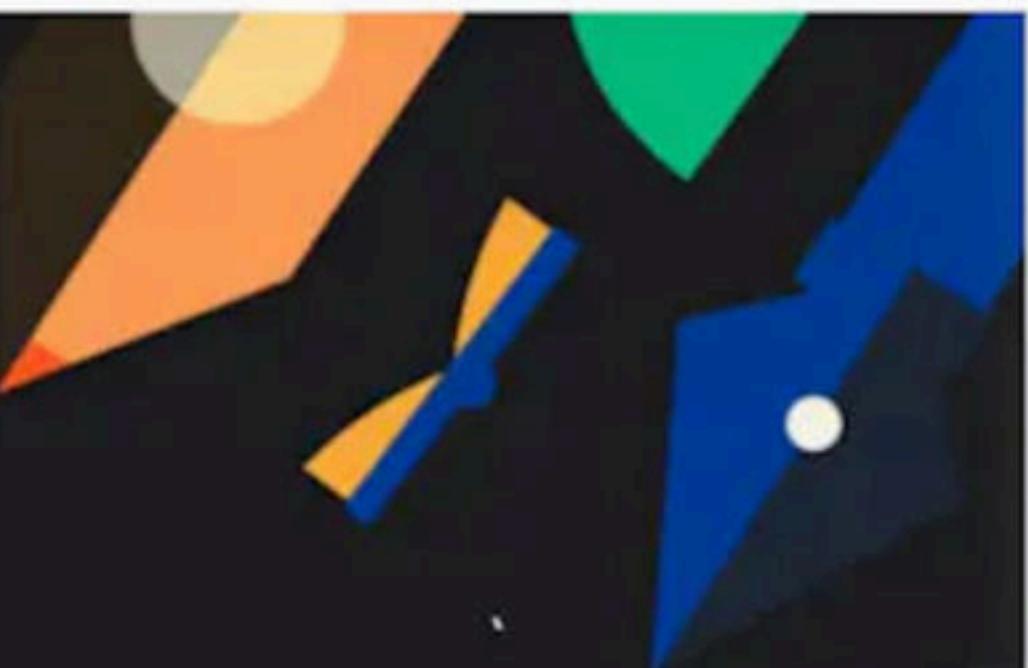




# Doubt Class with Lakshay

Special class



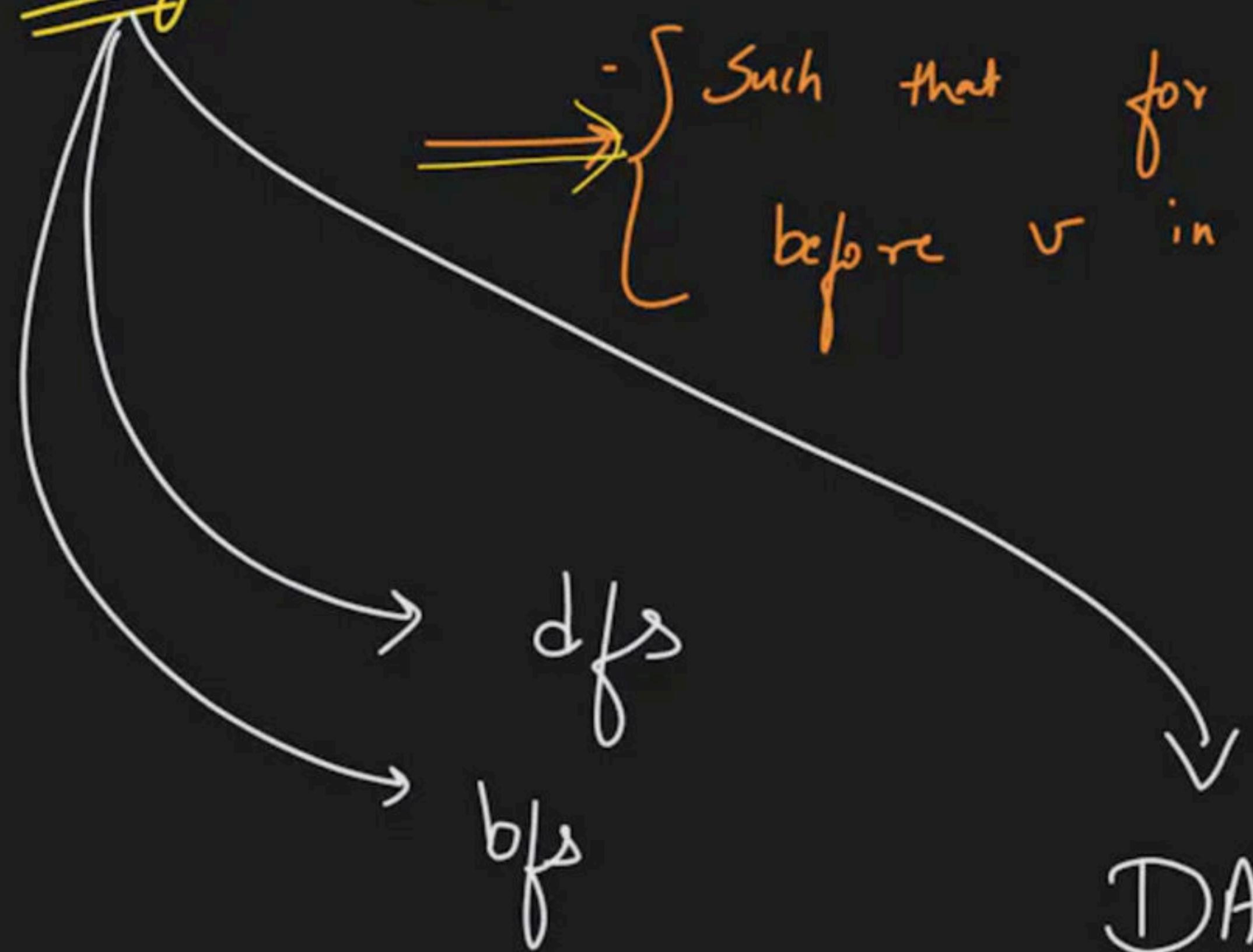
# Graph Class - 3

Special class

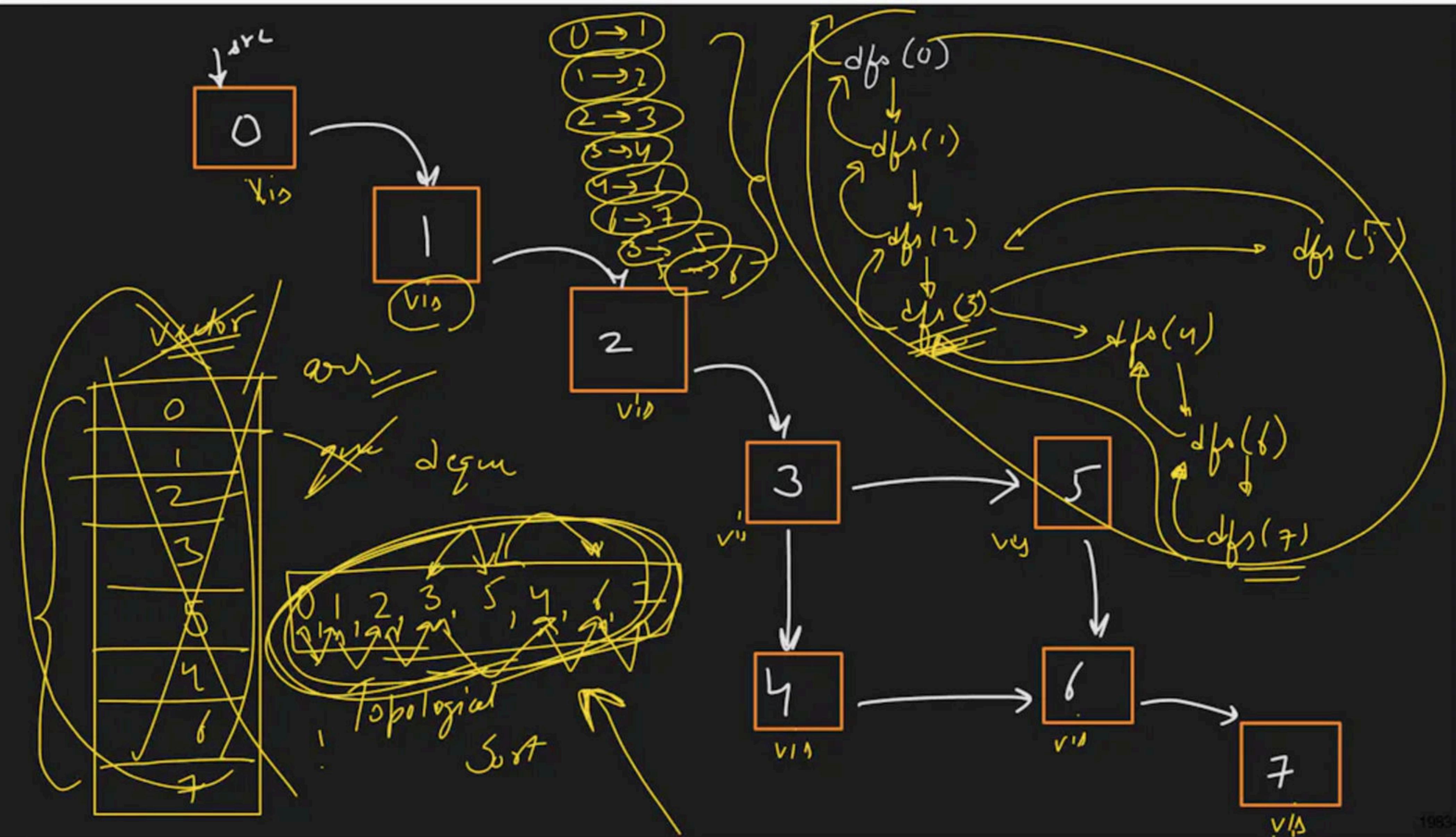
Love Babbar • Feb 19, 2024

Topological Sort :- a linear ordering of vertices such that for edge  $u \rightarrow v$ ,  $u$  comes before  $v$  in that ordering

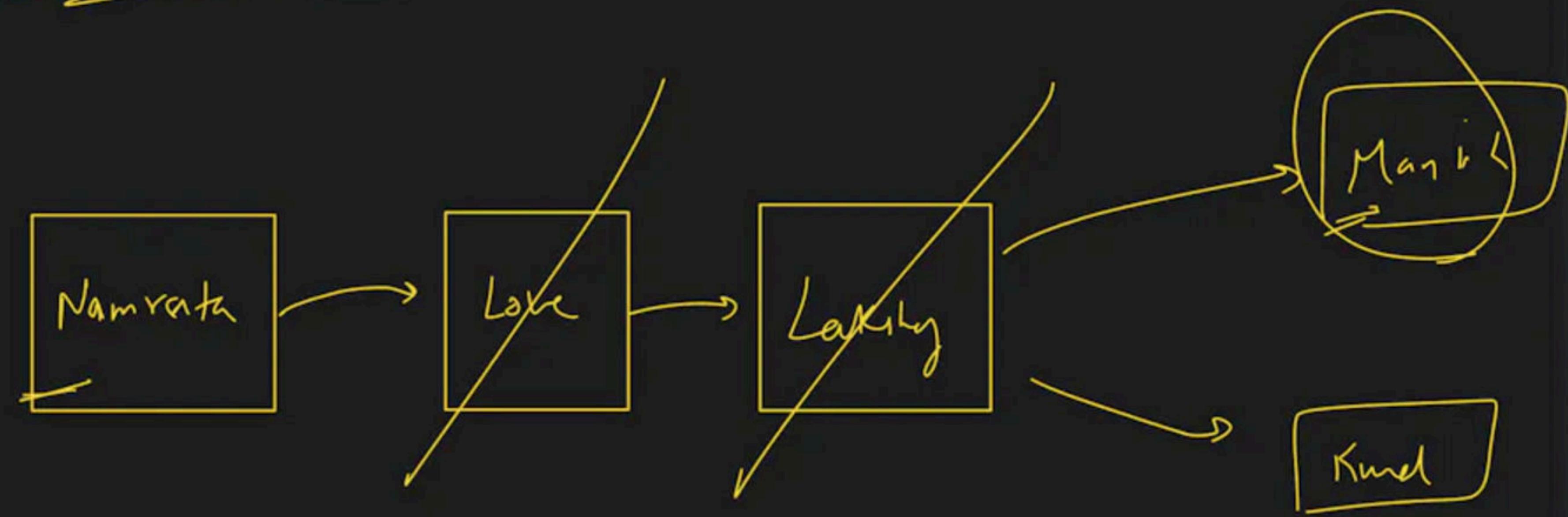
$$\underline{u} \rightarrow \underline{v}$$



DAG → 1) Directed Acyclic graph

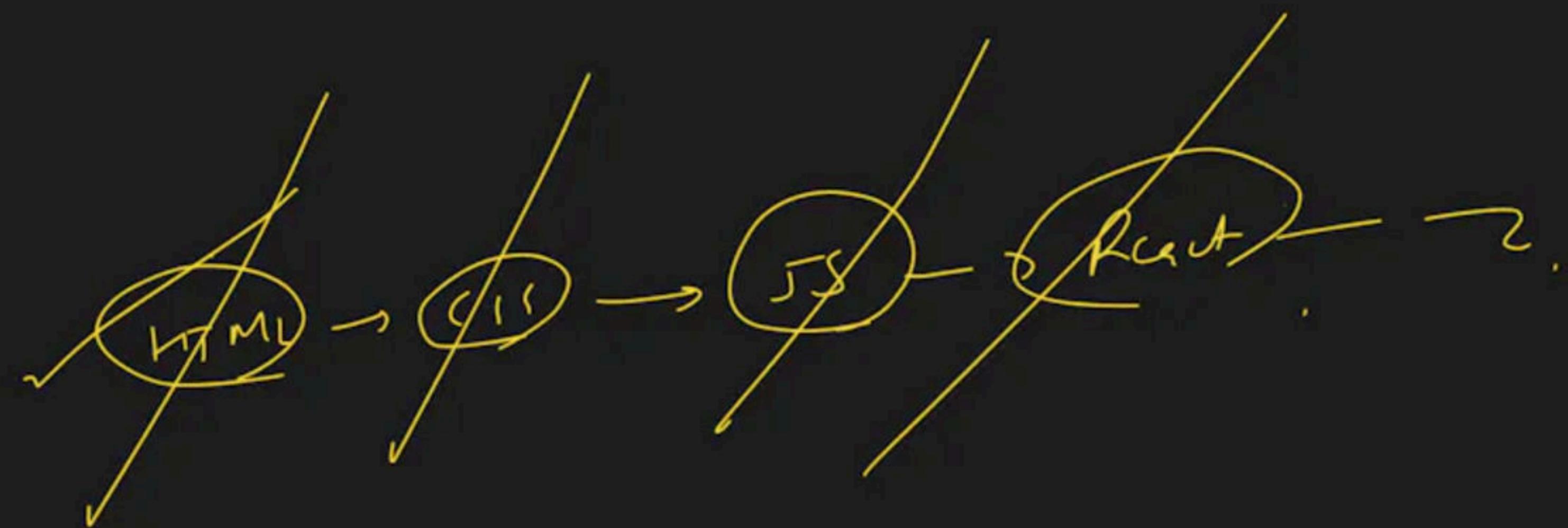


# Real-life Vs - Case



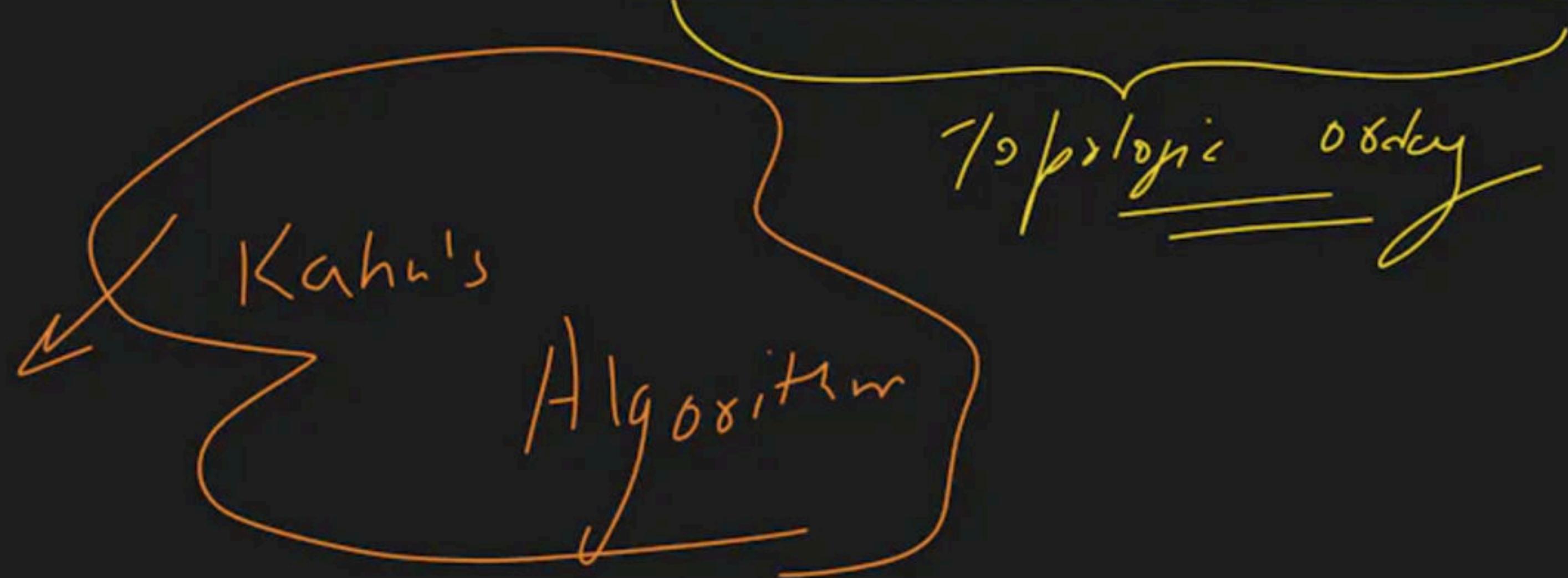
Namrata , Love , Lakshay , Kind , Manik

full-stack Web development



$\rightarrow \beta f_s$

|   |  |   |  |   |  |   |  |   |  |   |  |   |  |   |  |  |
|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|--|
| 0 |  | 1 |  | 2 |  | 3 |  | y |  | 5 |  | 6 |  | 7 |  |  |
|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|--|



Indegree

0 → 0

1 → \* 0

2 → \* 0

3 → X 0

4 → 1 0

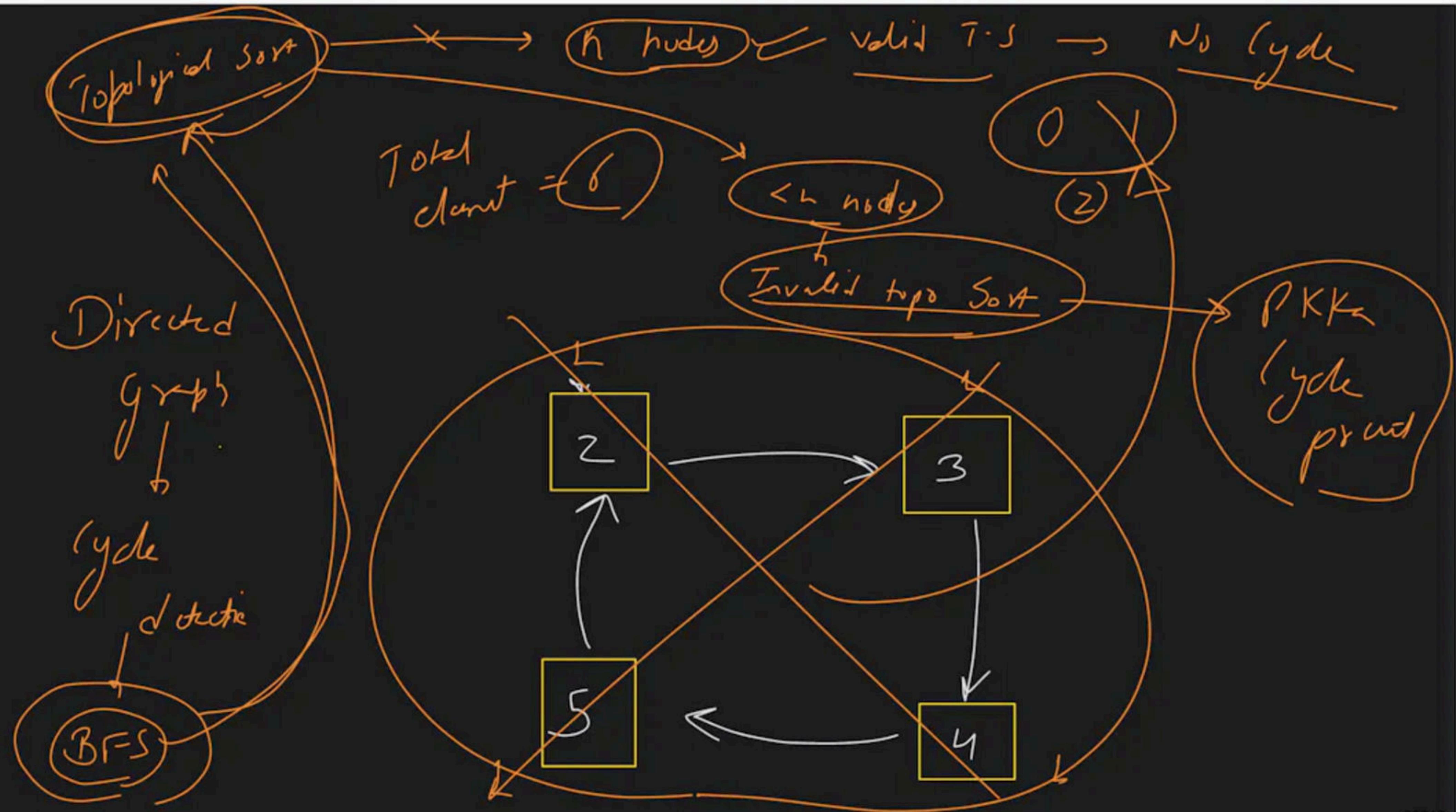
5 → X X 0

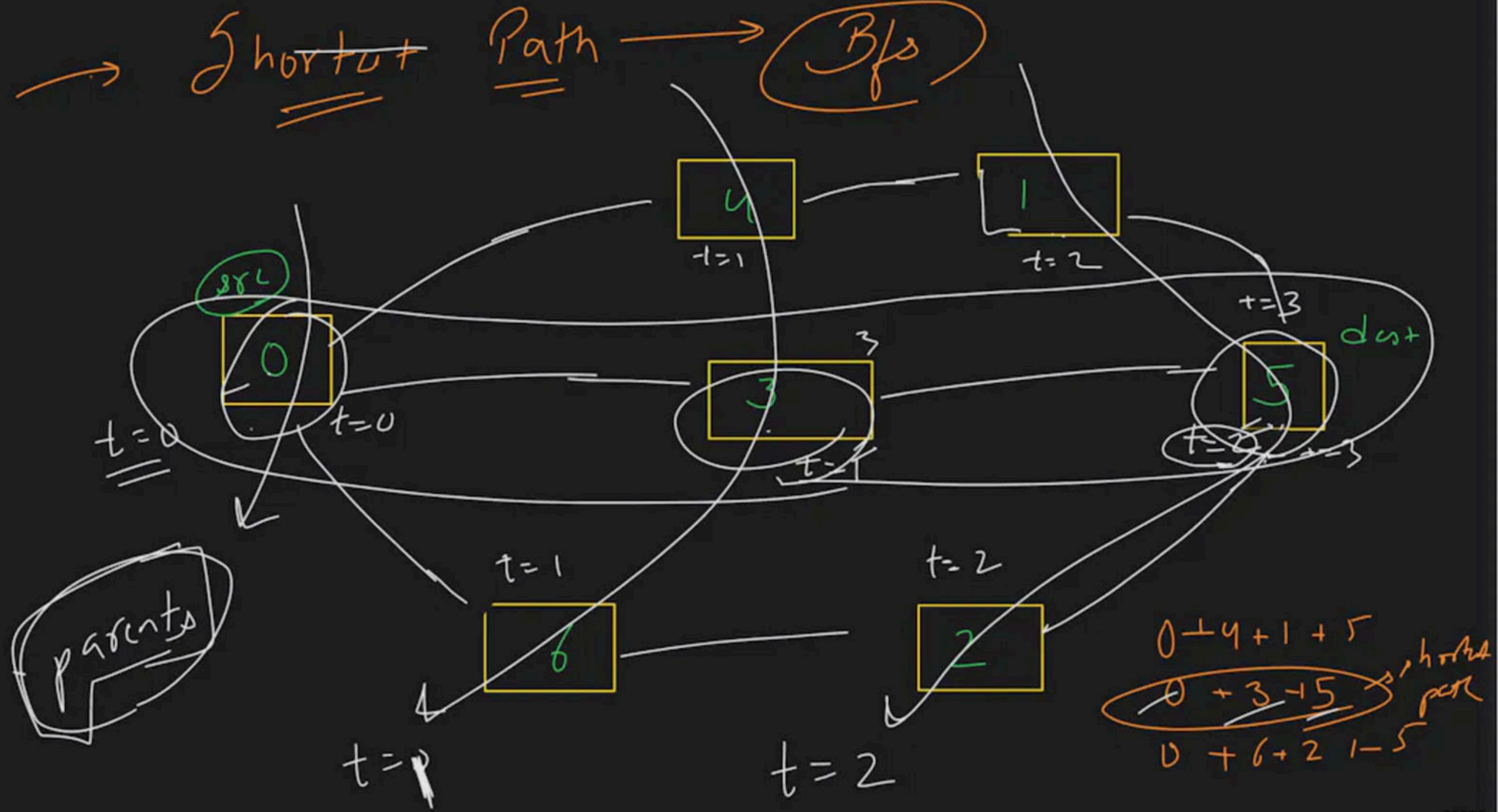
6 → X 0

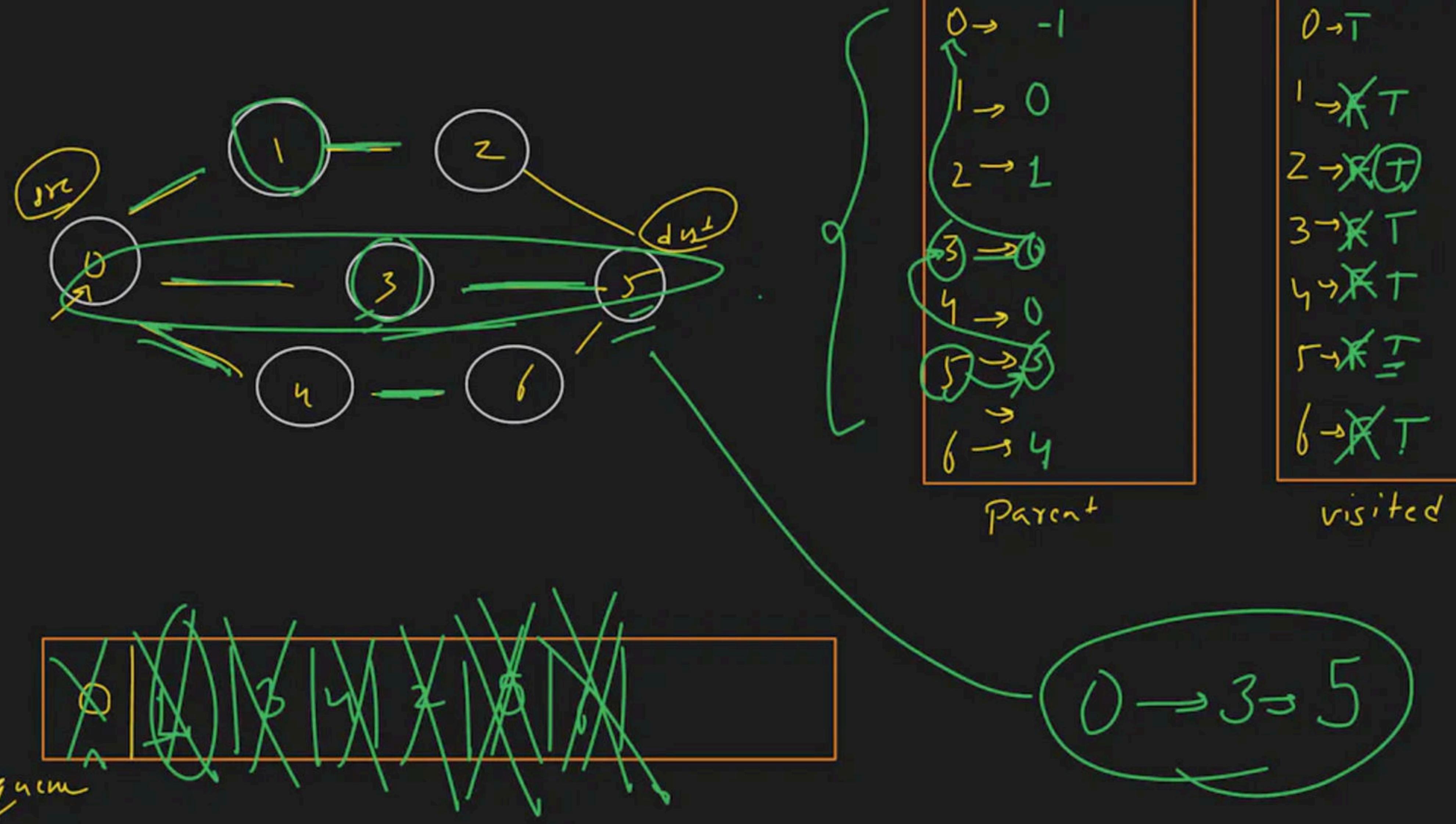
7 → X 0

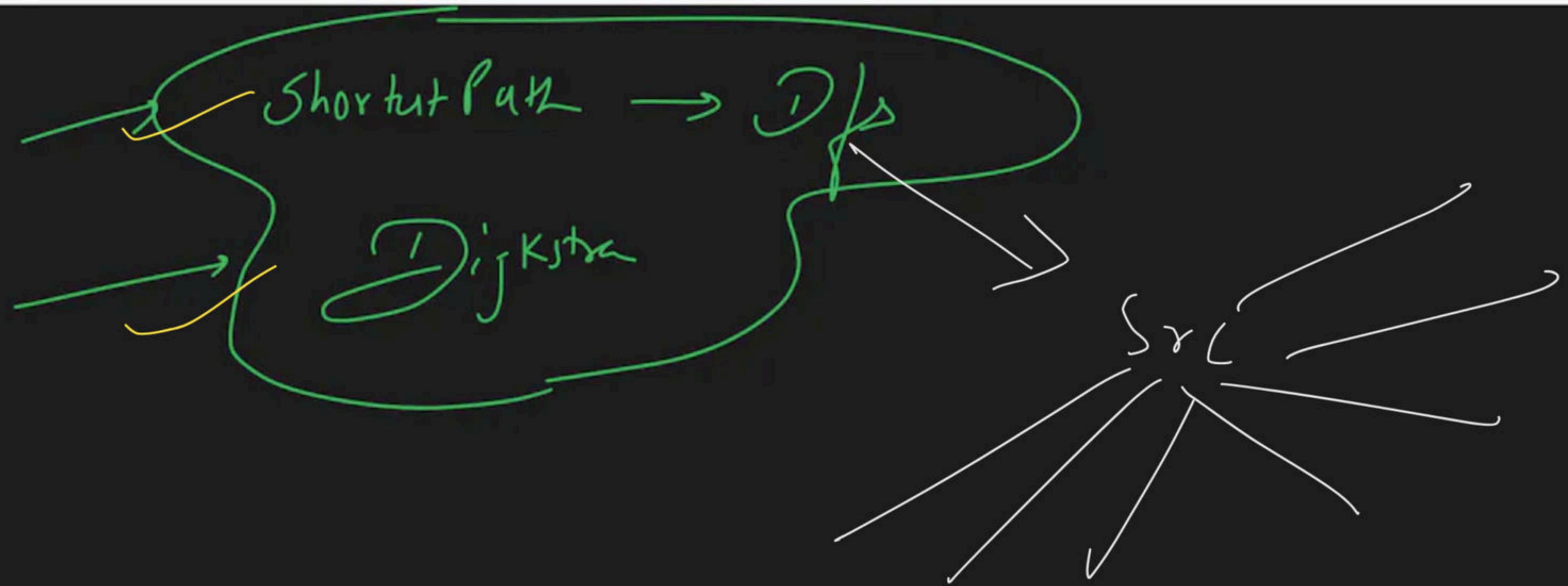
6

= 7







































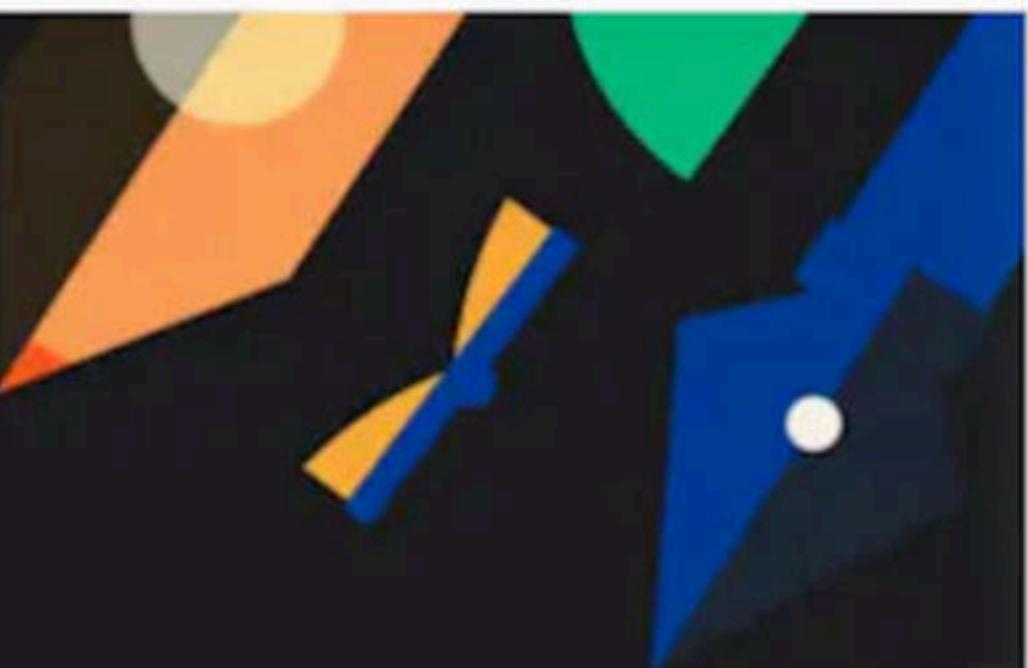










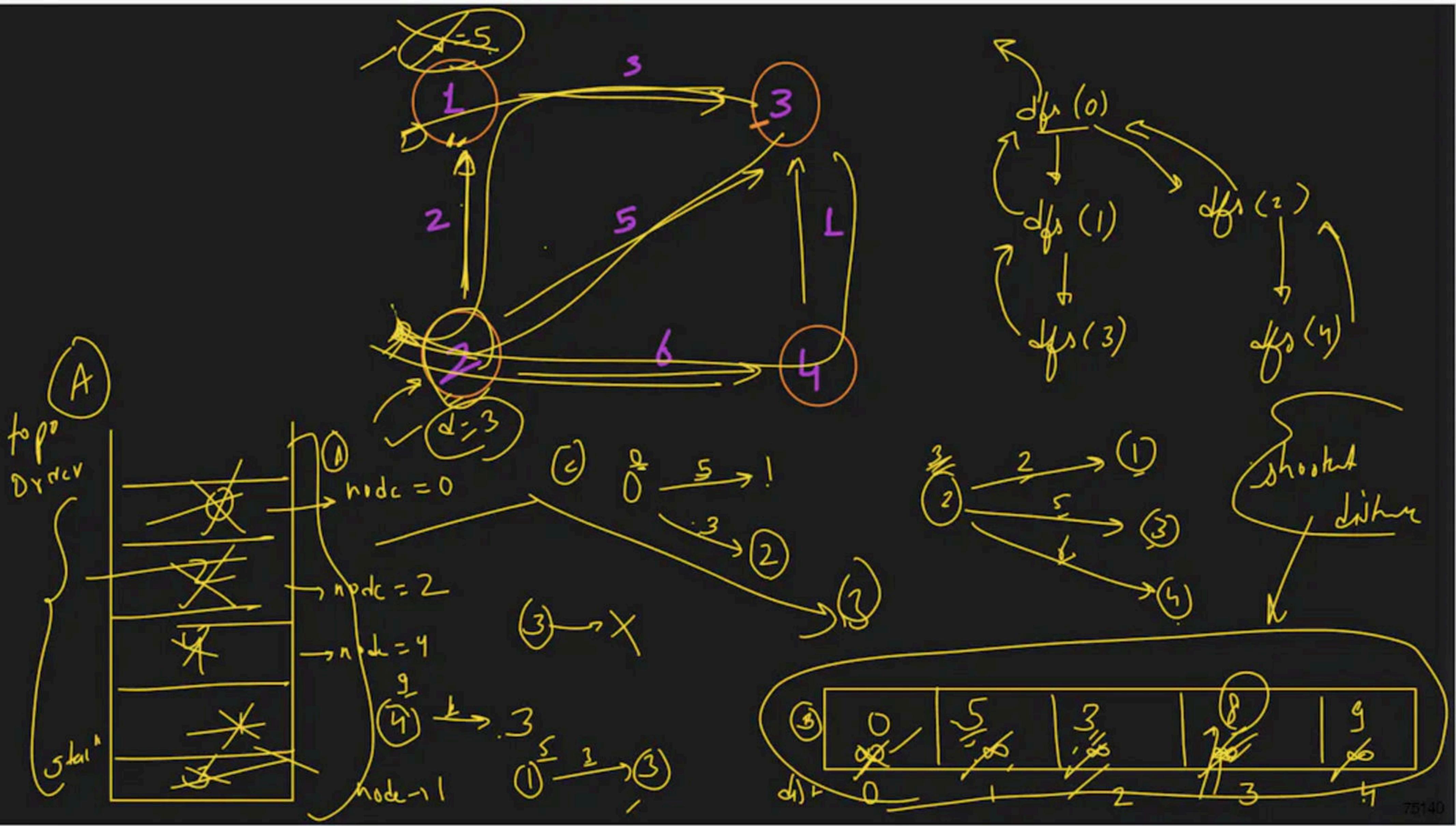


# Graph Class - 4

Special class

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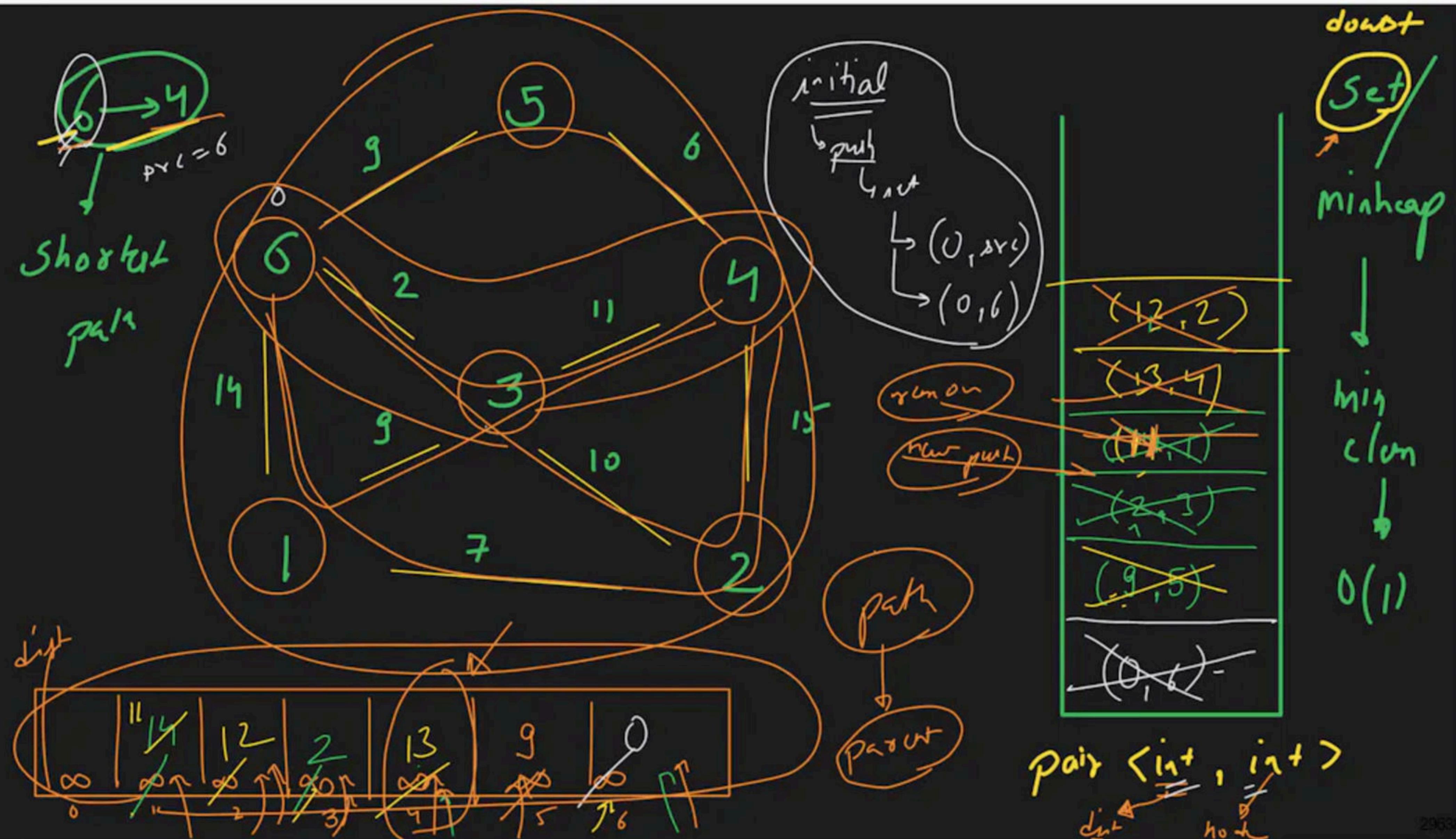
$\rightarrow$  Directed Graph  $\rightarrow$  Shortest Path



→ Dijkstra

Algo:-

$O(E \log V)$

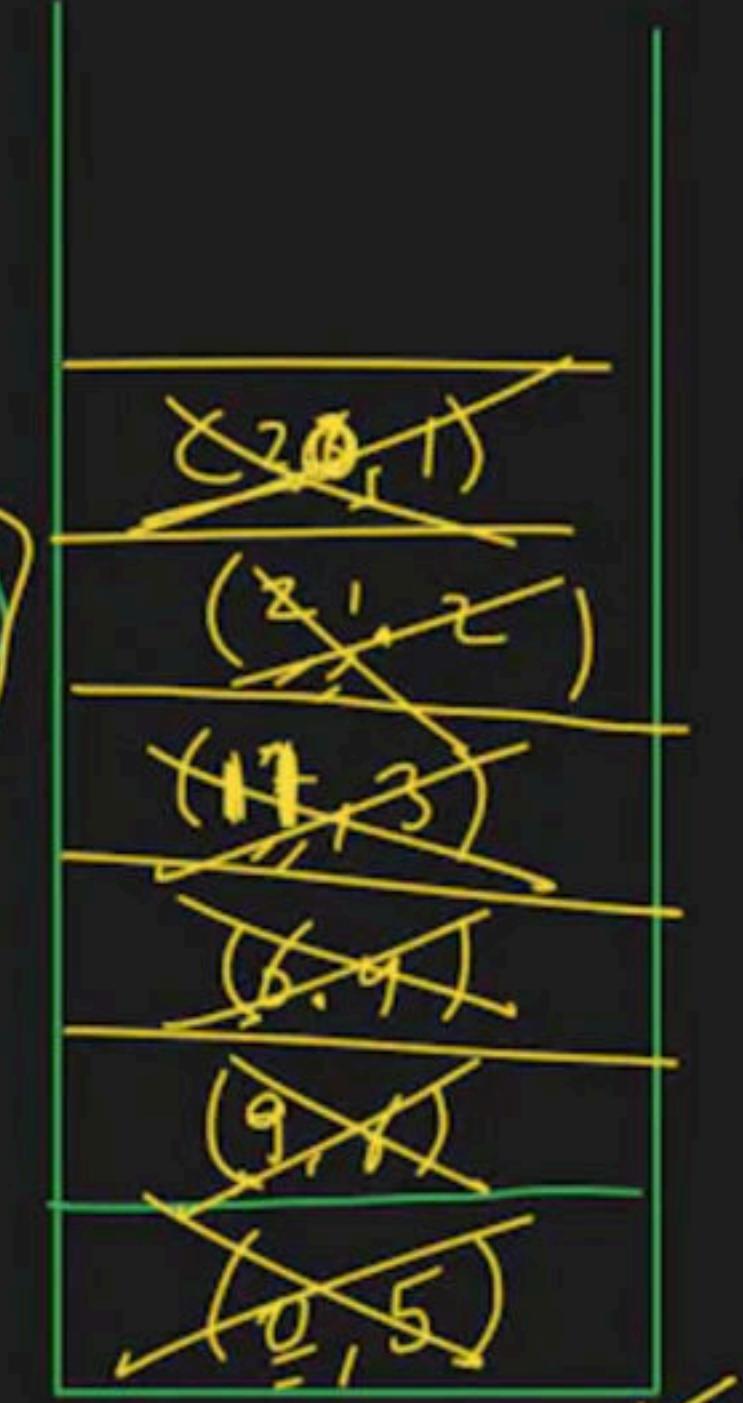


Q- 5 → 2

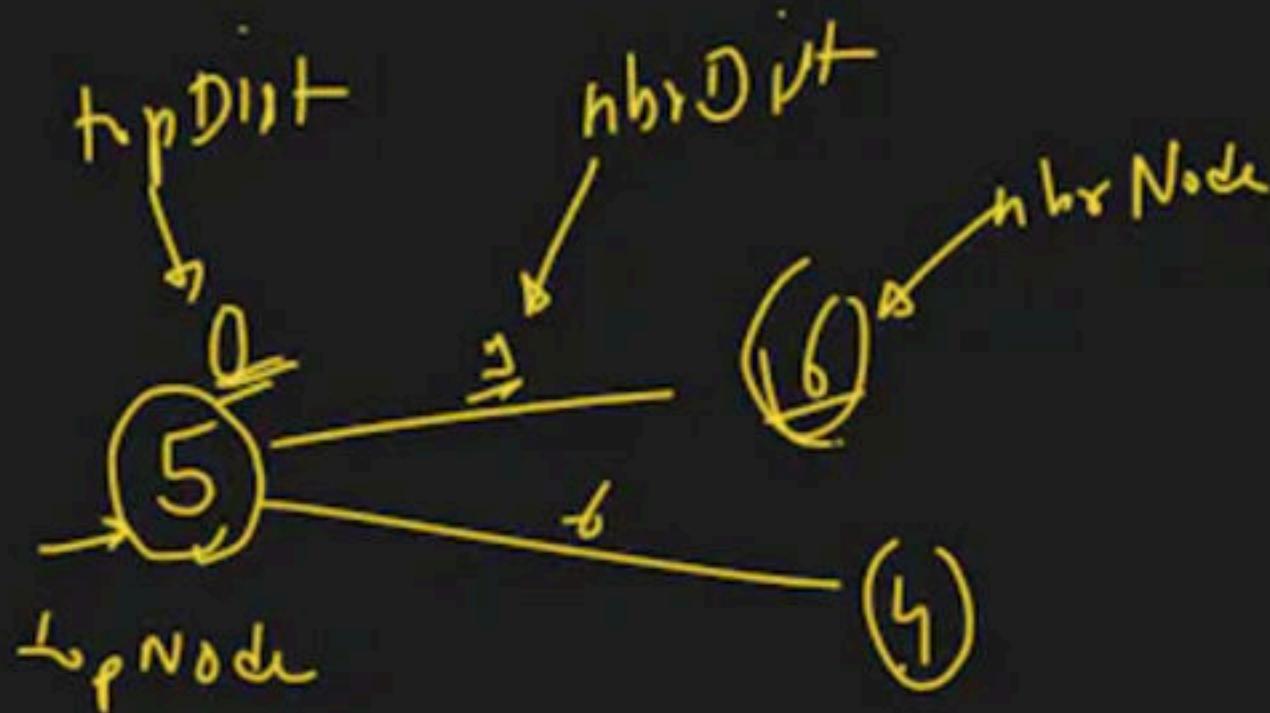
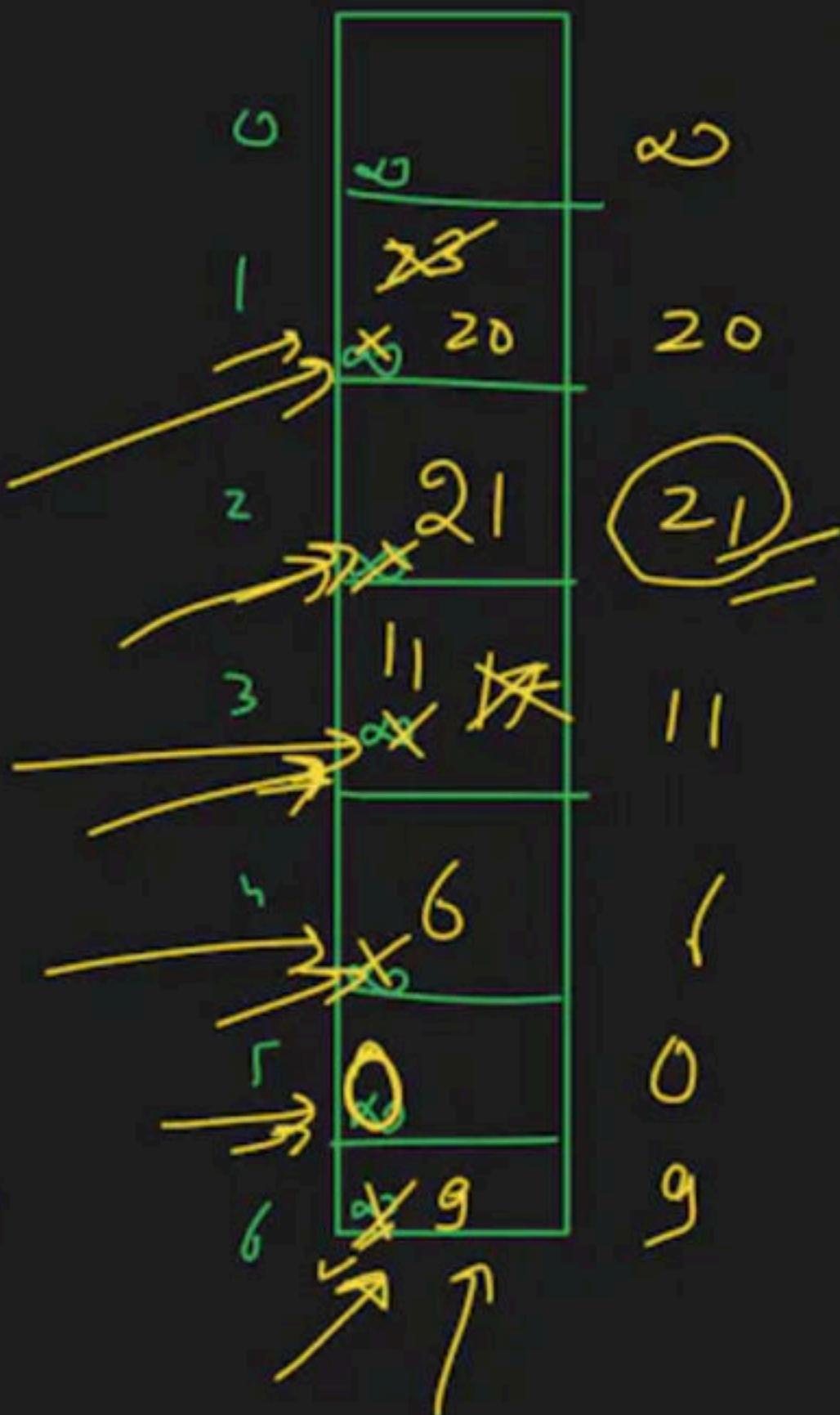
$src = 5$   
 $dst = 2$

initial  
 $\downarrow$   
 $st.insert(0, 5)$

$(0, 5)$   
 $dist[1] = 0$



$pair(int, int)$   
 $\downarrow$   
 $dist[1]$   
 $\downarrow$   
 $node$



①

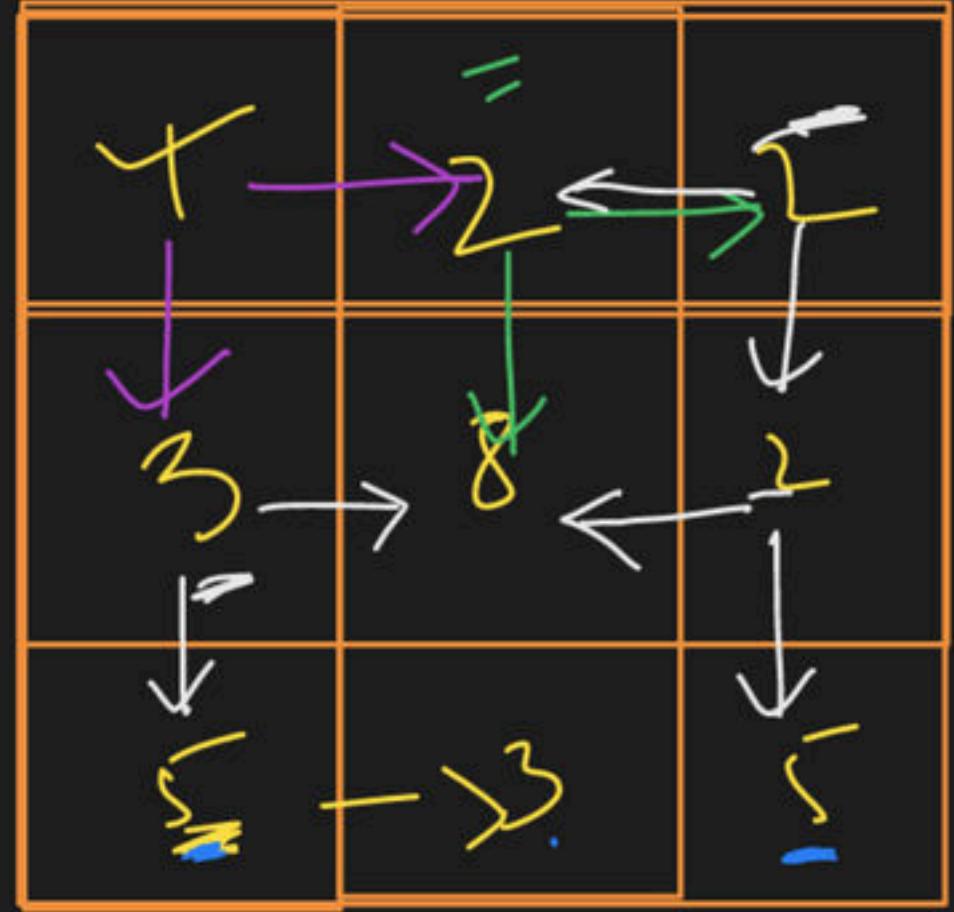
Course Schedule ✓  
~~Course Schedule~~

②

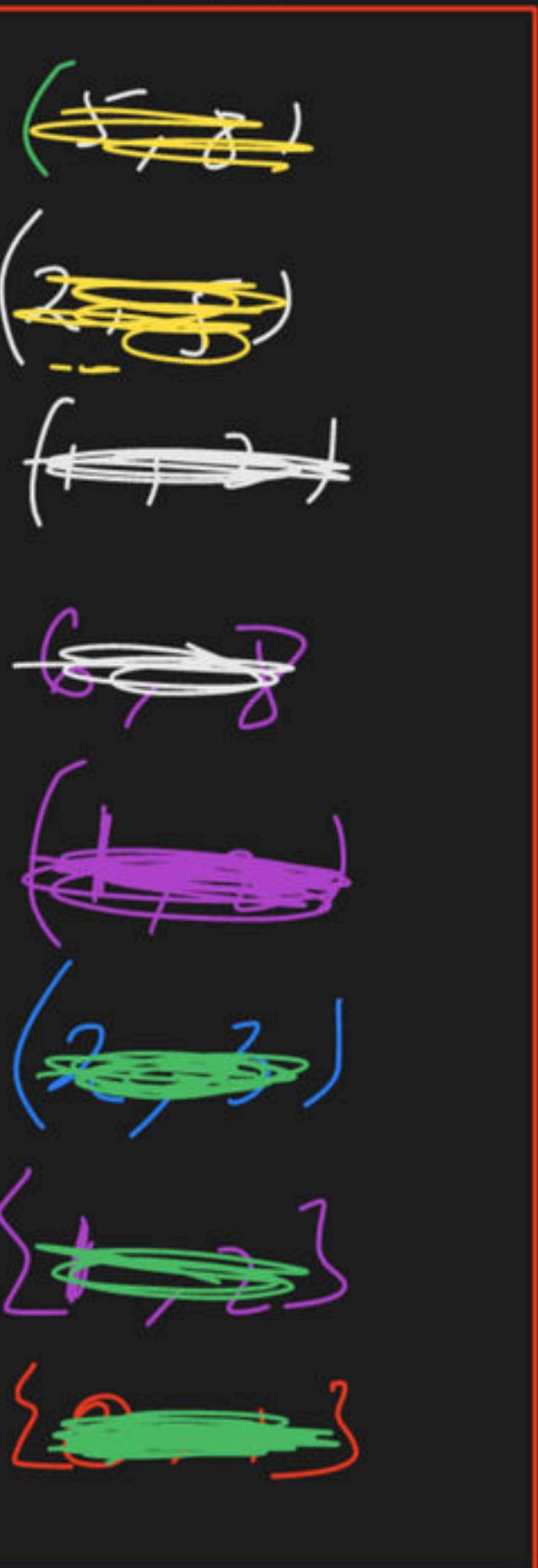
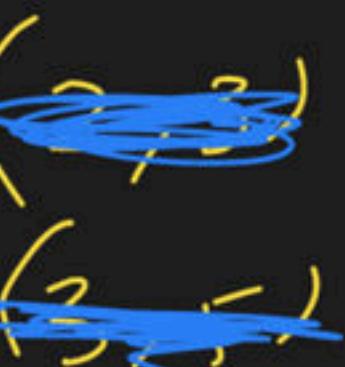
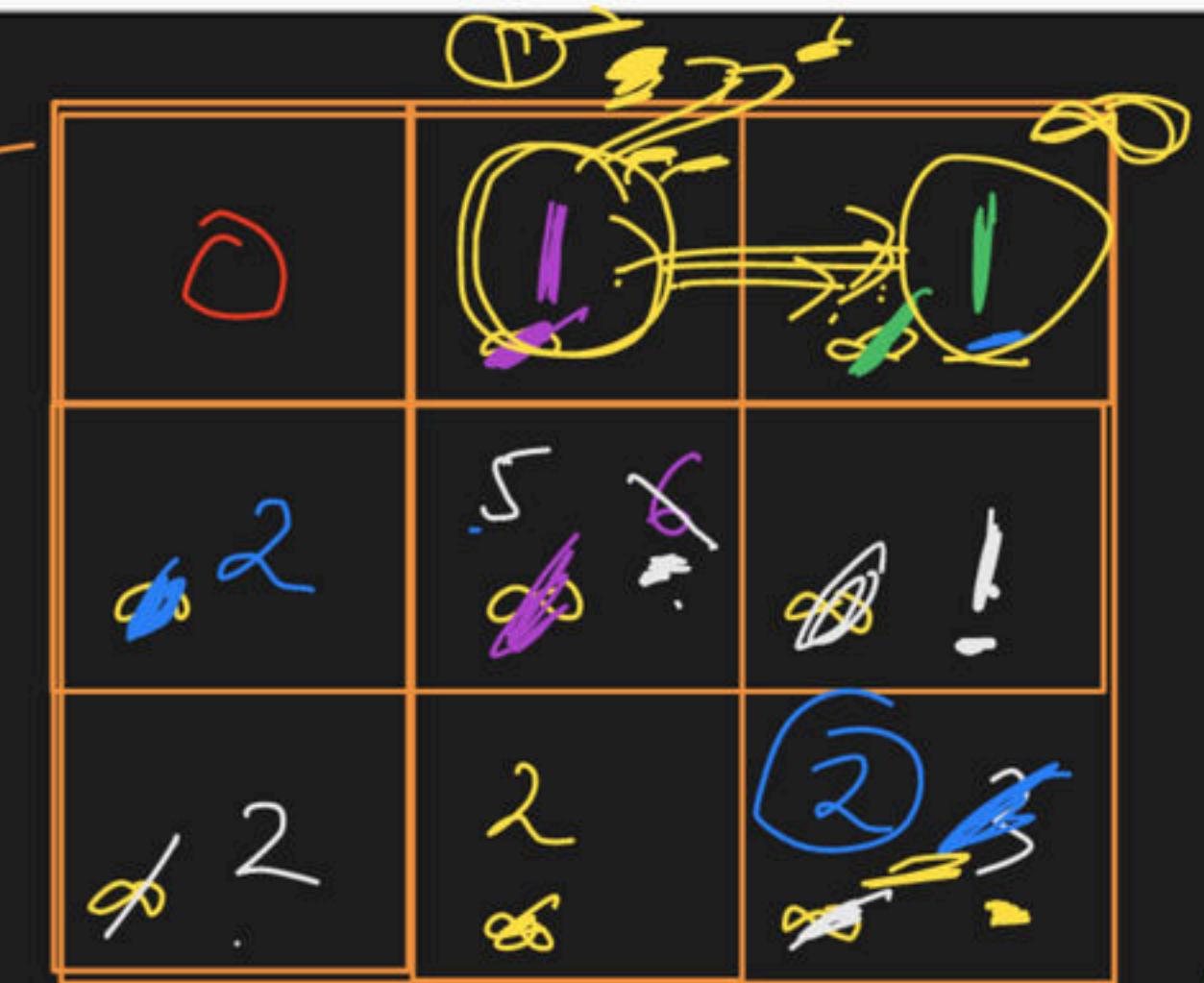
CS - 2 ✓  
=

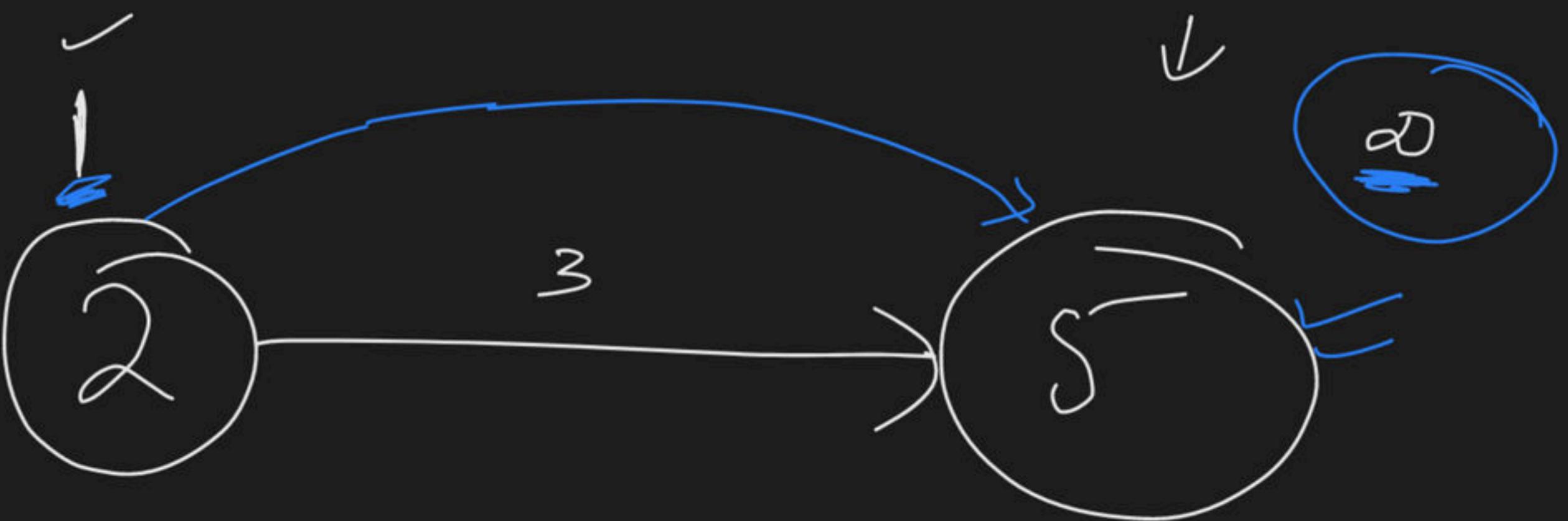
③

Path w/ Min Eff.



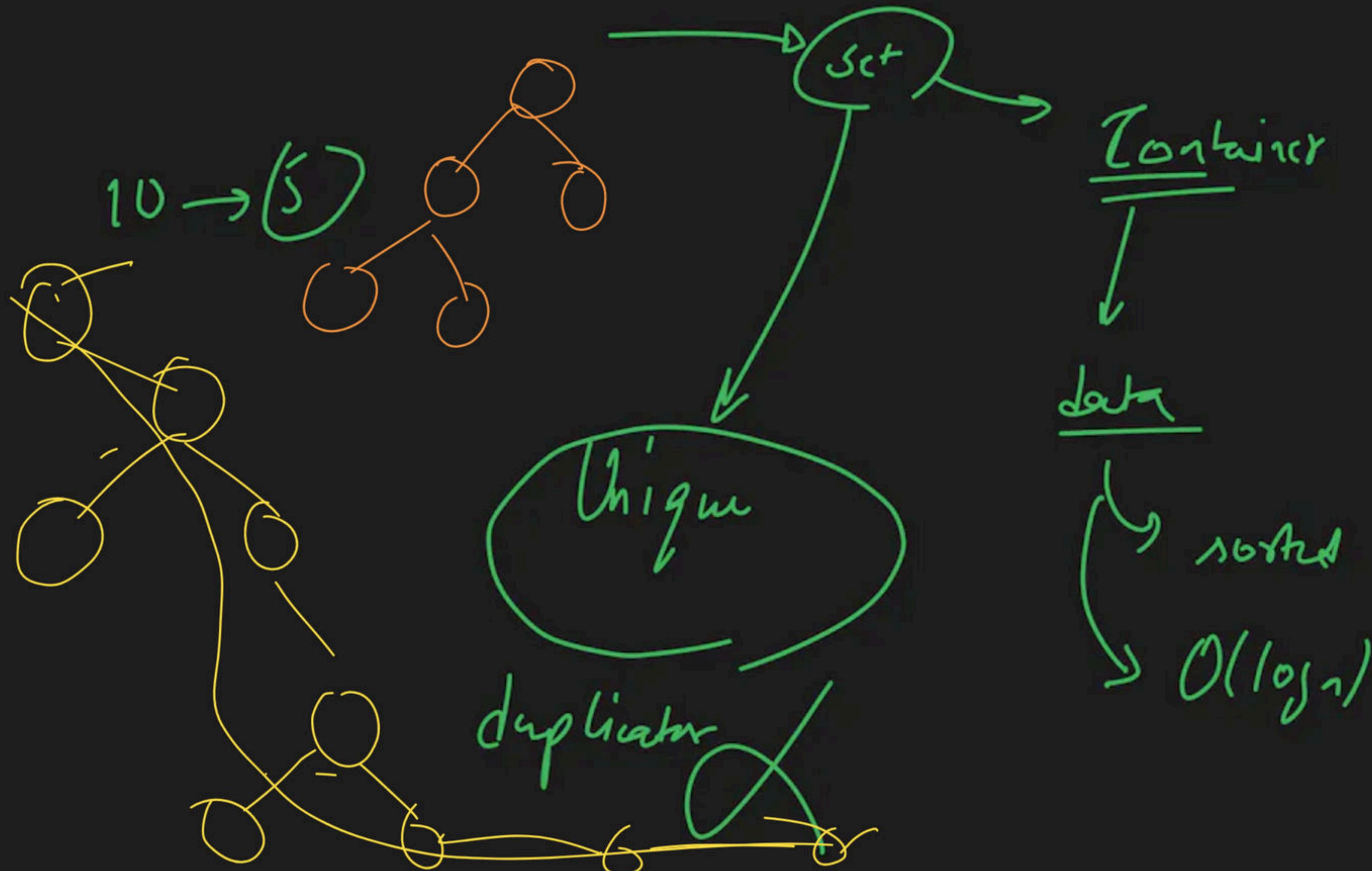
effort





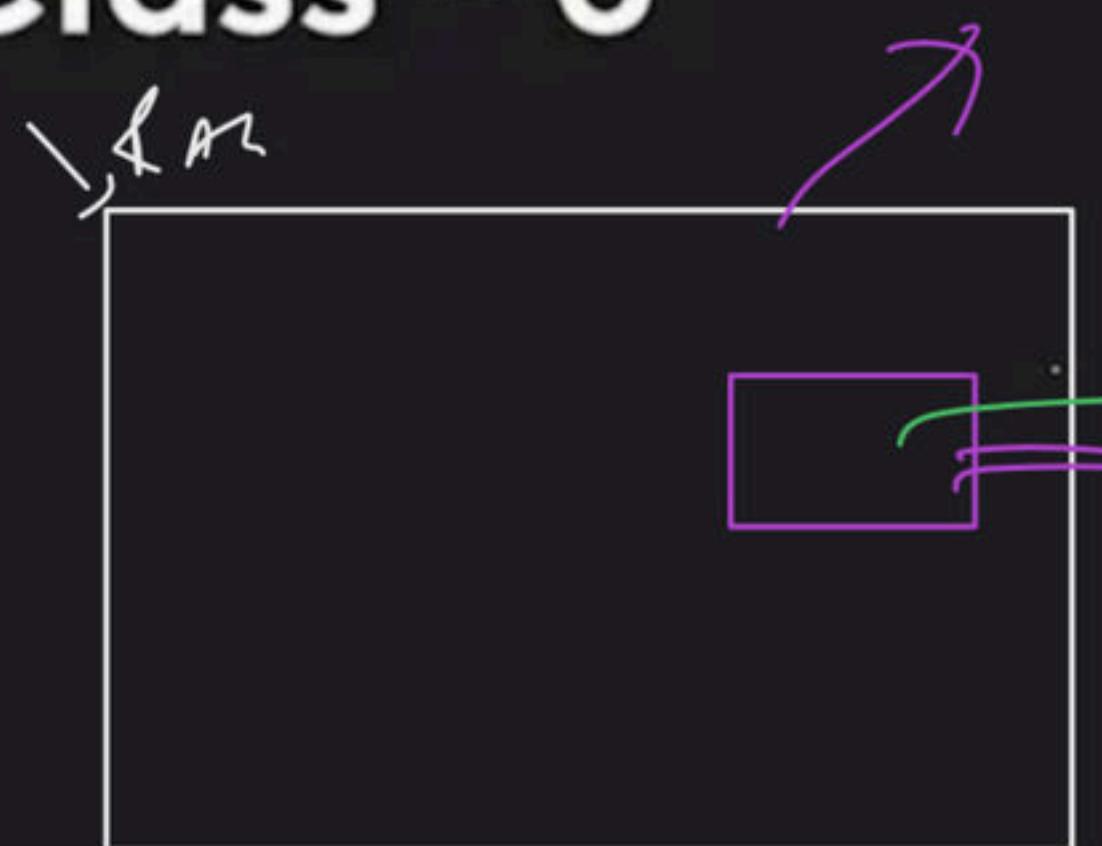
$$\text{self}( ) = \max(1, 3)$$



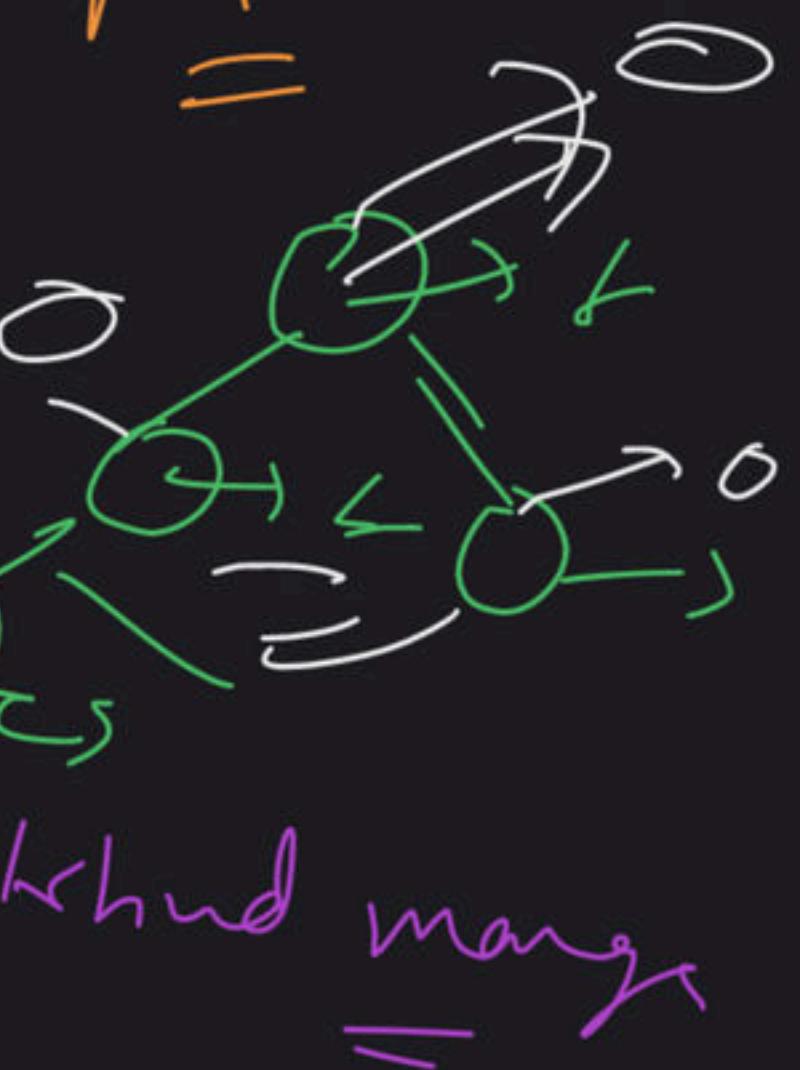


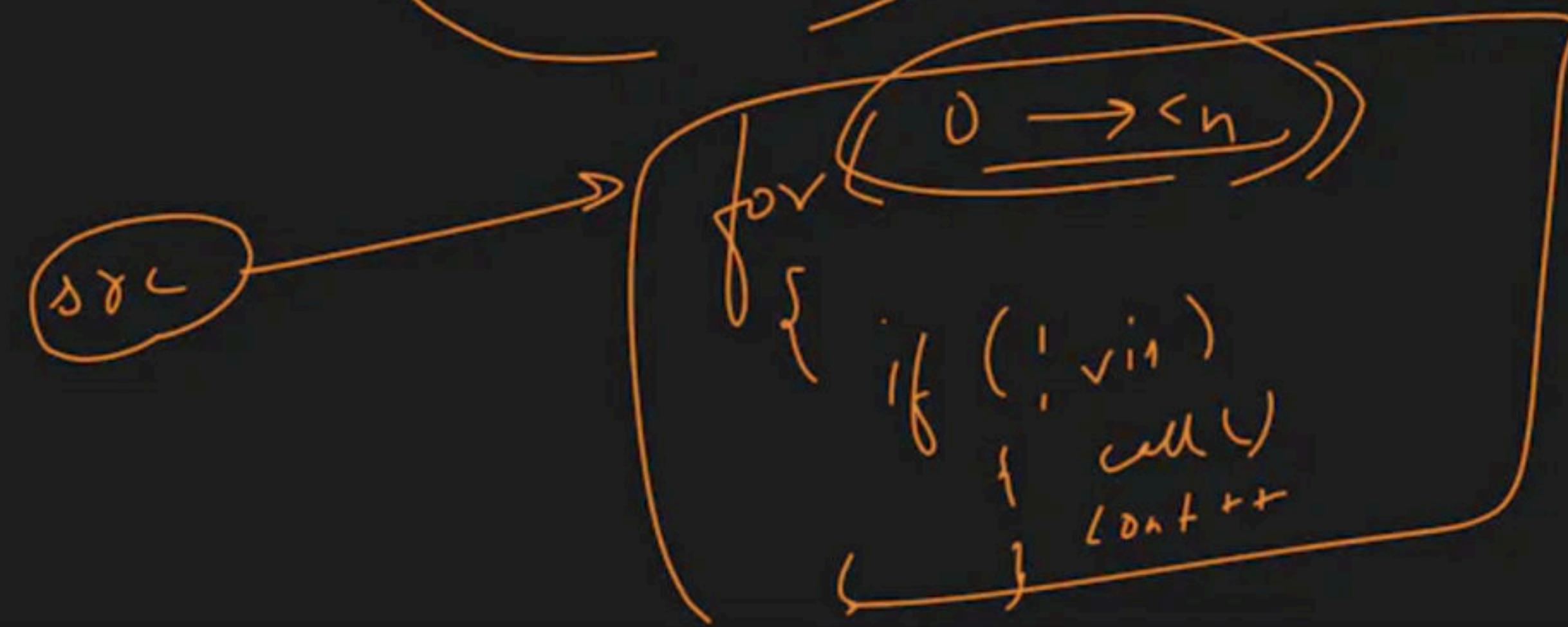
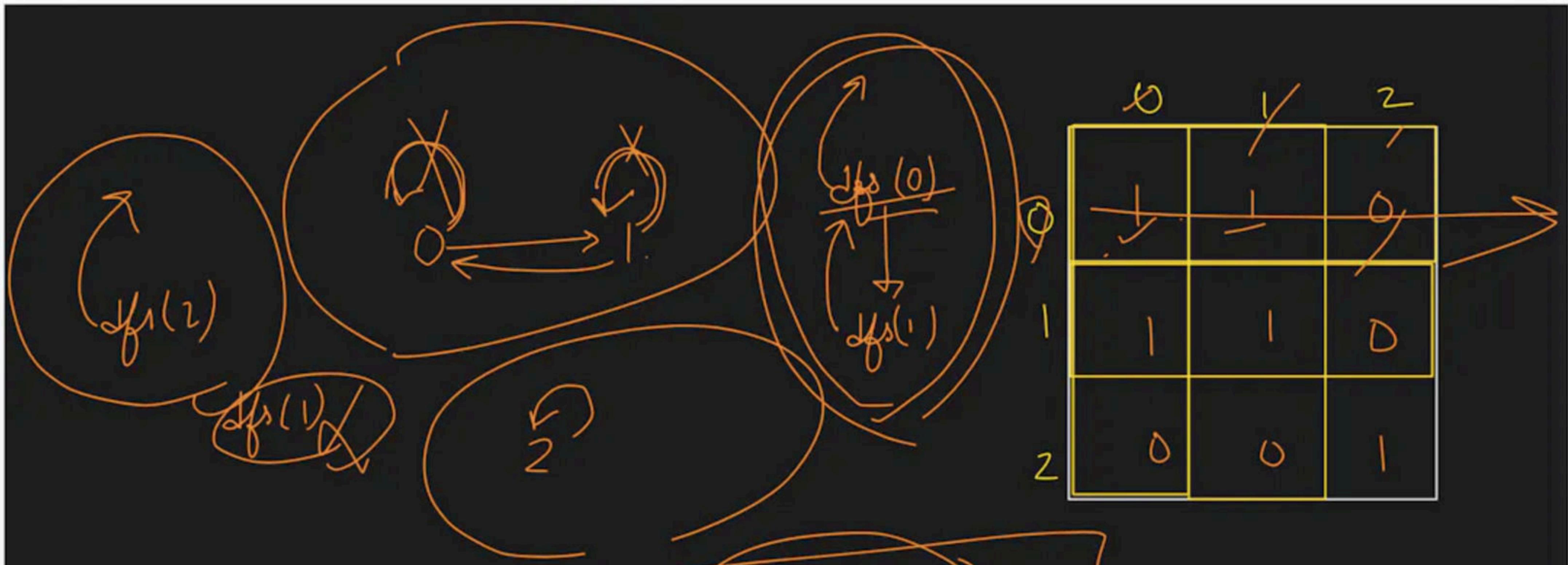
# Graph Class - 6

Special class



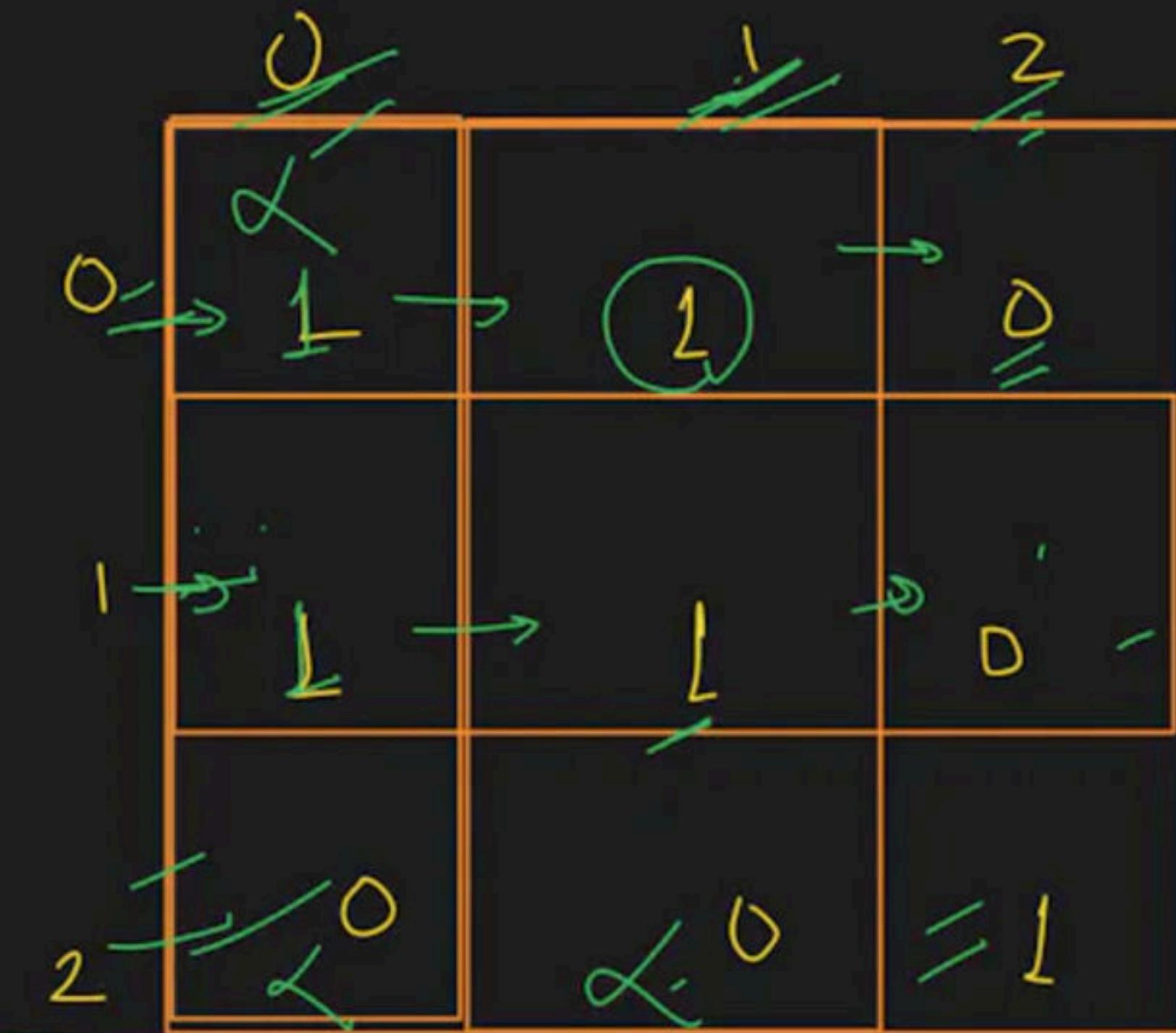
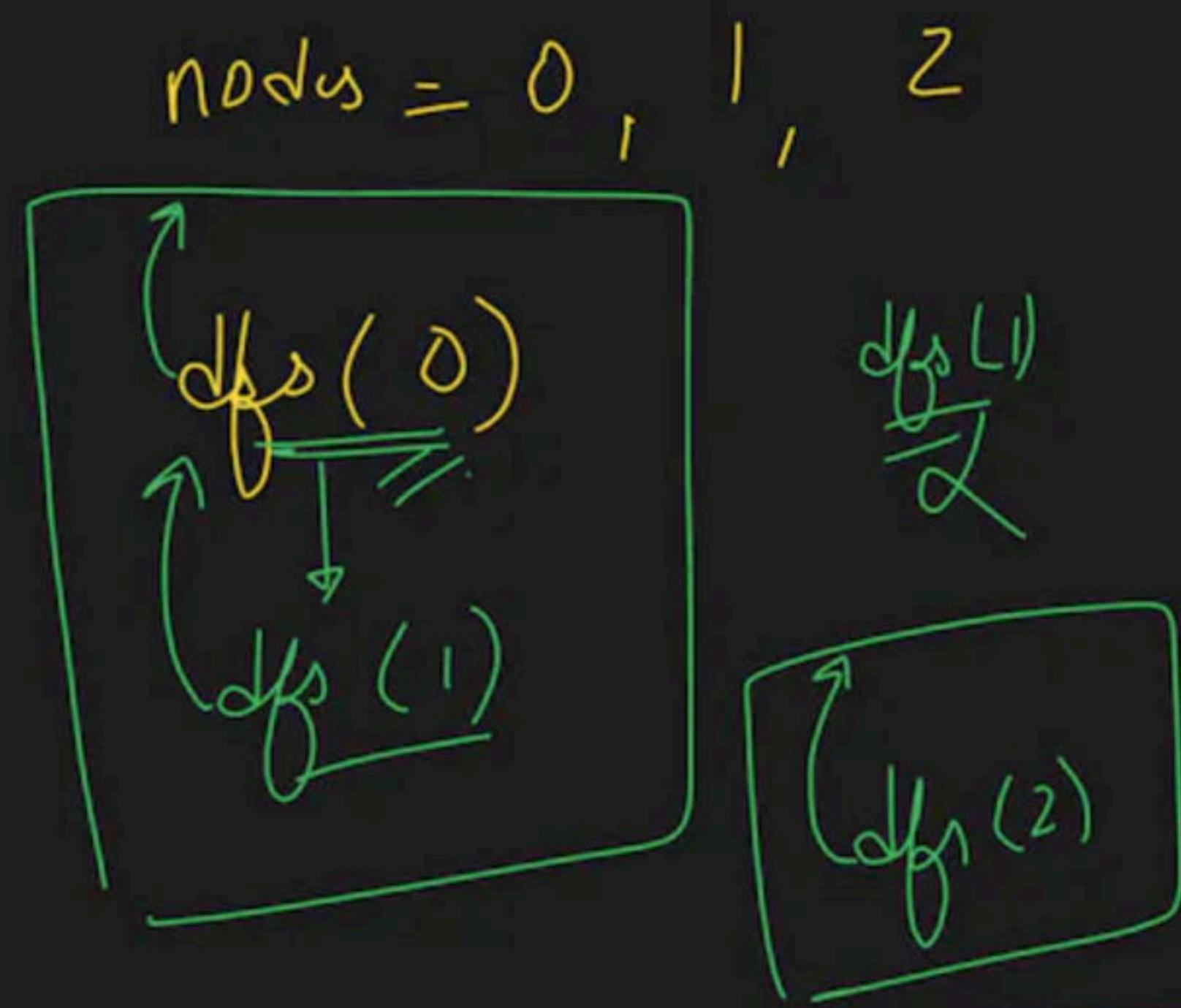
RTM





3 nodes  
 $n=3$





fairy issues with Websik

laptop@38gnom1:~

logcat id

Screen Record

Screen shot

text

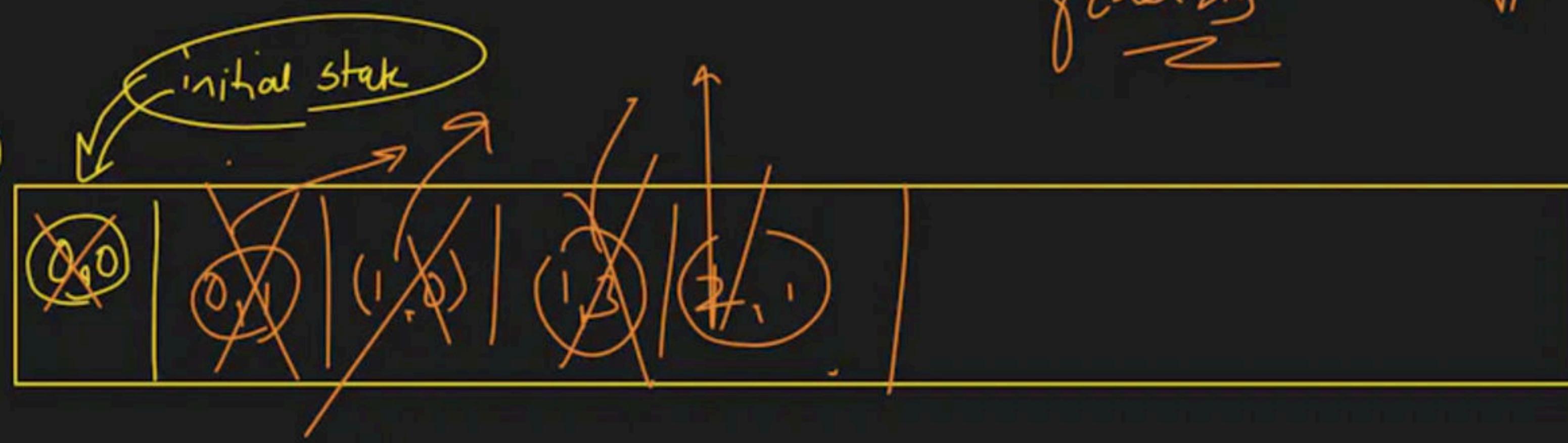
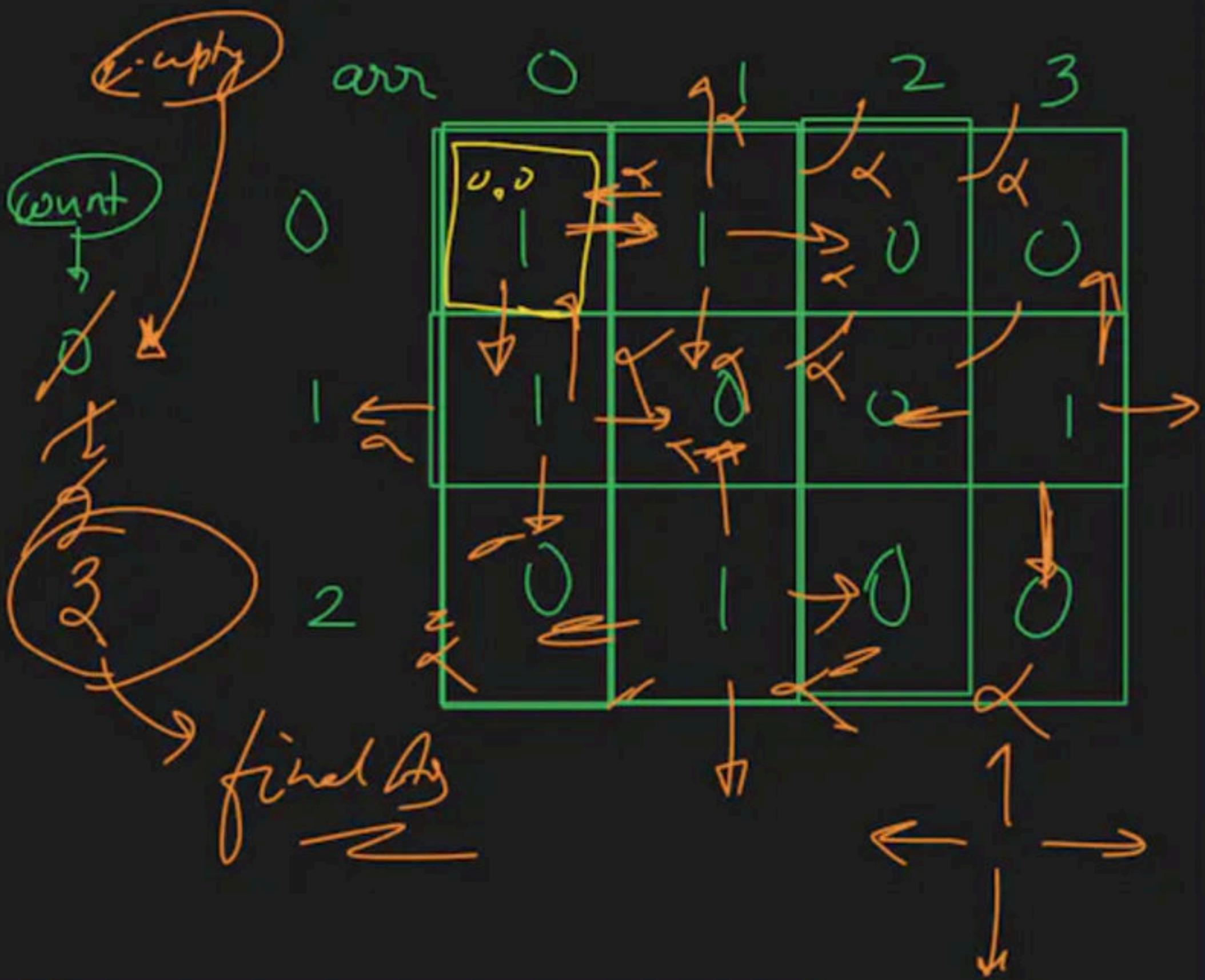
datafile

→ para

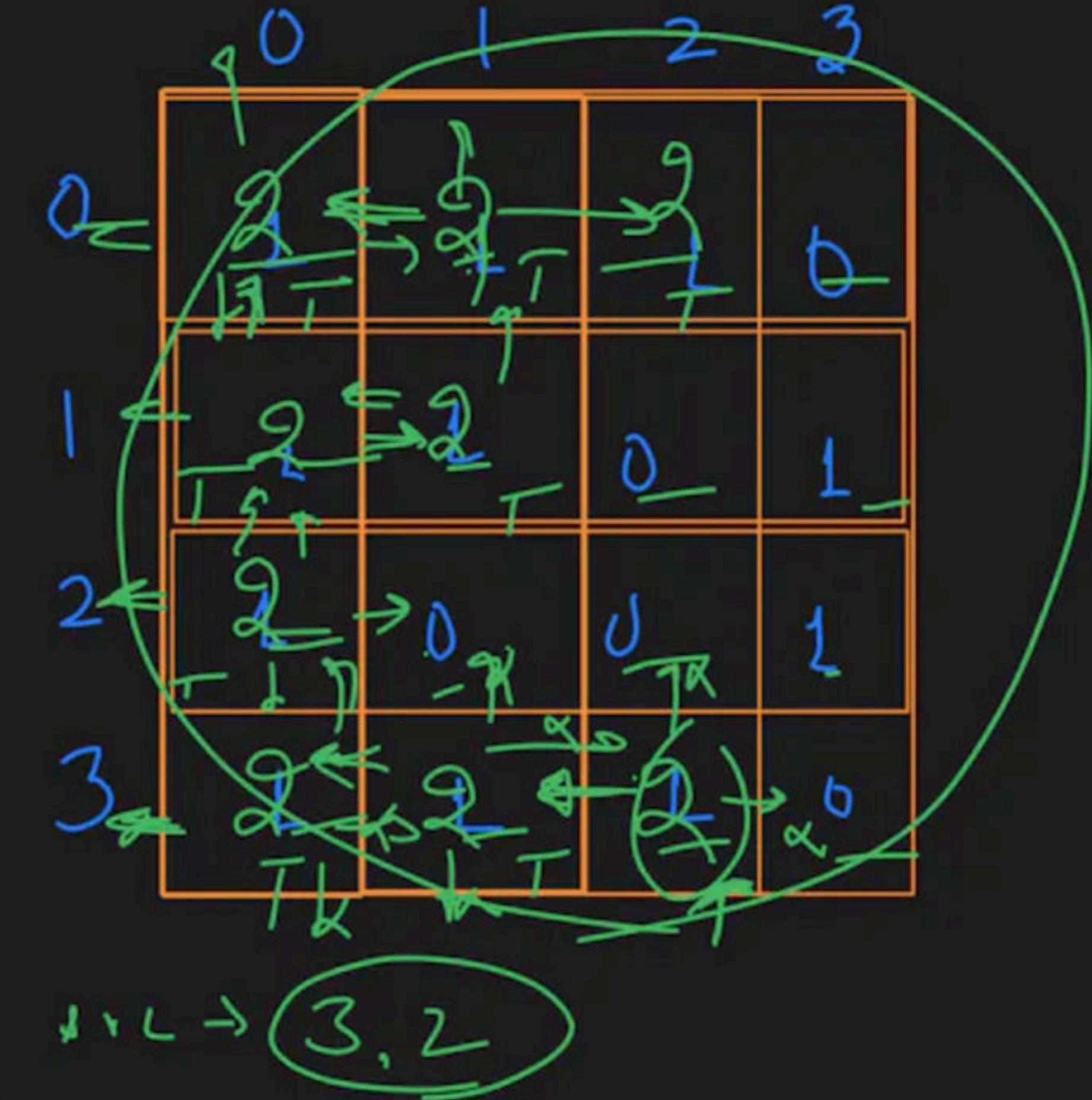
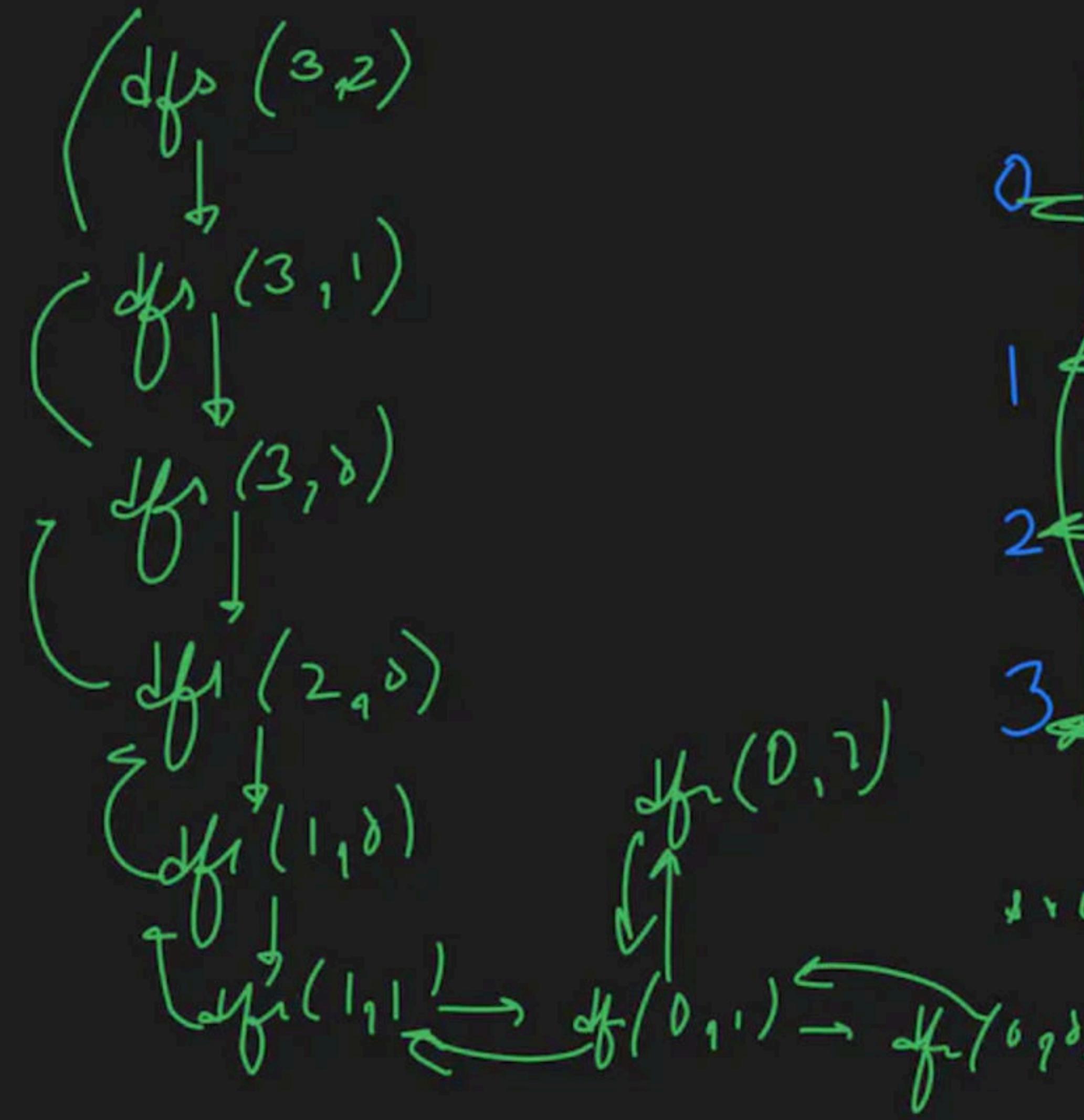
Count = 0 < 2

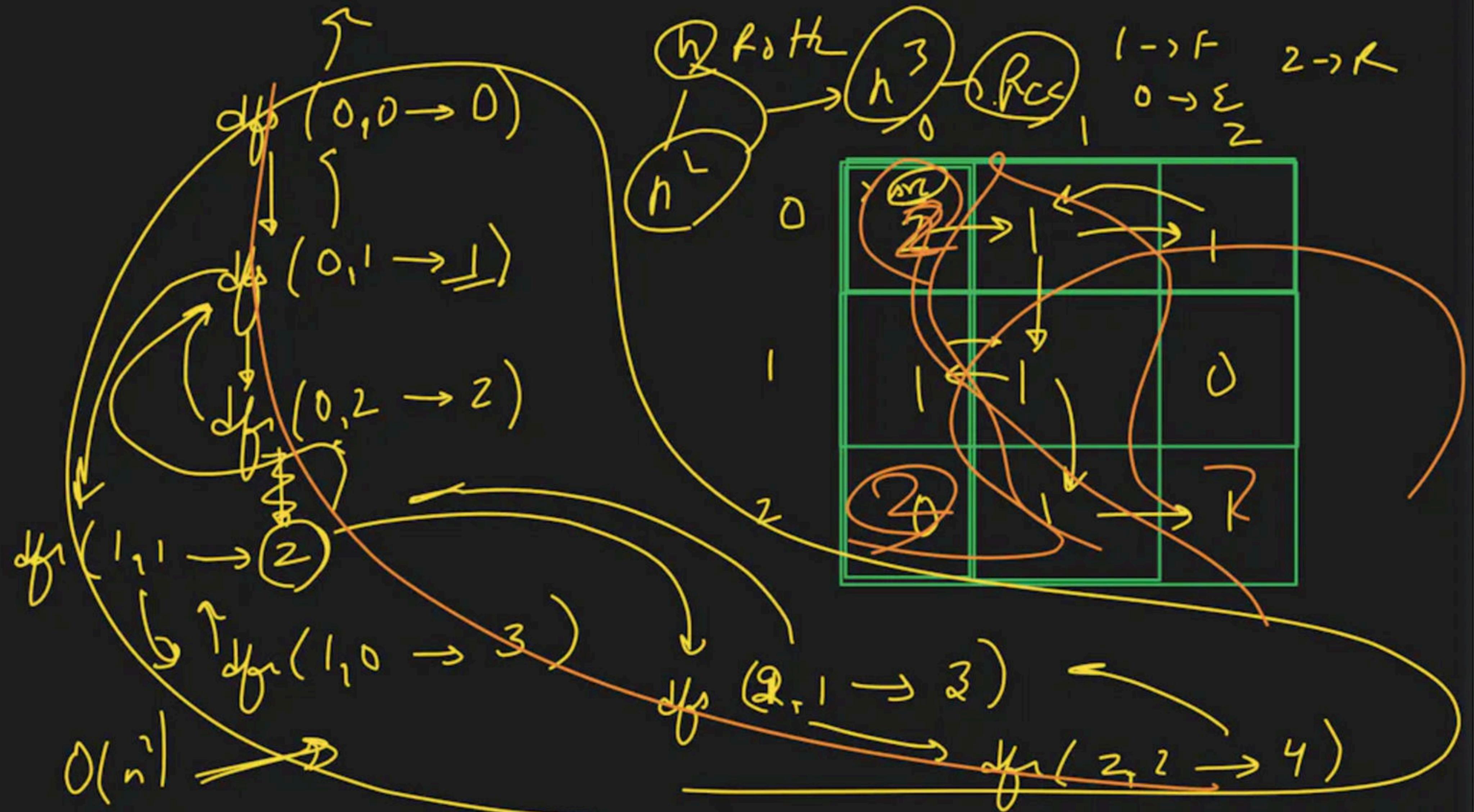
Initial state

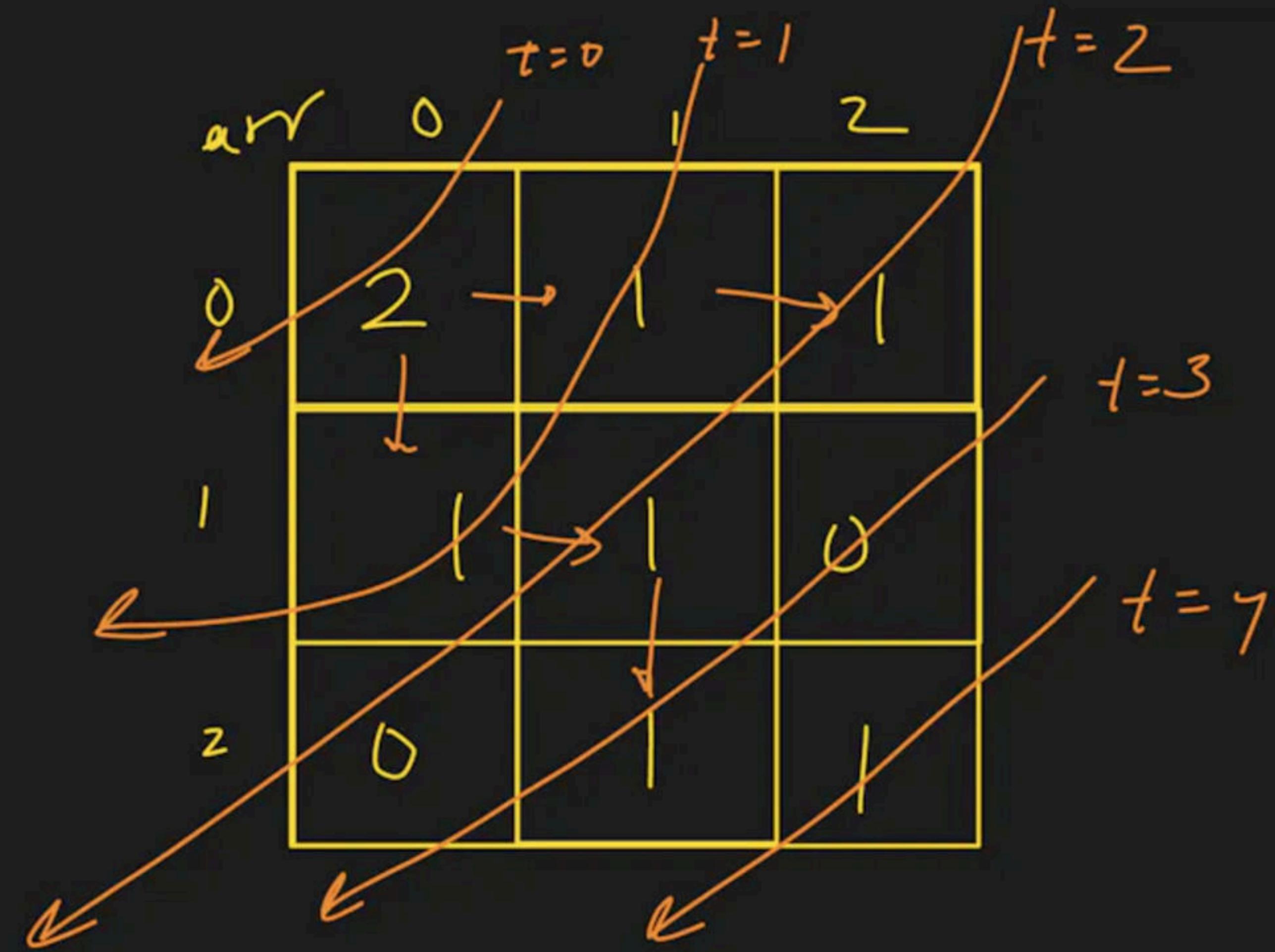
| $i$ | 0    | 1    | 2    | 3    |
|-----|------|------|------|------|
| 0   | 0, 0 | 0, 1 | 0, 2 | 0, 3 |
| 1   | F    | I    | F    | F    |
| 2   | I    | F    | I    | I    |
| 3   | F    | I    | F    | I    |

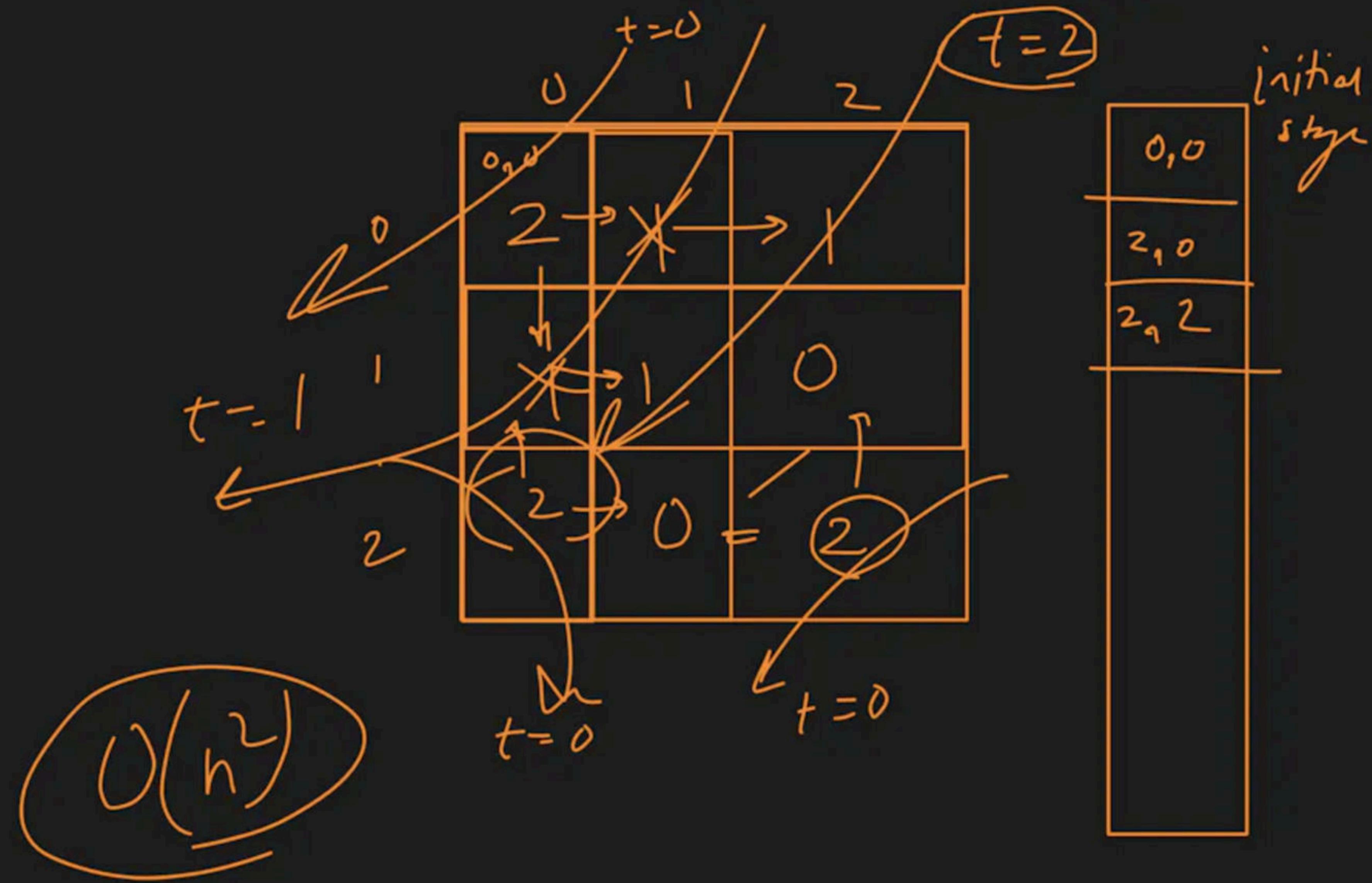


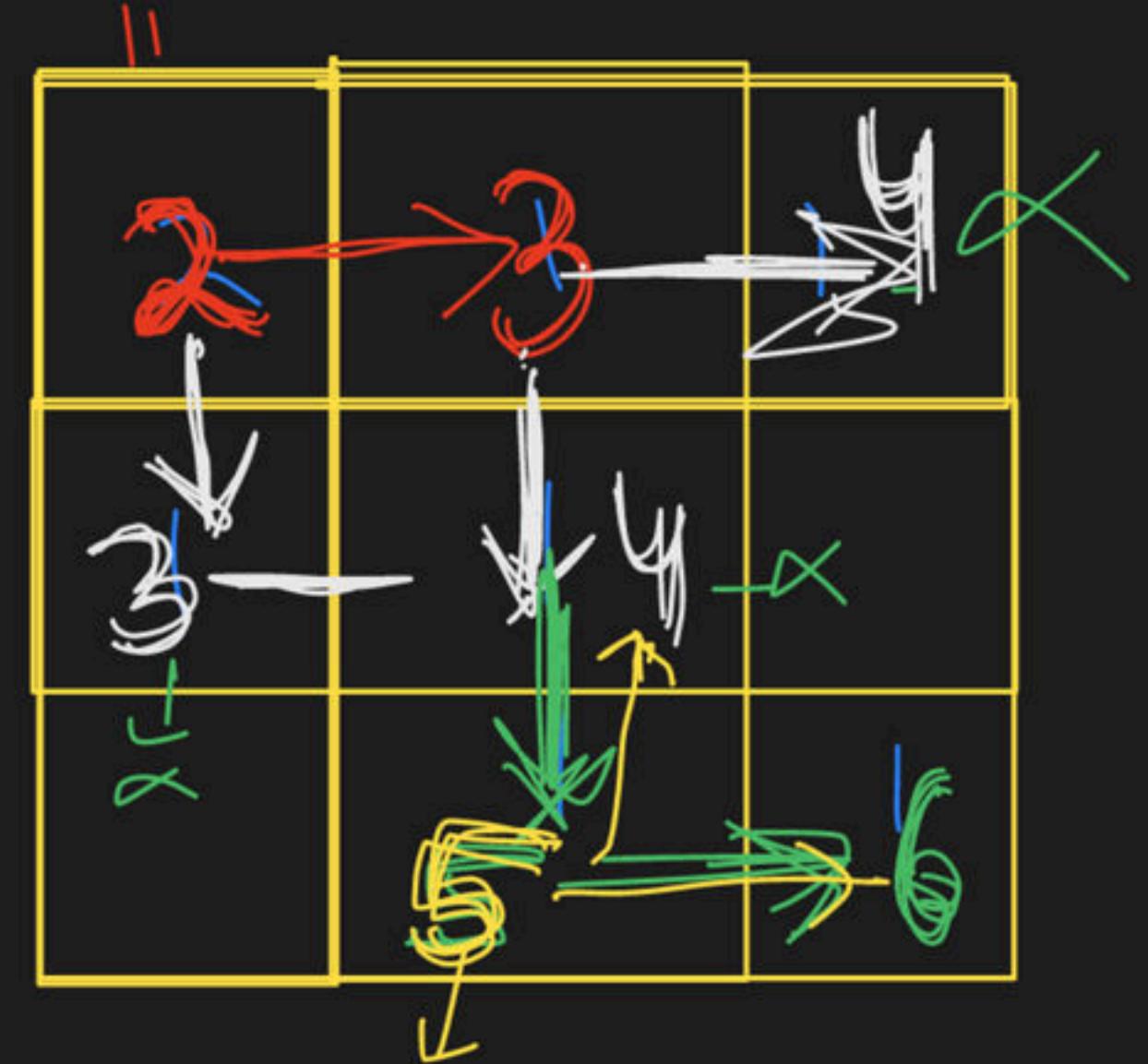
Q











$\geq 2 \rightarrow k_0 1$

1 →  $k$

6 →  $ex$

$\Rightarrow 6-2$   
6  
5



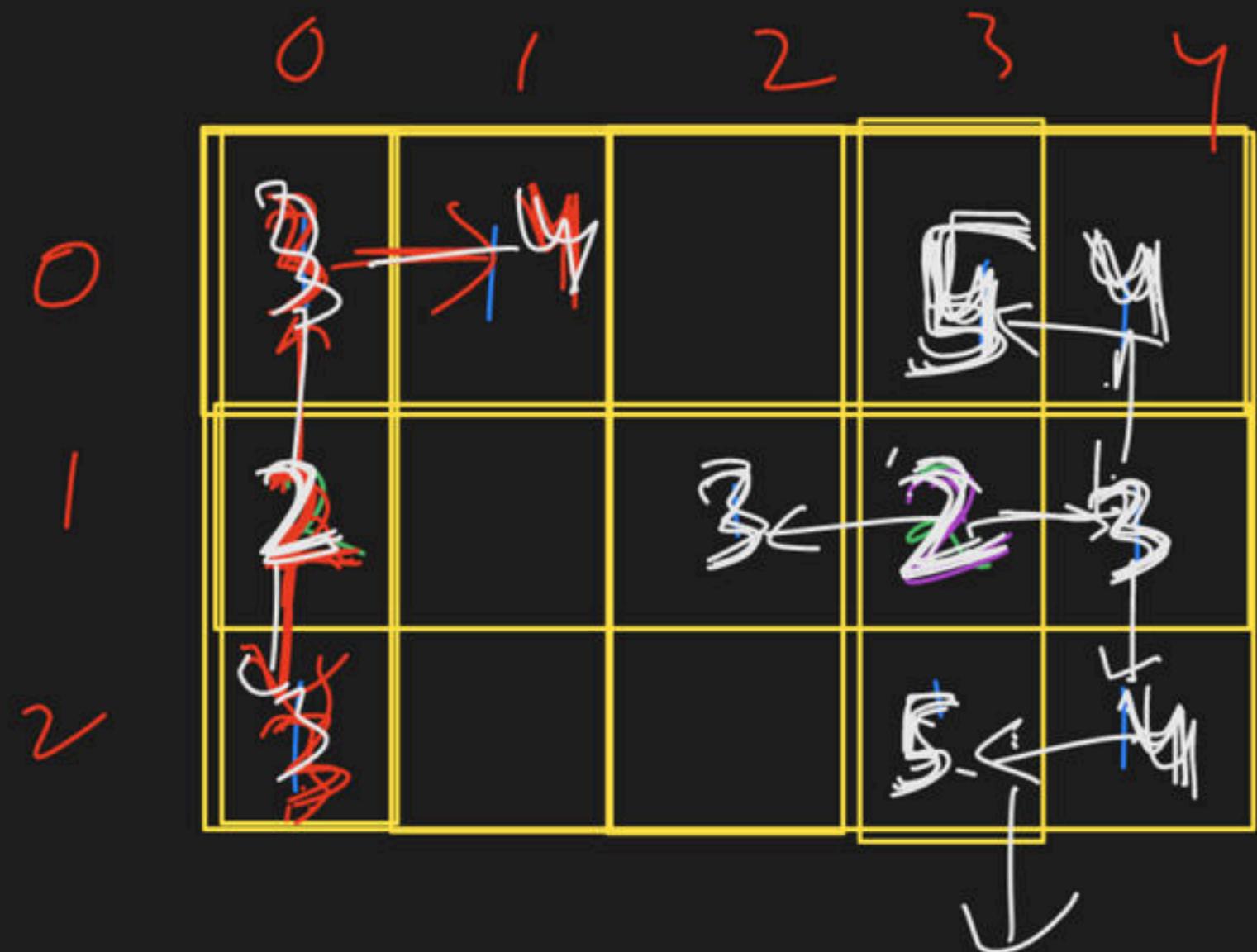
$y < 5$

$dfs(\cdot)_0$

$t = 0$

$t = 2$





dfs

$$\min = 2$$

dfs(1, 0) →  $\min = 4$

dfs(1, 3) →  $\min = 5$









































