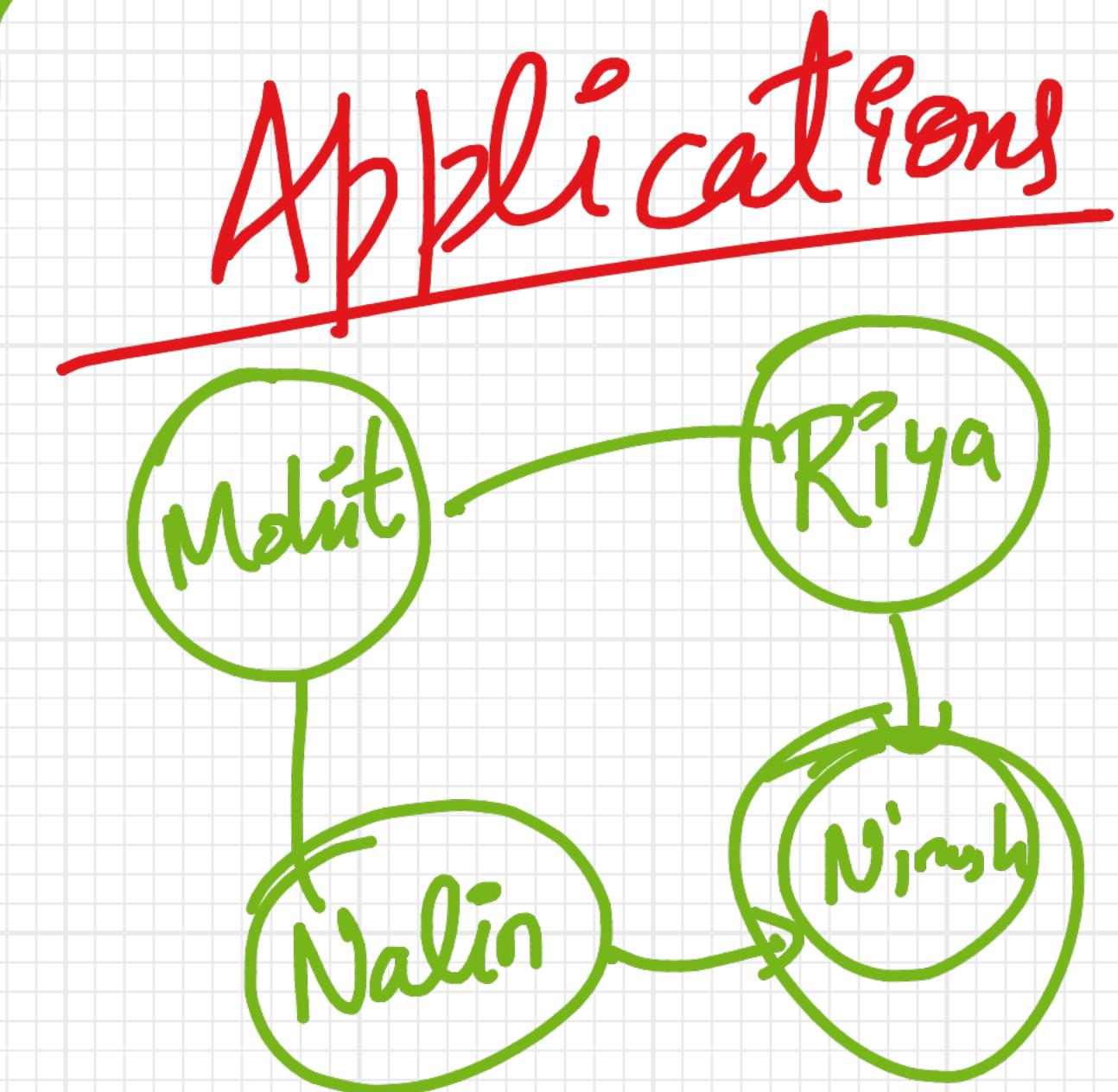
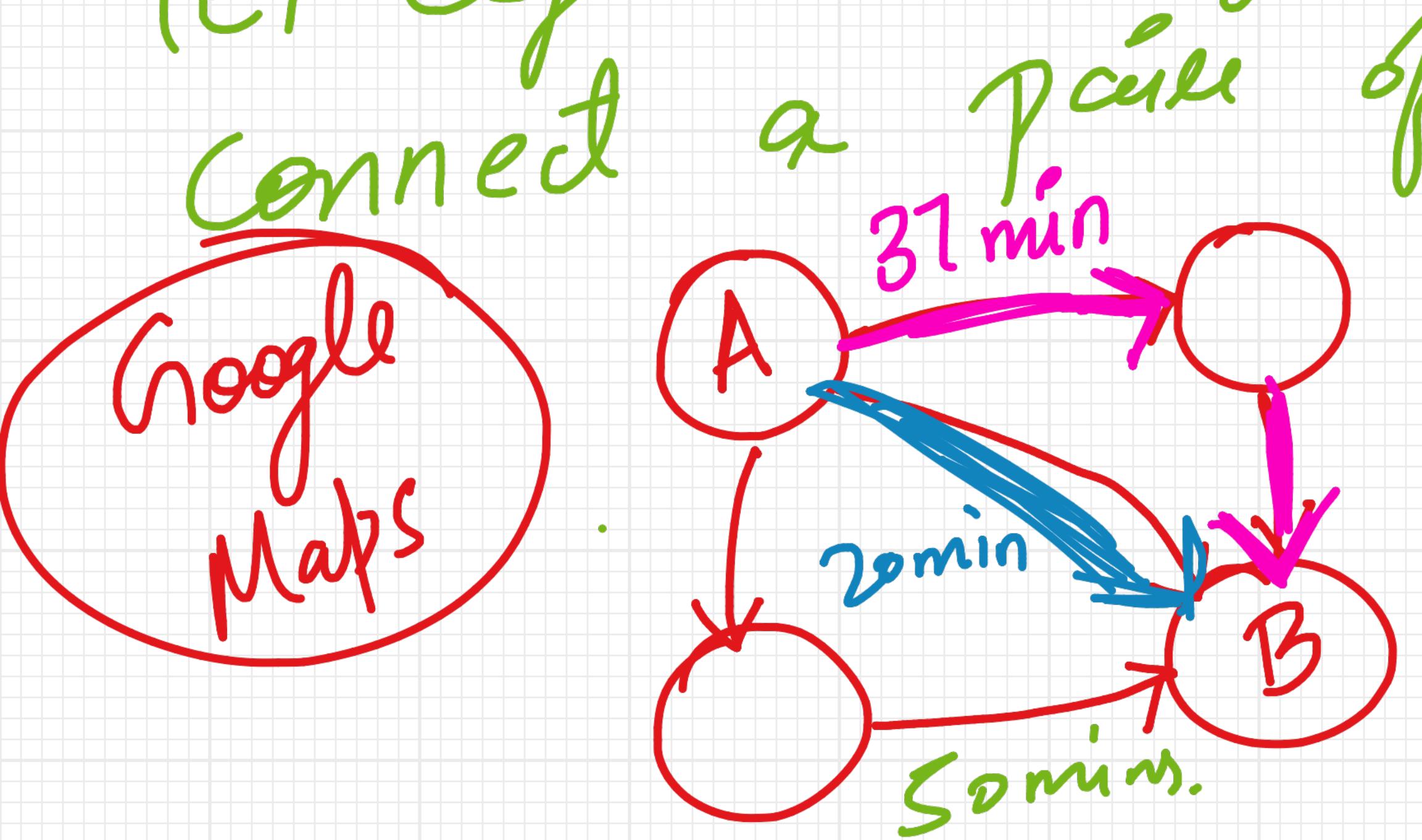
All trees are graphs.

Nodes \approx Vertices
in Graph
Hingo

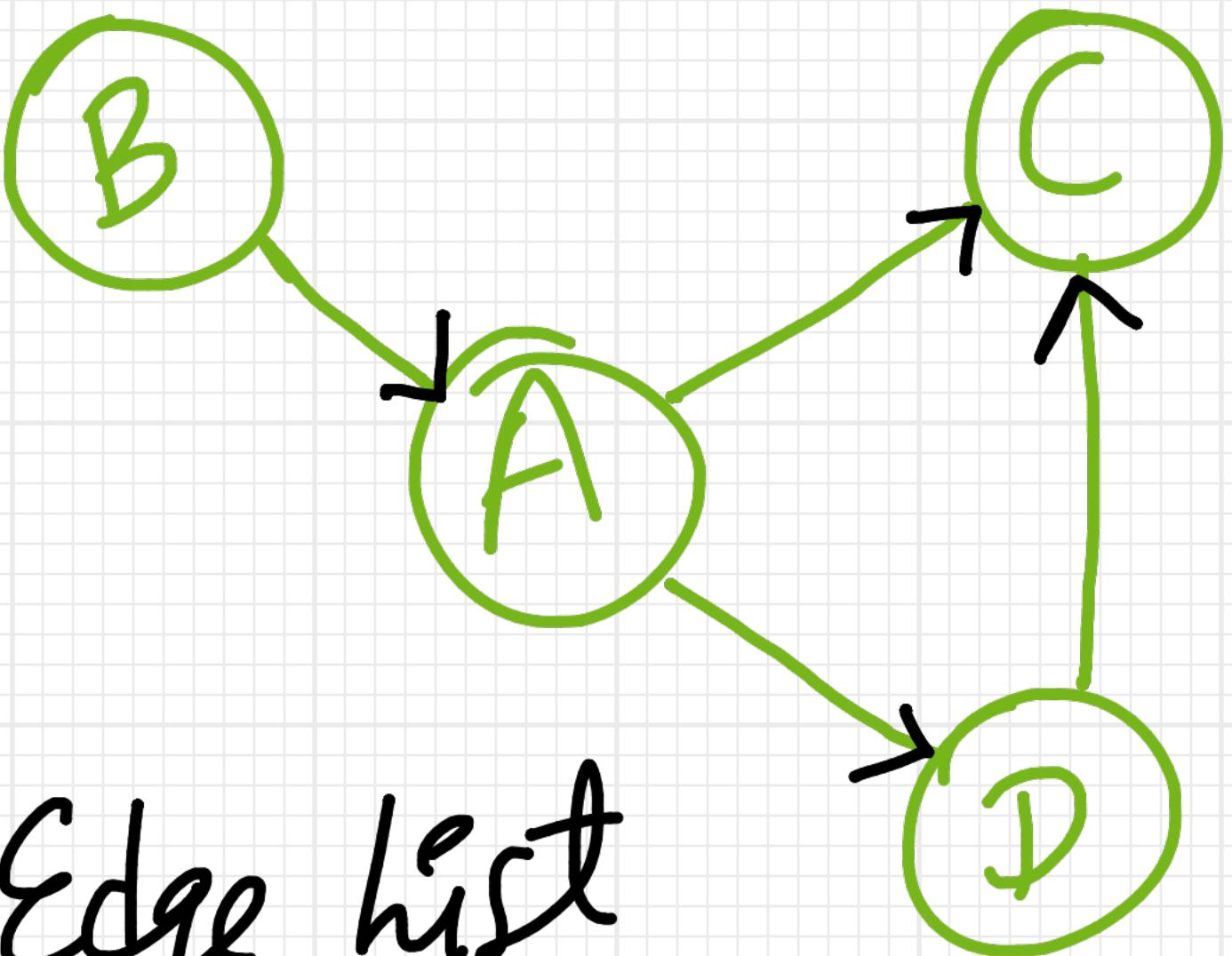
Trees are special graphs



Collection of $|V|$ vertices, and
 (E) edges. Each of these edges
connect a pair of vertices



Store/Representation of Graphs



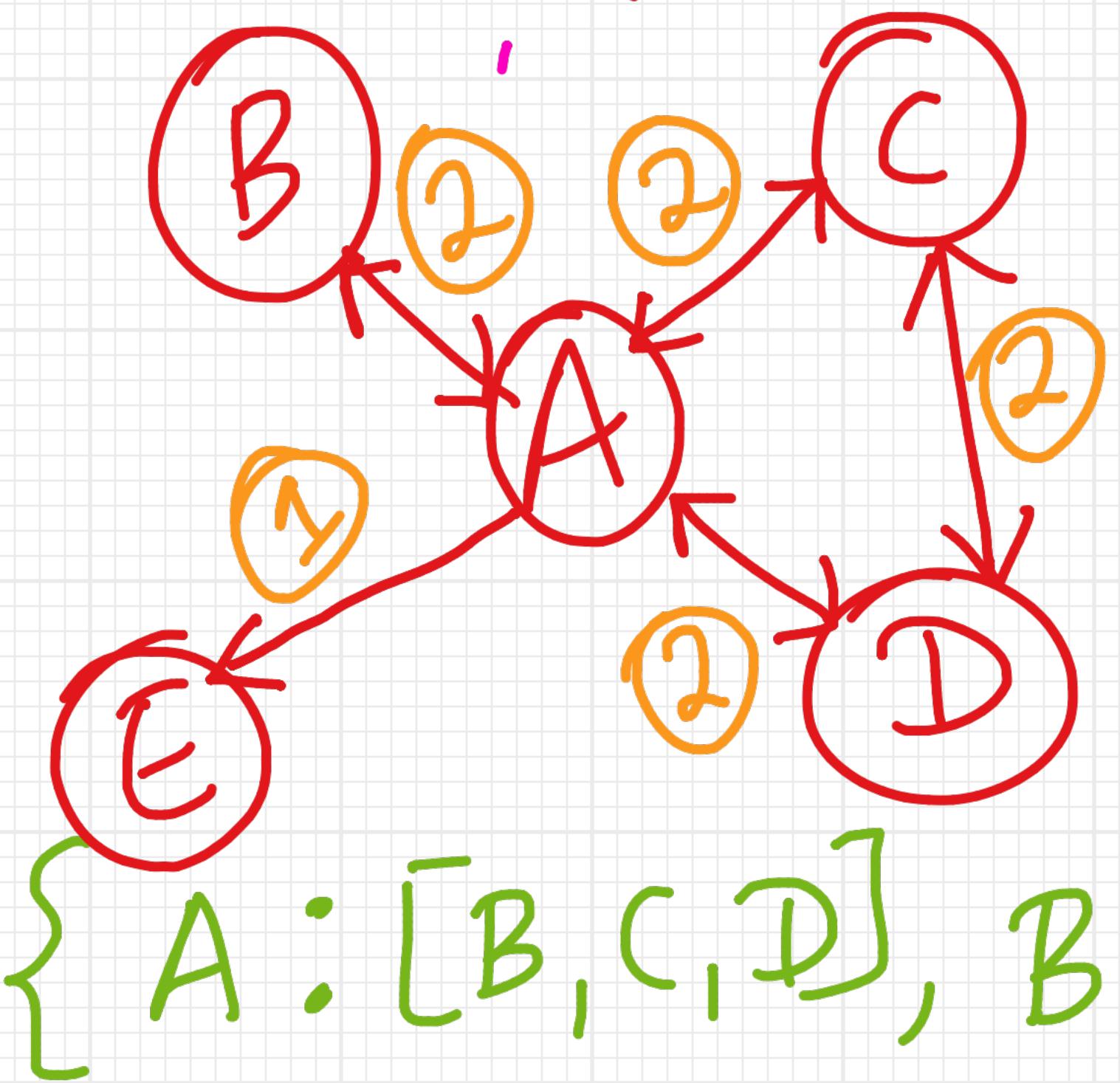
① Edge list

$\boxed{[(B, A), (A, D), (A, C), (C, D)]}$ ✓

② Adjacency Matrix

*	A	B	C	D
A	0	0	1	1
B	1	0	0	0
C	0	0	0	0
D	0	0	1	0

③ Adjacency list



E = []

A = [B, C, D, E]

B = [A]

C = [A, D]

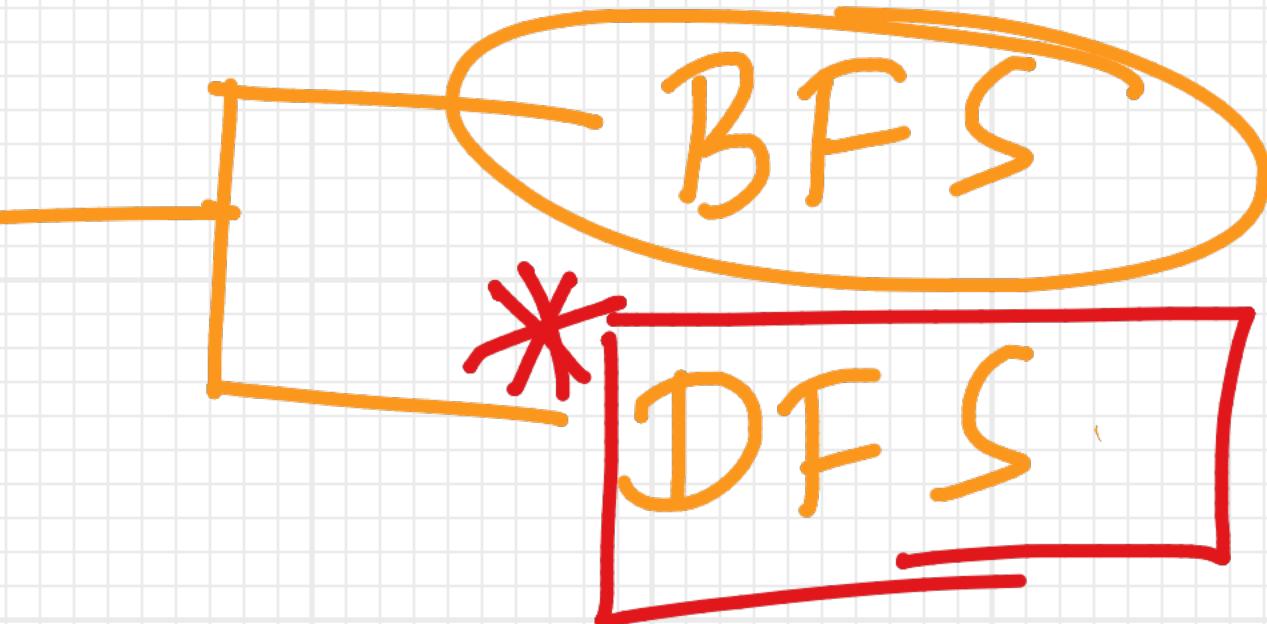
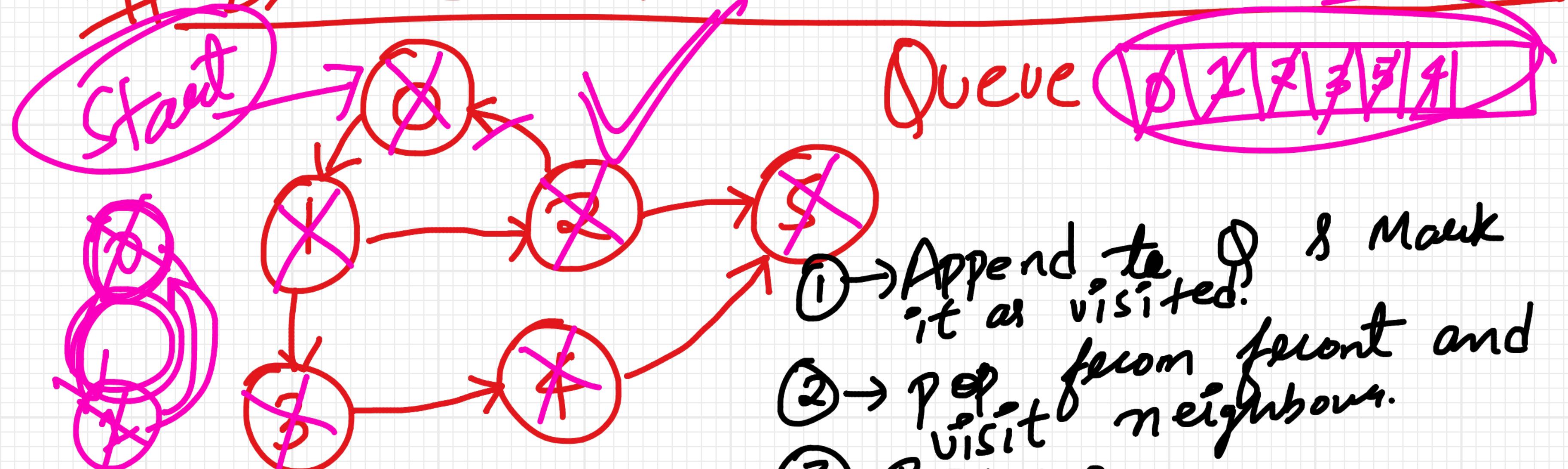
D = [A, C]

E = []

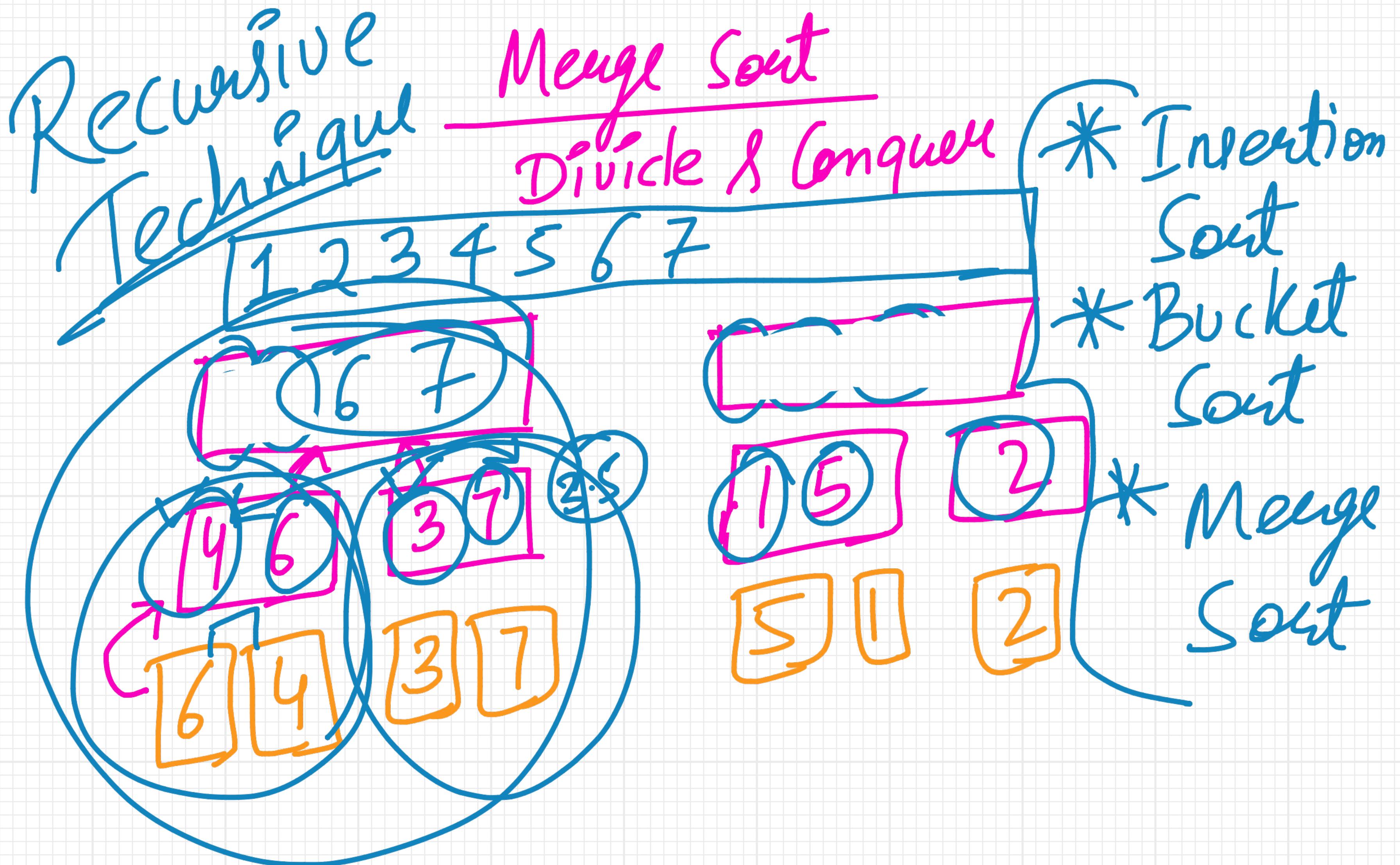
Traversal

0 1 2 3 5 4

Breadth First Search in Graphs



Search in Graphs



34 1 2 3 1 1 4 2 3 1 2

1 1 1 1 2 2 2 3 3 4 4 ✓

