

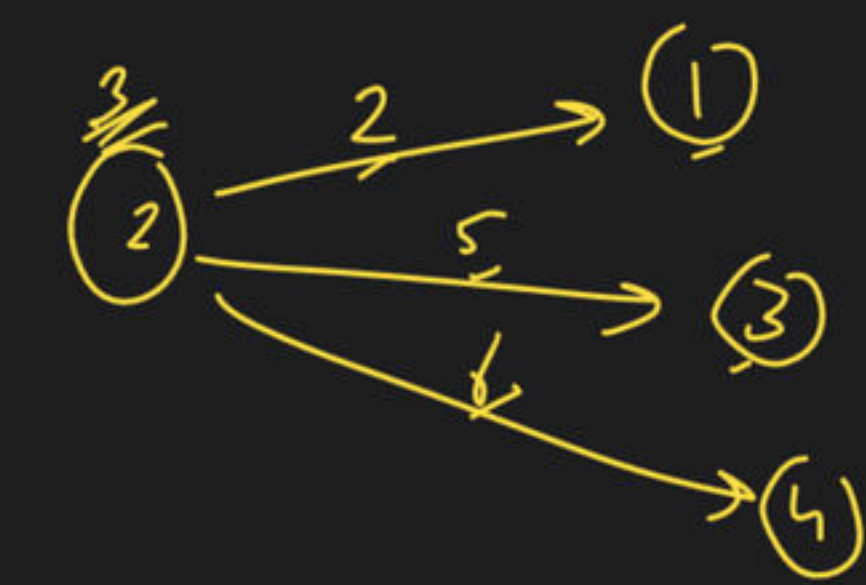
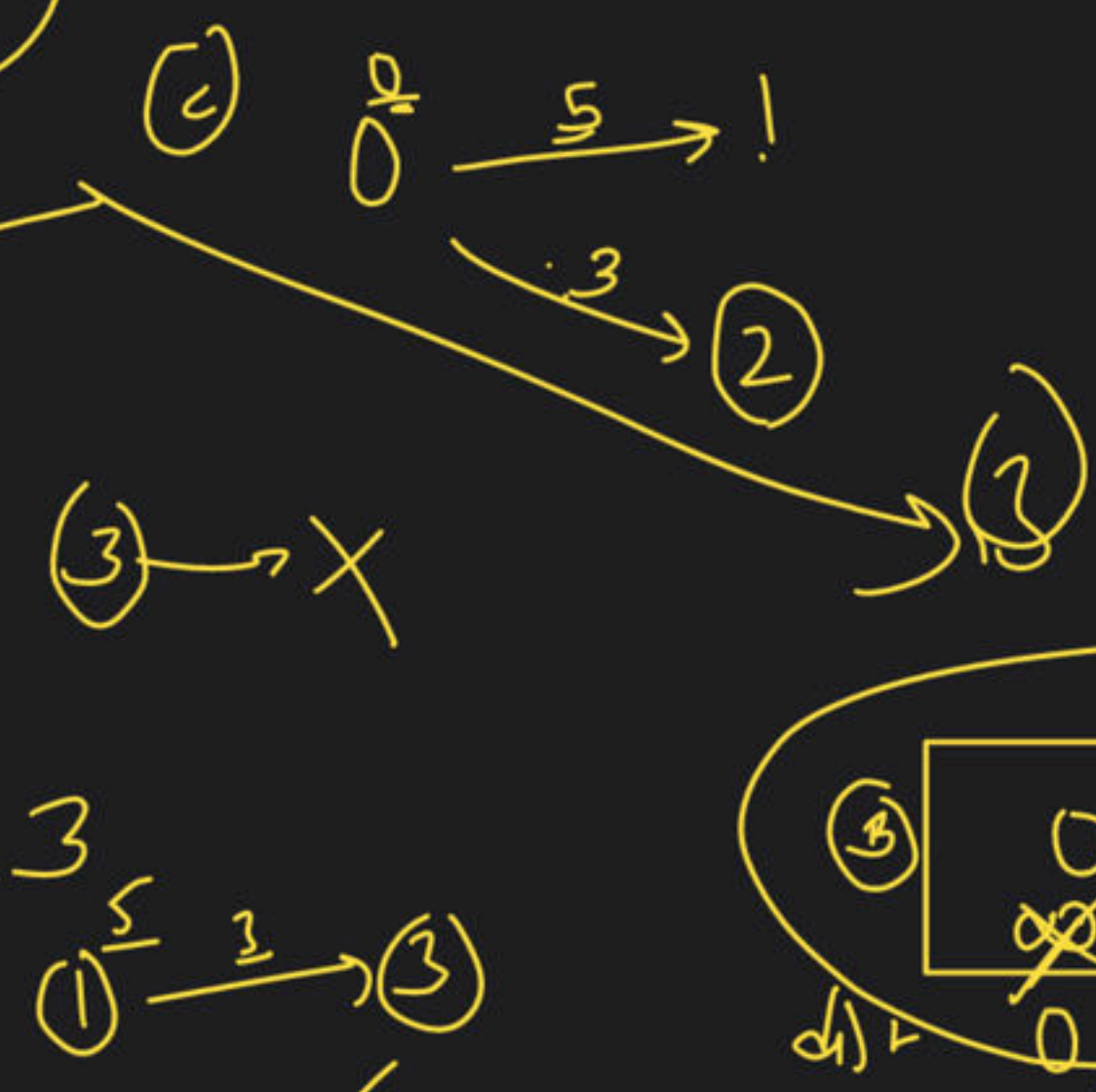
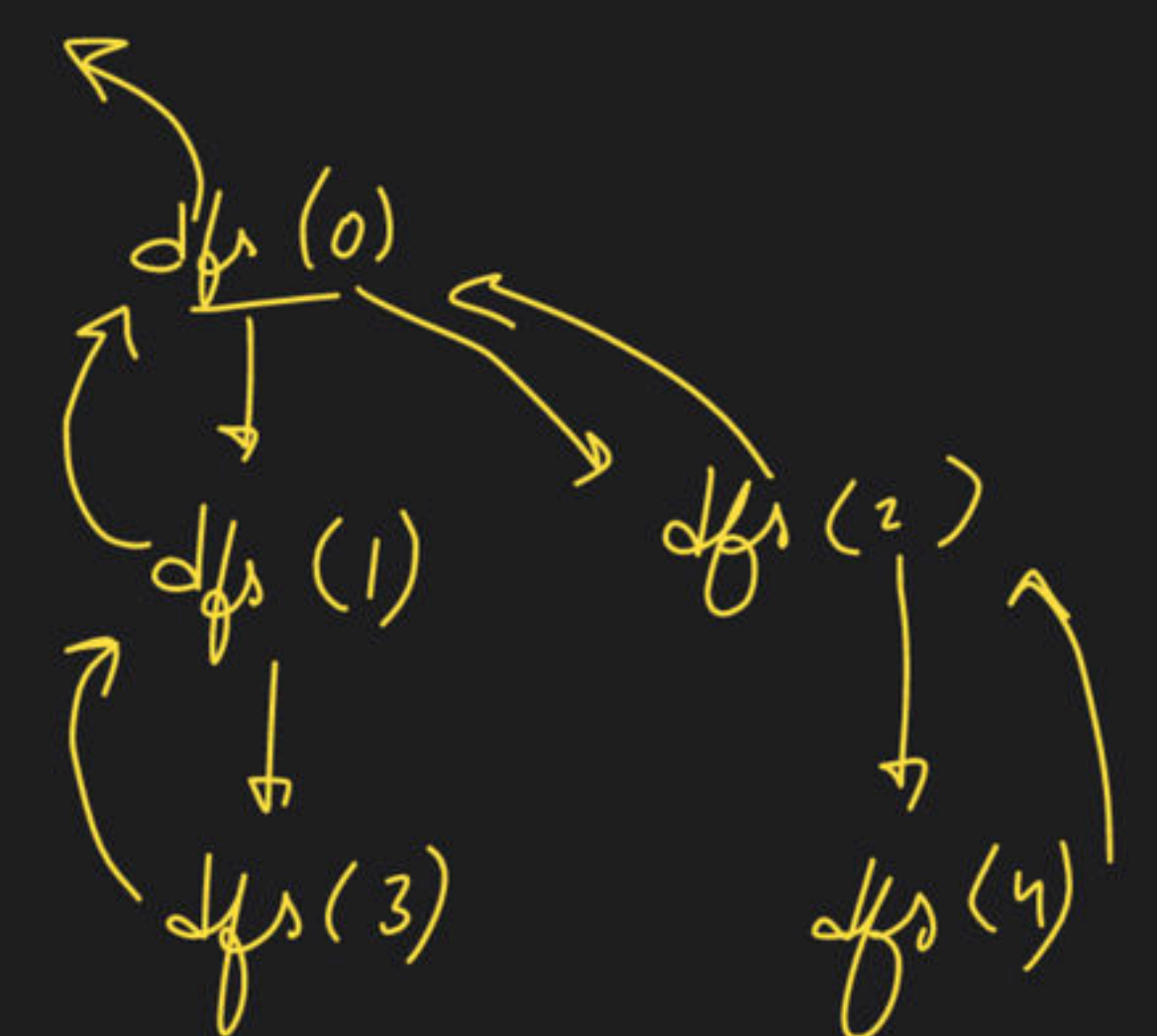
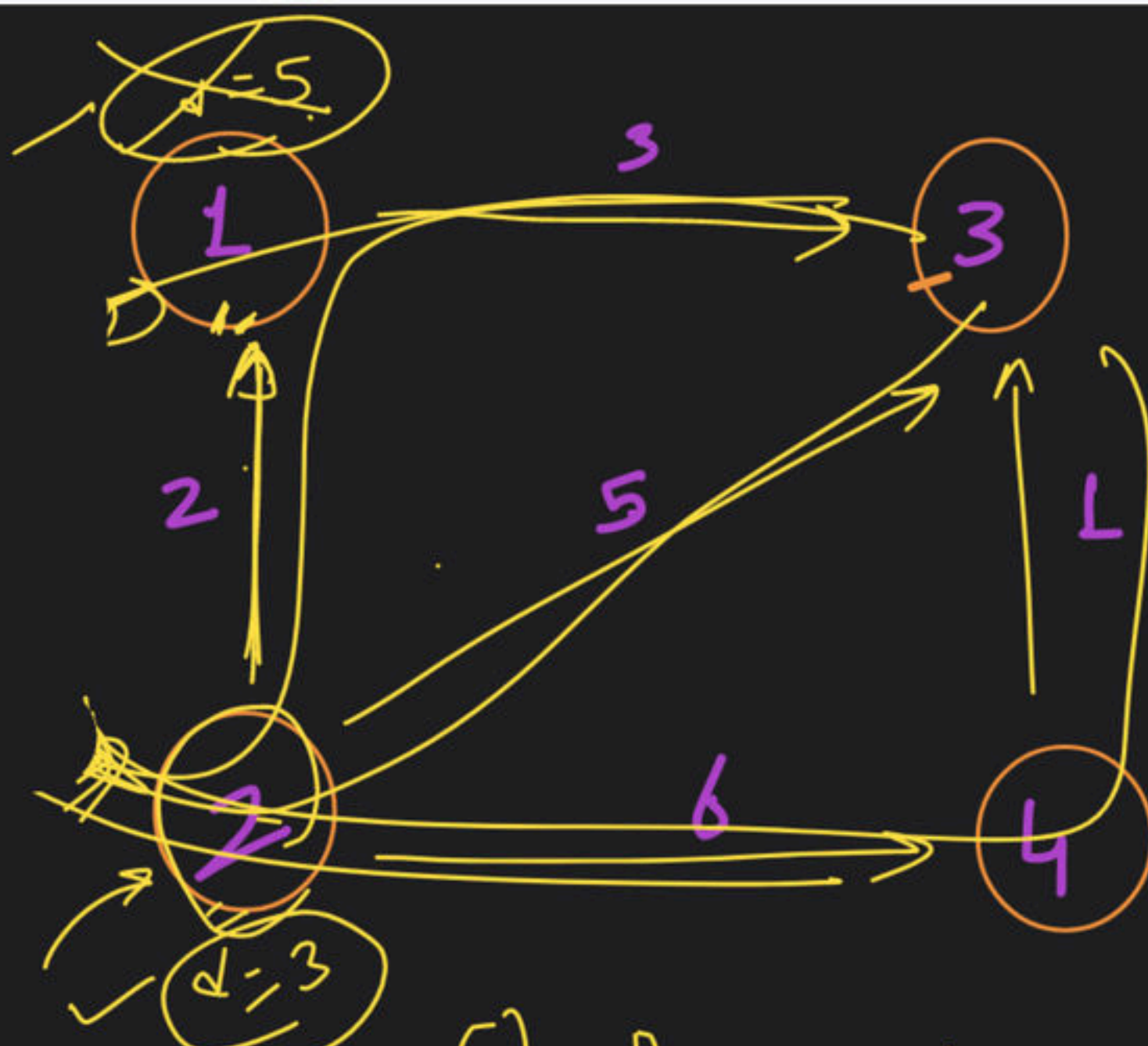
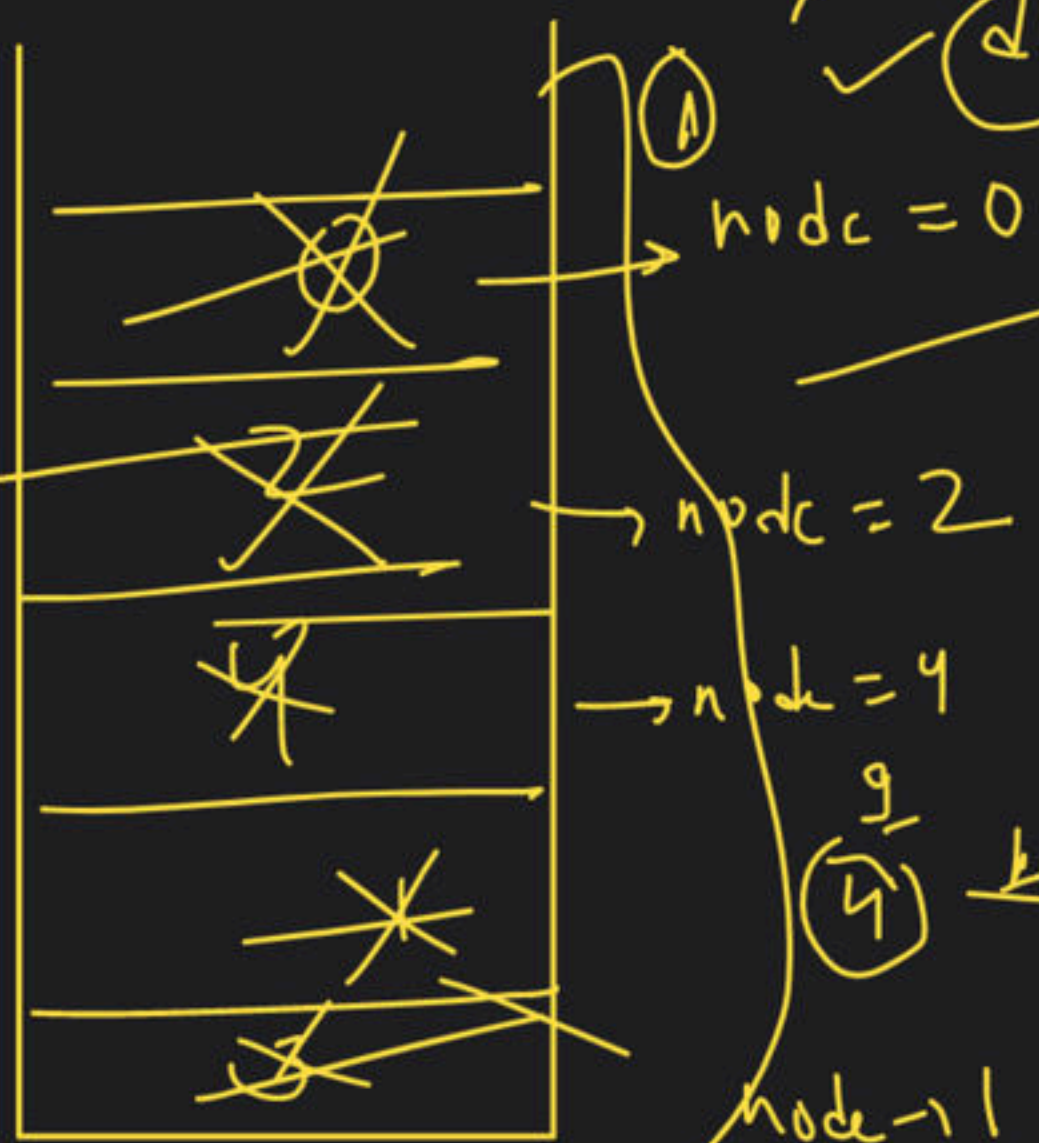


Graph Class - 4

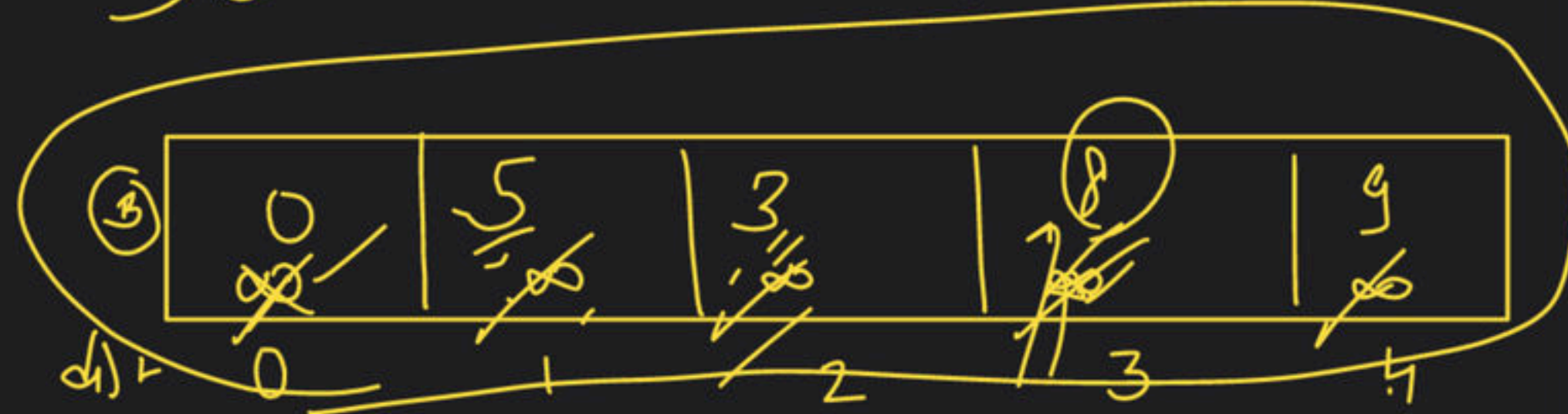
Special class

→ Directed Graph → Shortest Path

(A)
 topo
 Order
 {
 5th



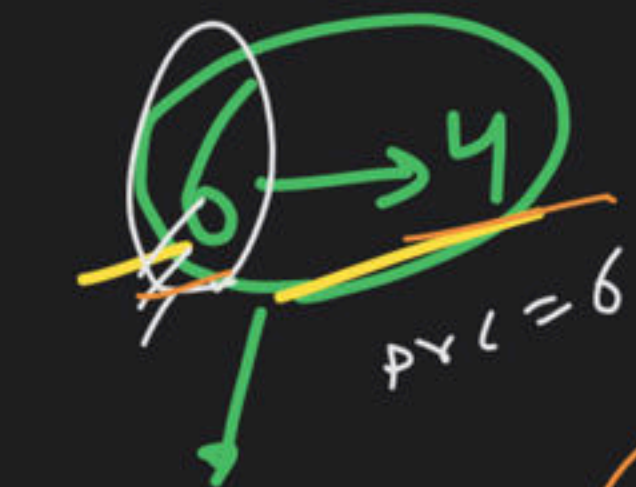
shortest
 distance



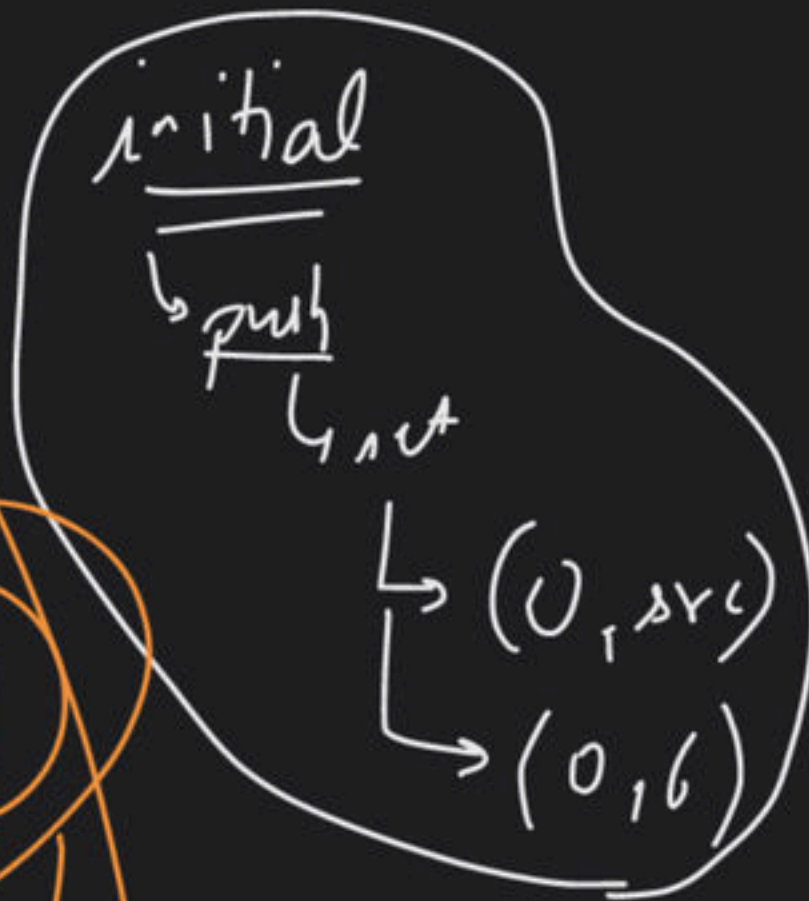
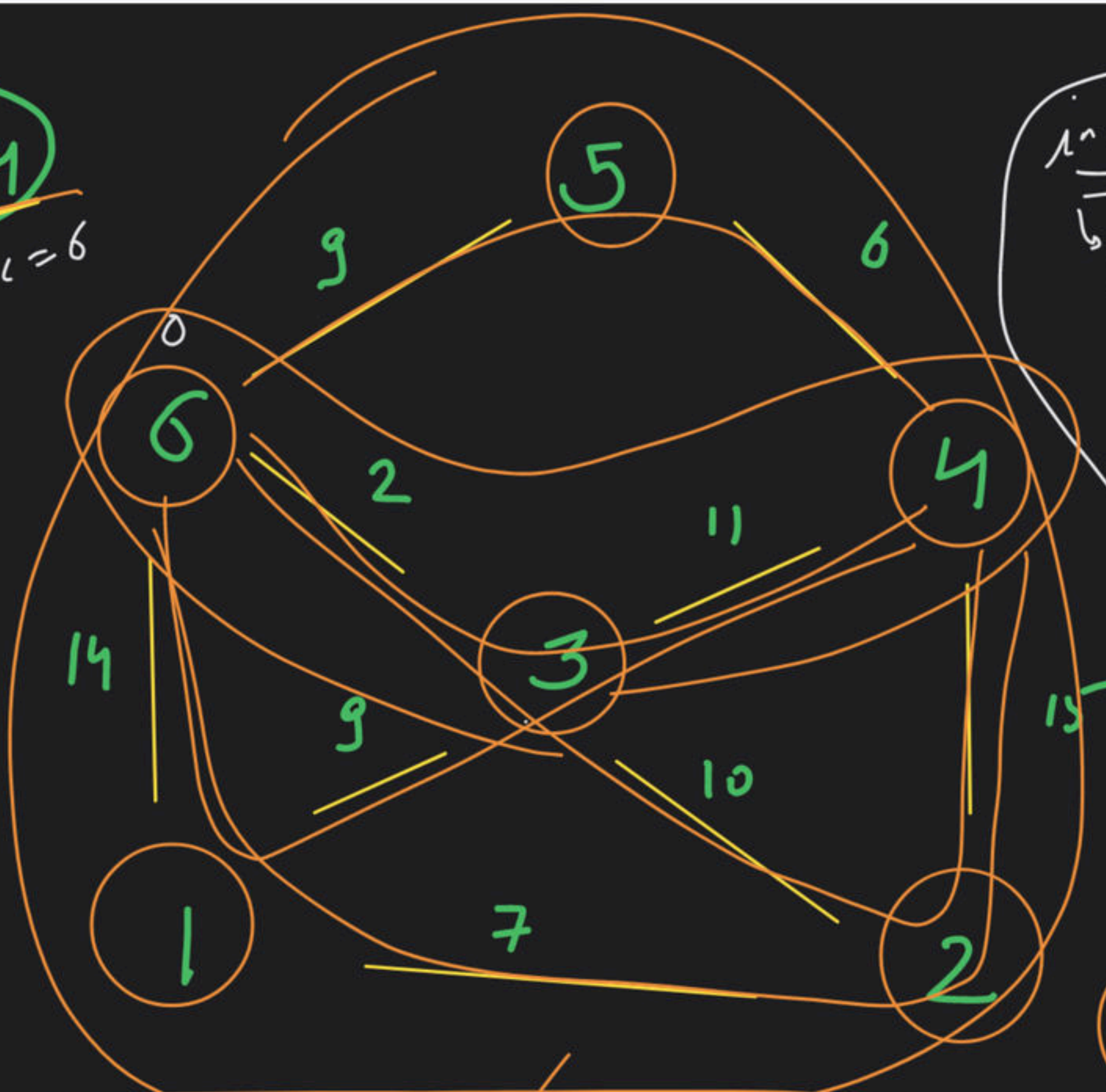
→ Dijkstra

Algo:-

$$O(\sum \log V)$$



Shortest
path



remove
new push

(12, 2)
(13, 4)
(14, 1)
(2, 3)
(9, 5)
(0, 6)

downst
Set
minheap
↓
min
clen
↓
0(1)

dist

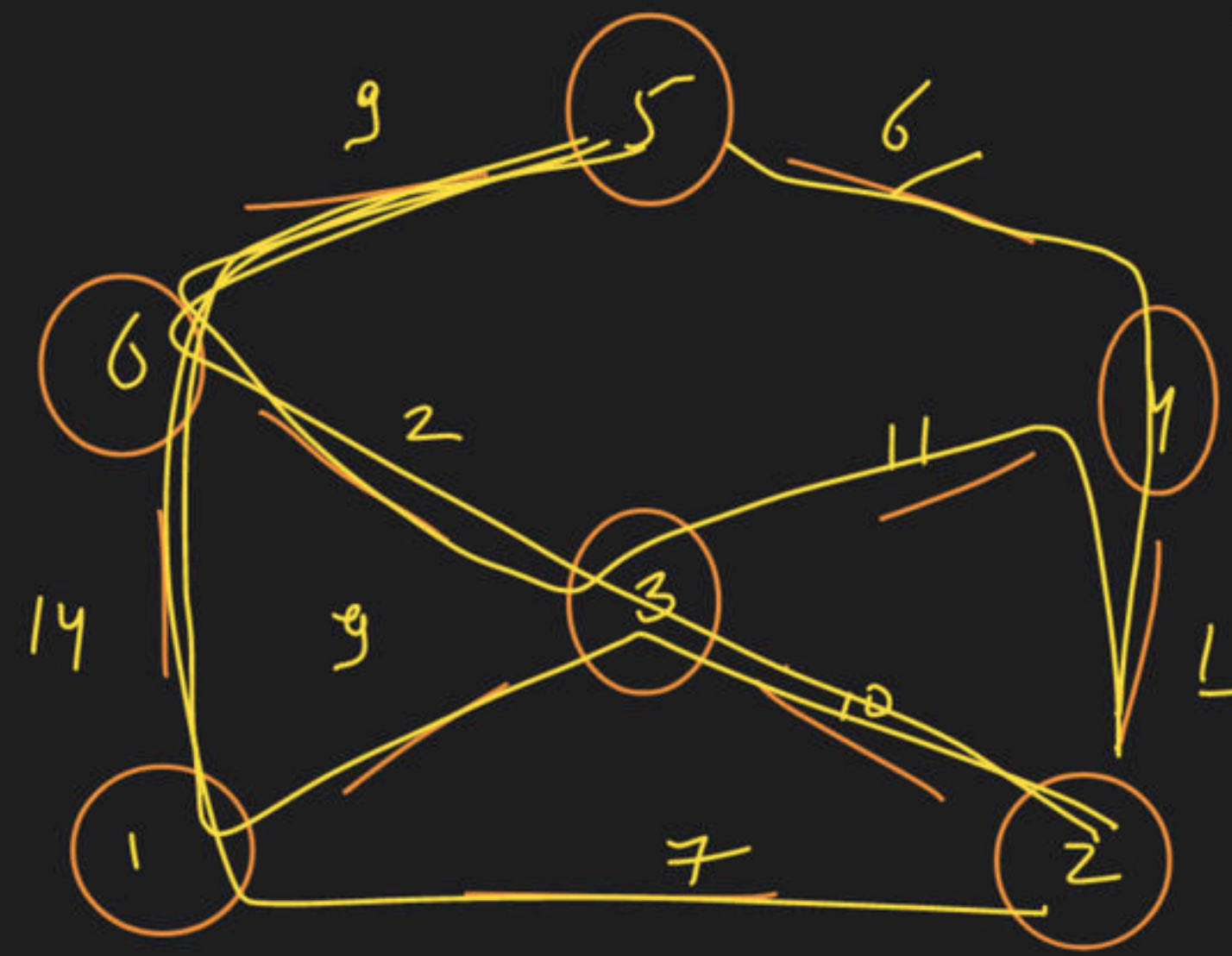
∞	11	14	12	2	13	9	0
0	1	2	3	4	5	6	

path
↓
parent

pair <int, int>
dist node

Q- $5 \rightarrow 2$

src = 5
dest = 2

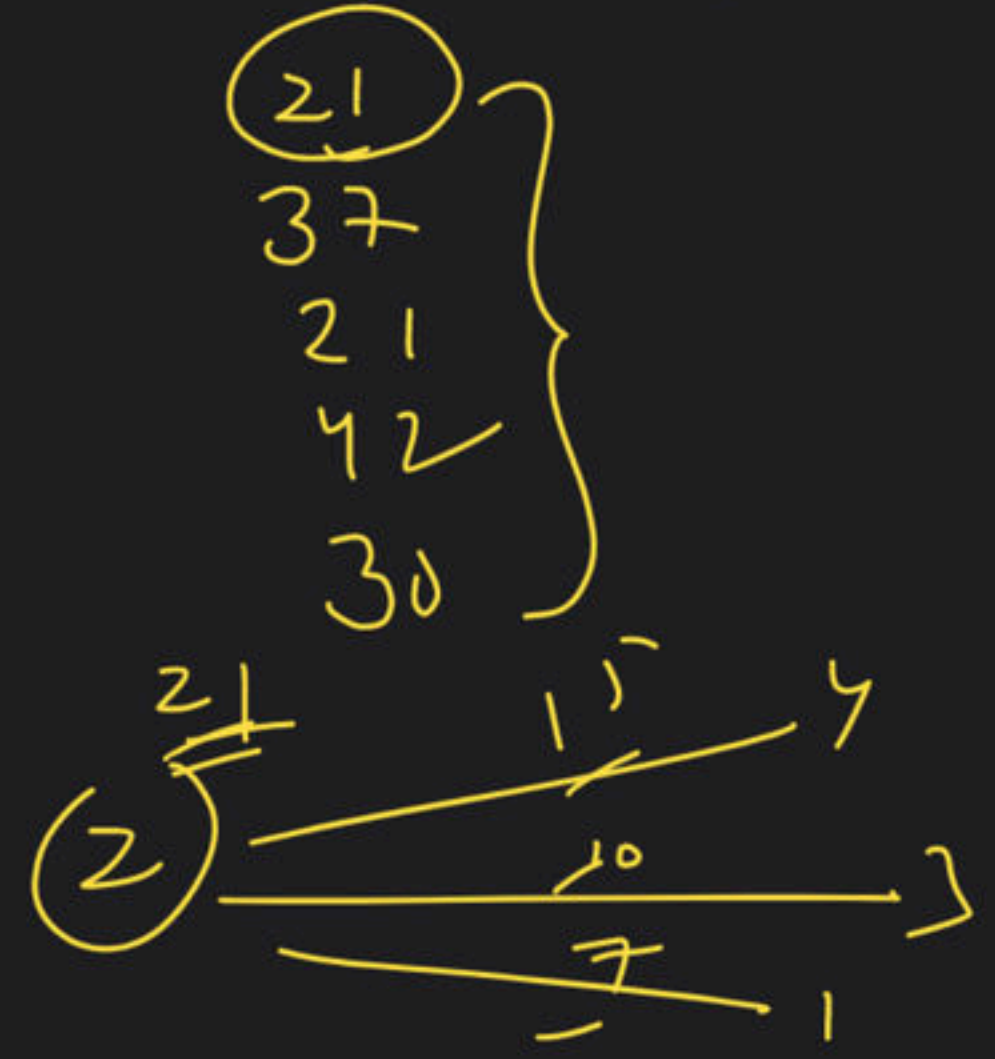
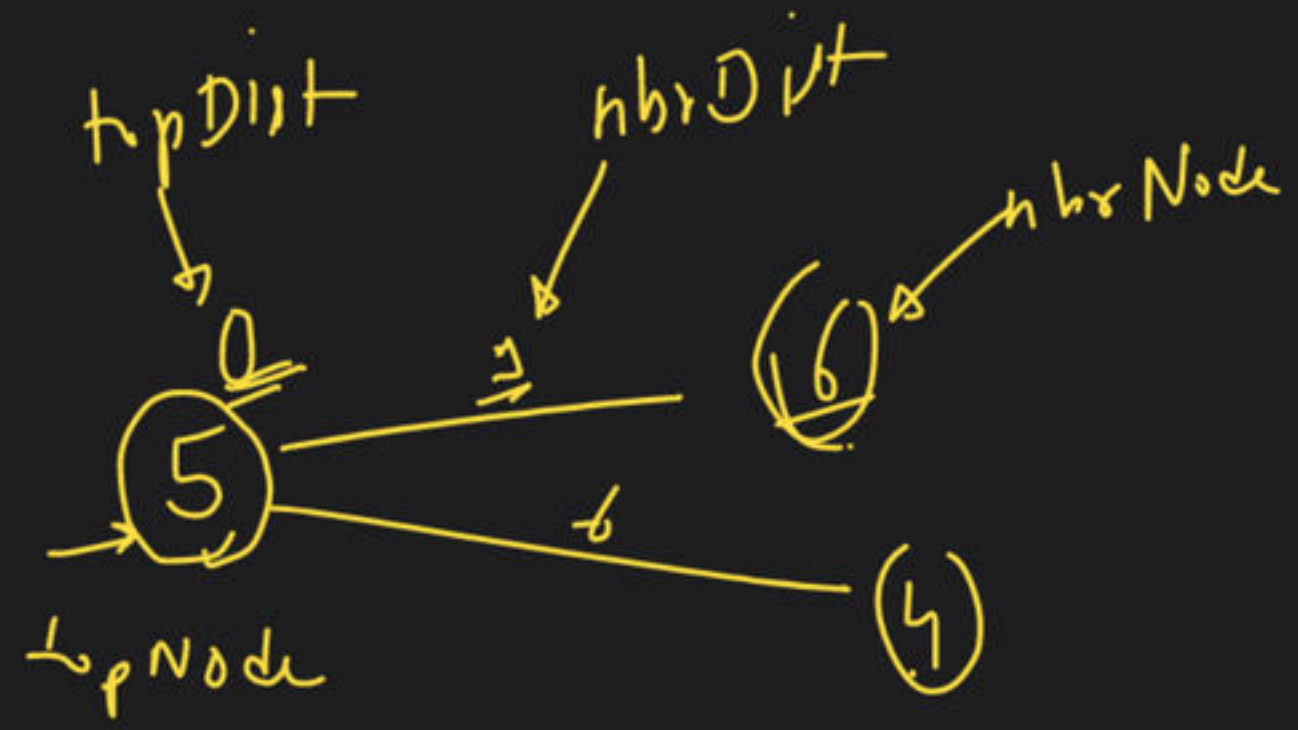


initial
↓
st.insert(0, src)
↓
(0, 5)
dist[5] = 0

(20, 1)
(21, 2)
(11, 3)
(6, 4)
(9, 1)
(0, 5)

pair(int, int)
↓ ↓
dist node

0	0	∞
1	20	20
2	21	<u>21</u>
3	11	11
4	6	1
5	0	0
6	9	9











10 → (5)

