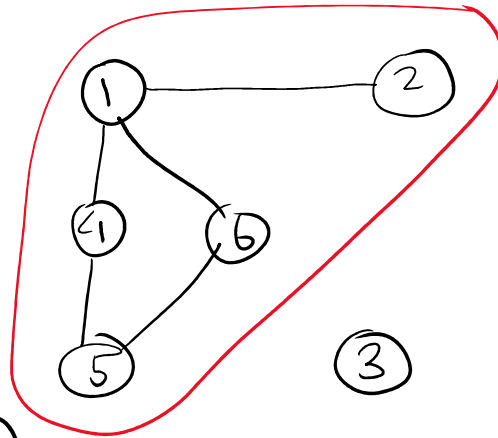
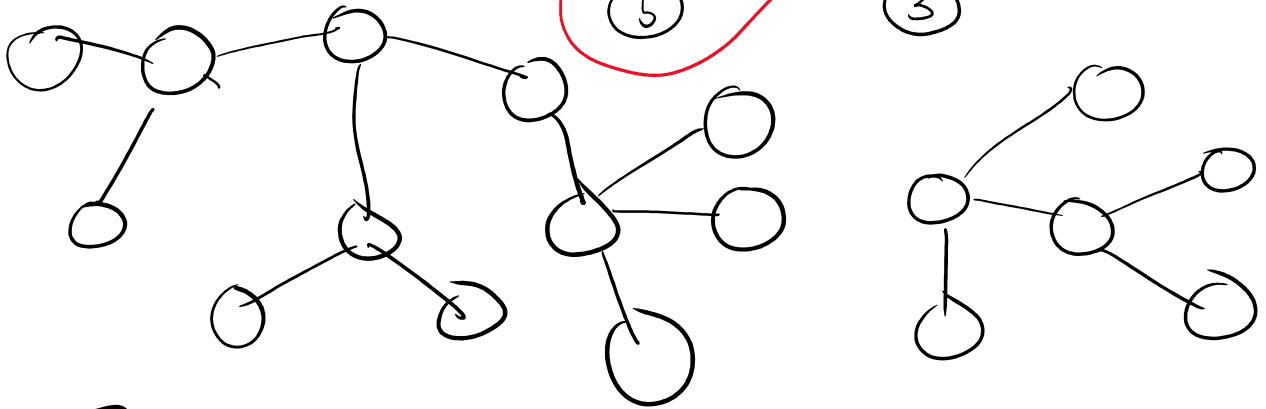


# Graph Theory

↳ Node/Vertex  
↳ Edge/Arm



# node  $\rightarrow 6$   
# edge  $\rightarrow 5$

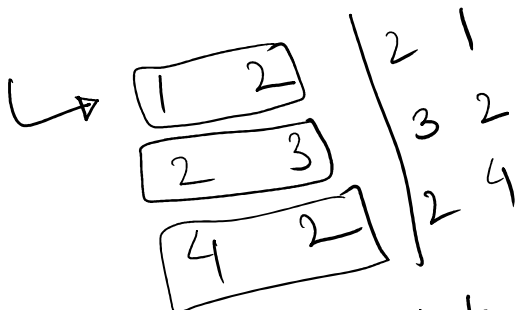
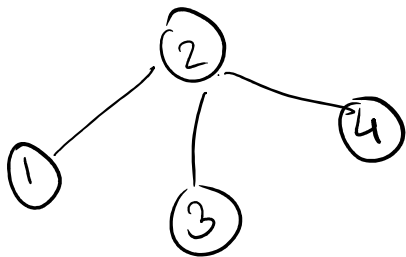


Tree

How to store a graph?

Adjacency matrix

Adjacency list



matrix ( $N \times N$ )  
1  $N^2$  # nodes

	1	2	3	4
1	0	1	0	0
2	1	0	1	1
3	0	1	0	0
4	0	1	0	0

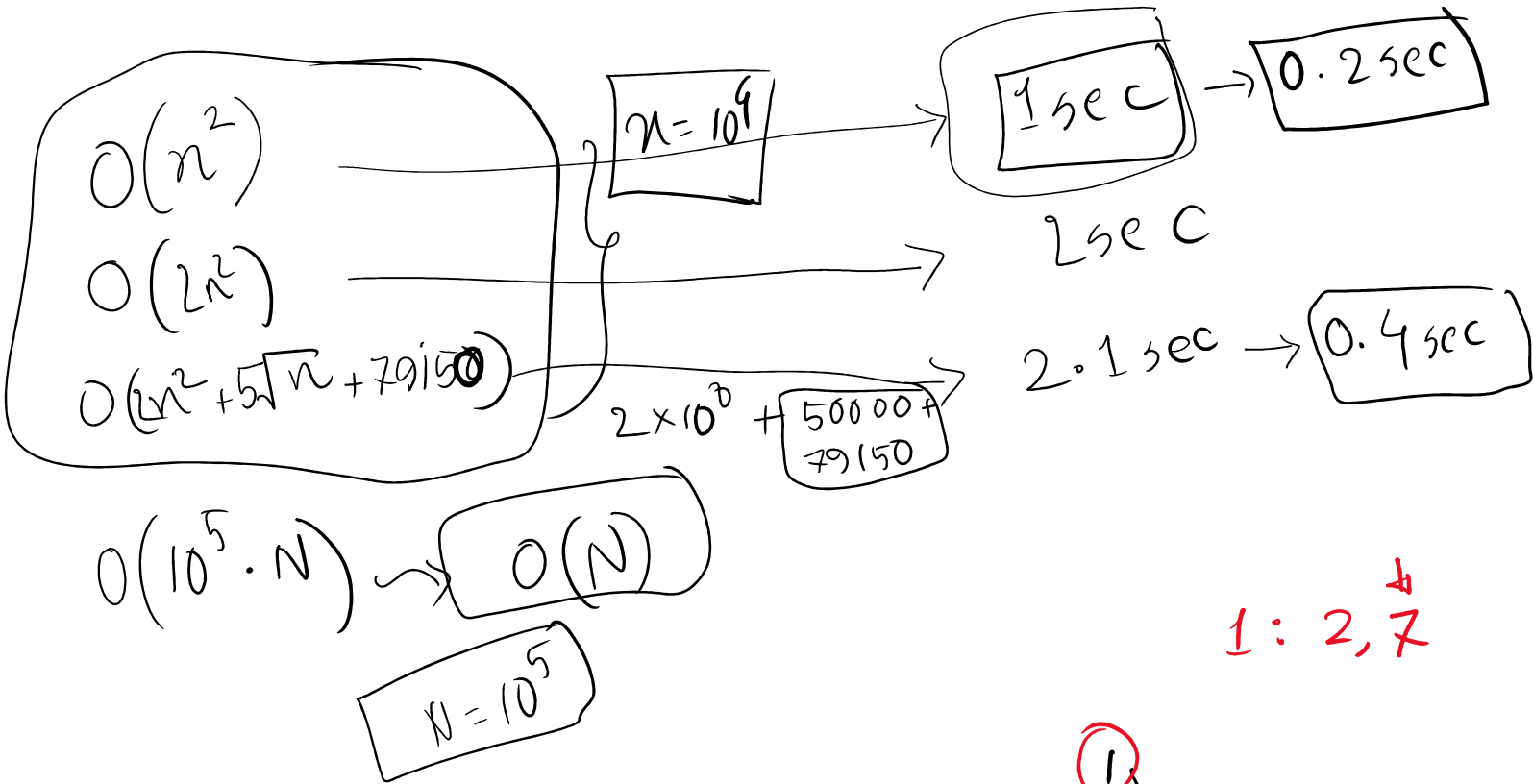
list ( $N+E$ )  $N+2E$

1 : 2  
2 : 1, 3, 4  
3 : 2  
4 : 2

Approximate  
Nature

Consumed Time  $\rightarrow$  Exact

Approximate Nature Consumed Time → Exact



1: 2, 7

DFS → Depth First Search

1, 2, 3, 4, 7, 6, 5, 9, 10, 8

curr =

