



Love Babbar

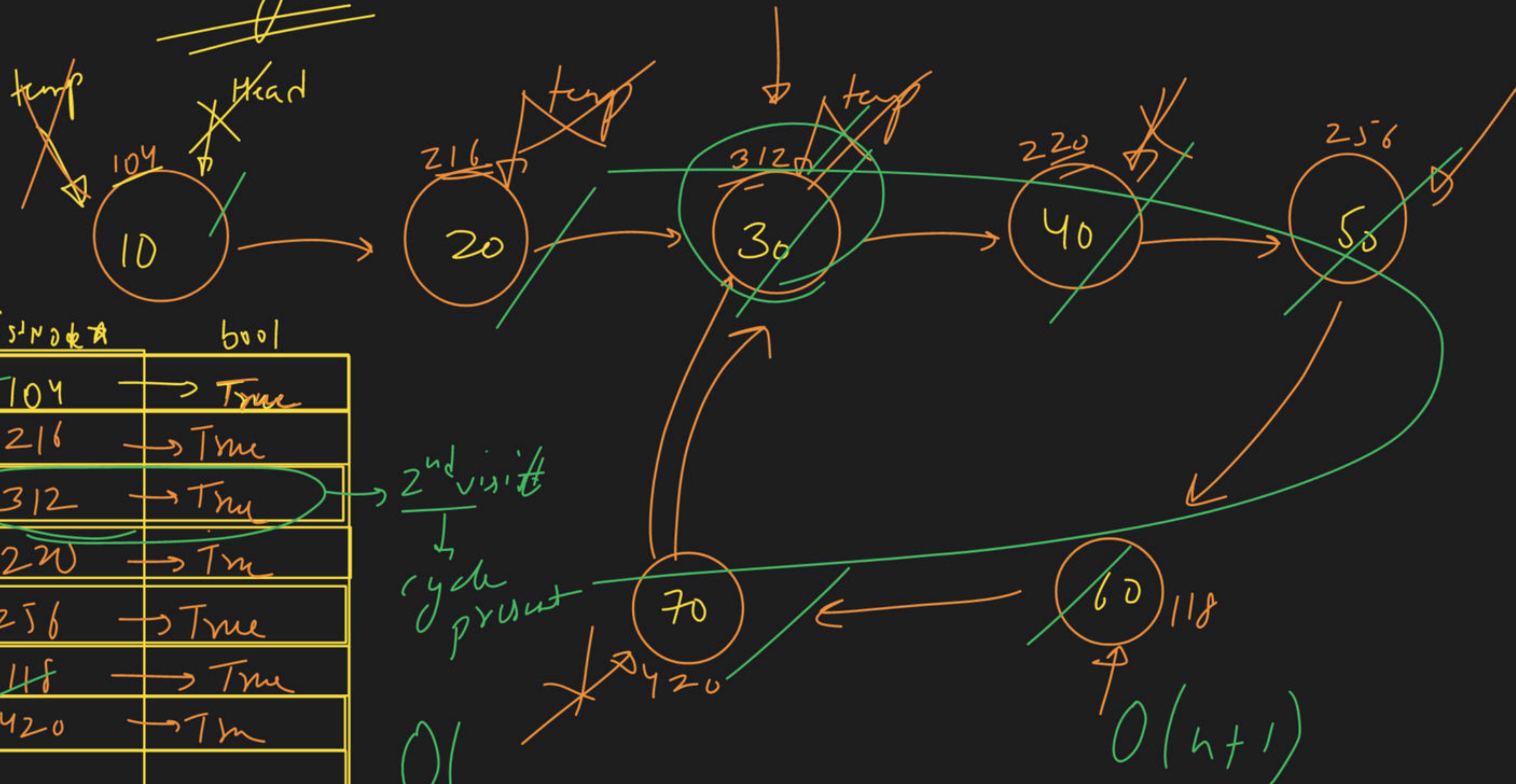
Linked List Class - 4

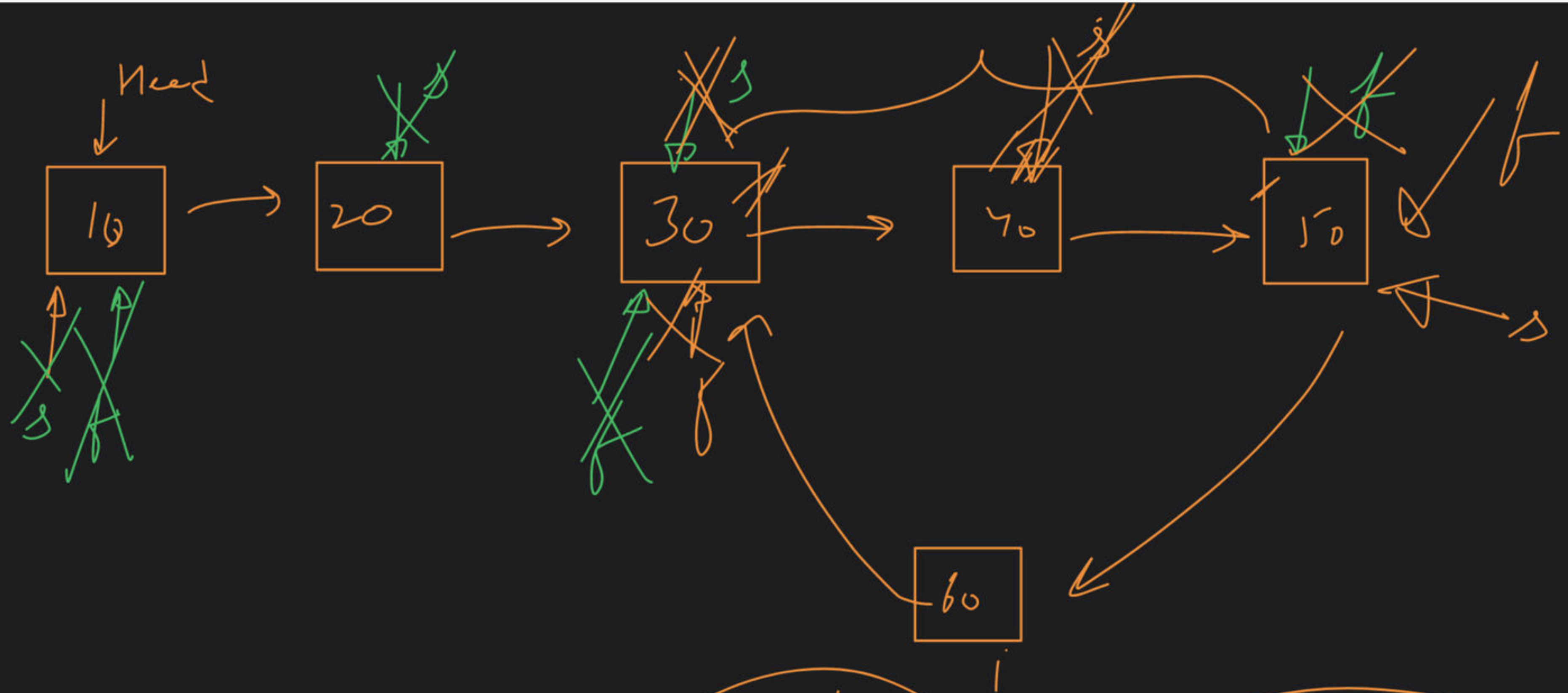
Special class

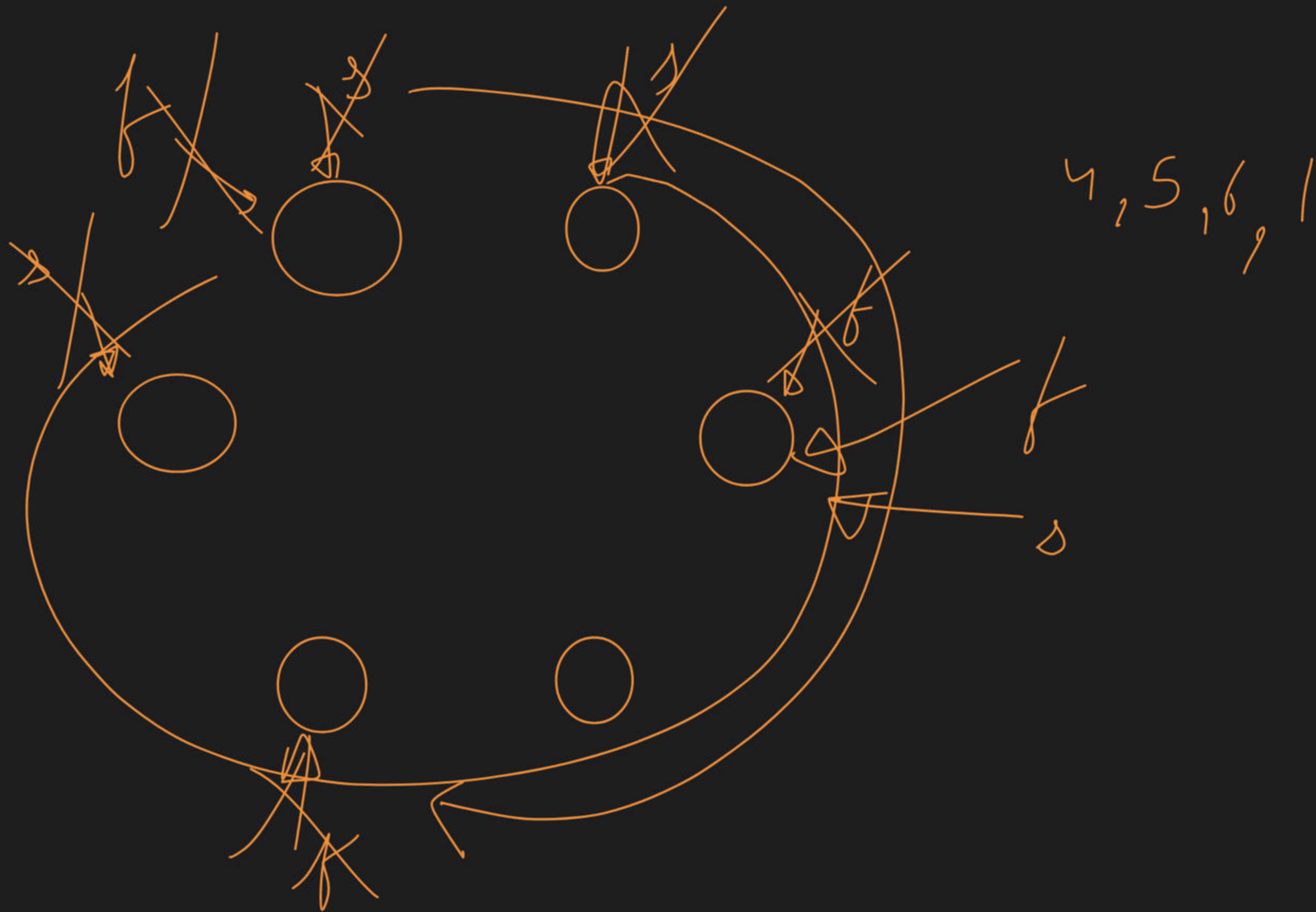
2 min

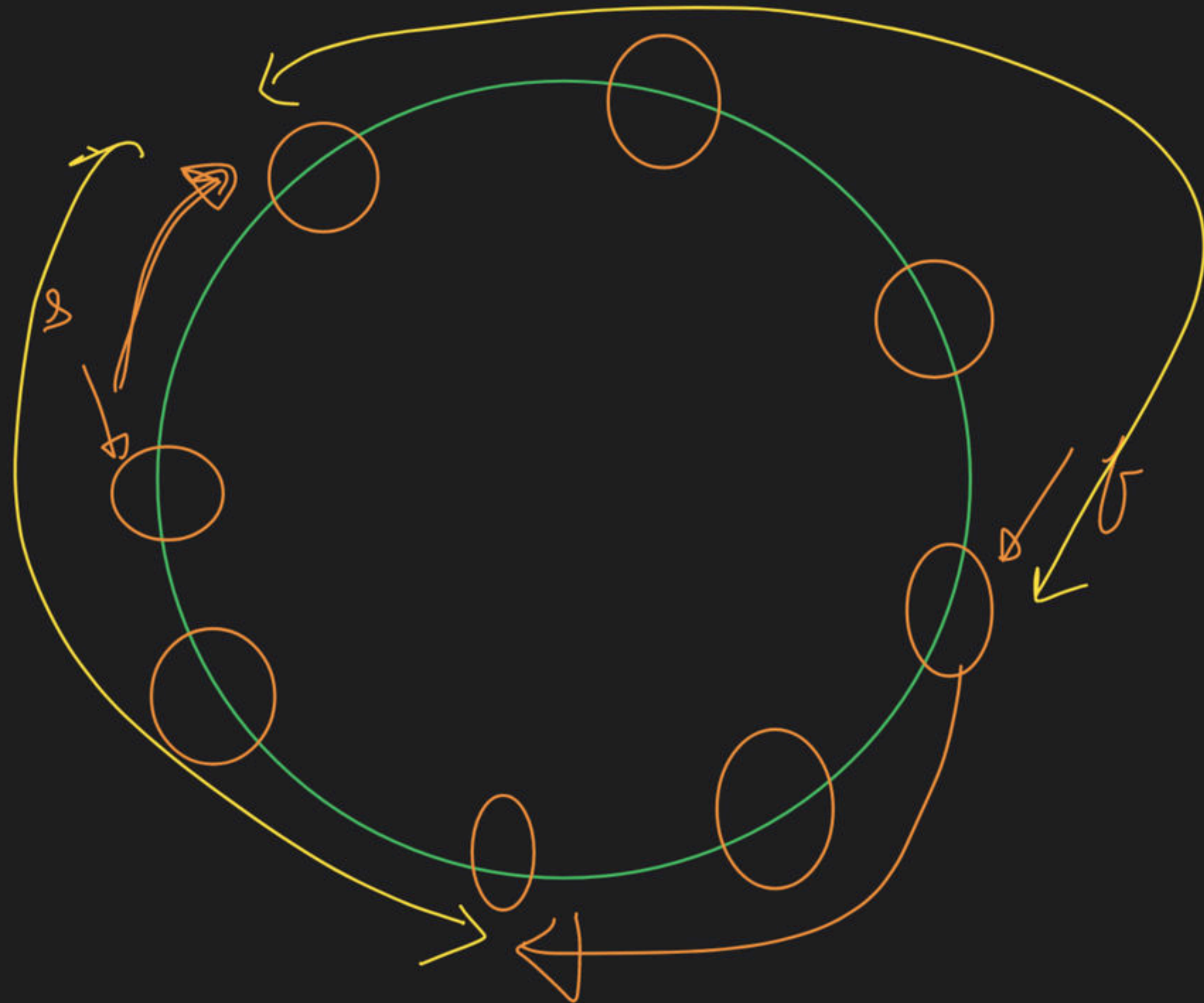
Break

→ Check cycle in L.L

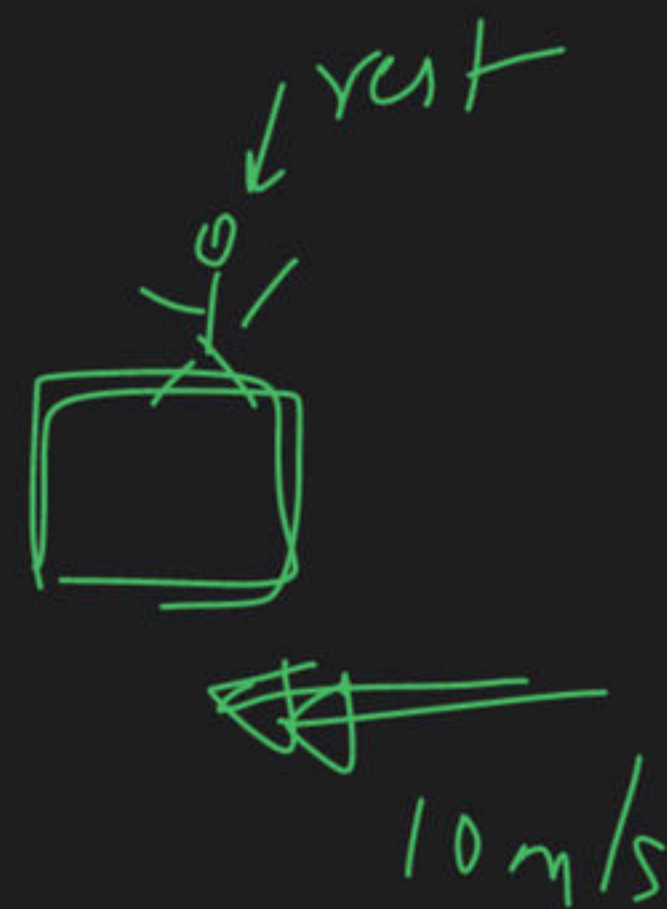
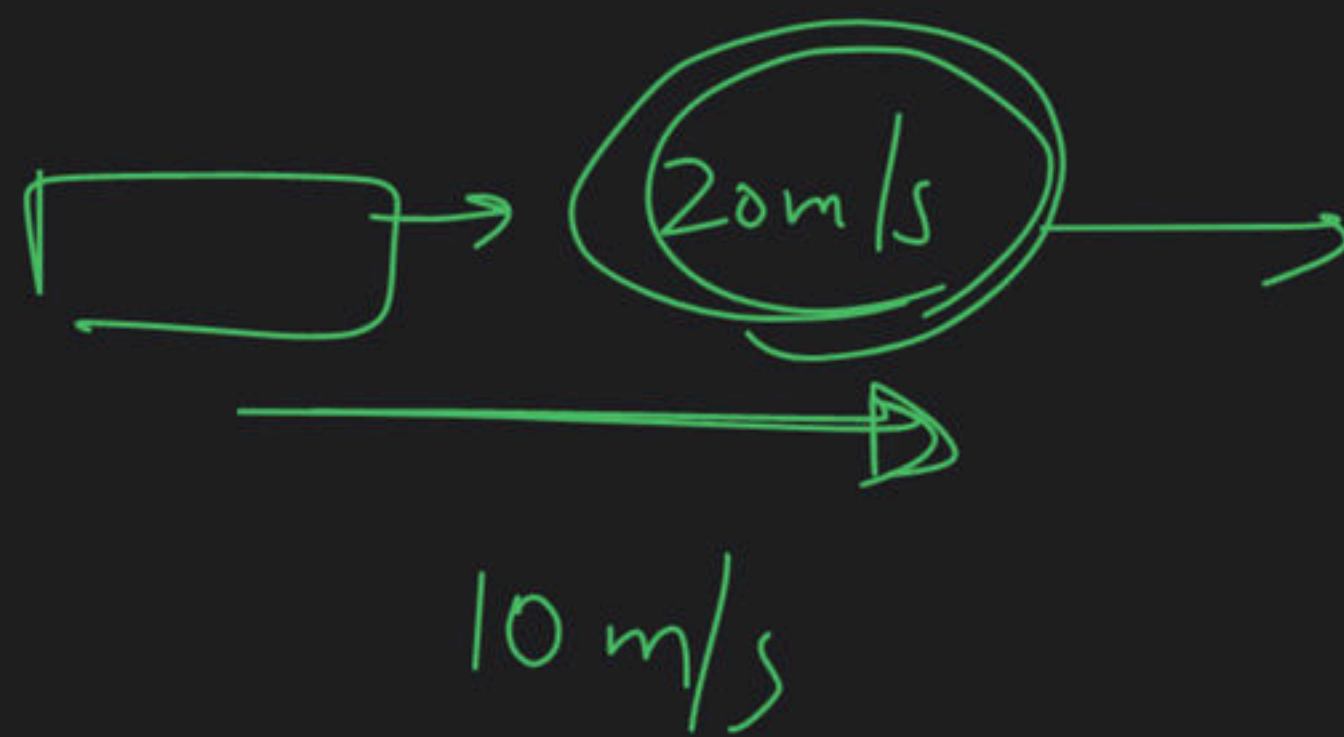


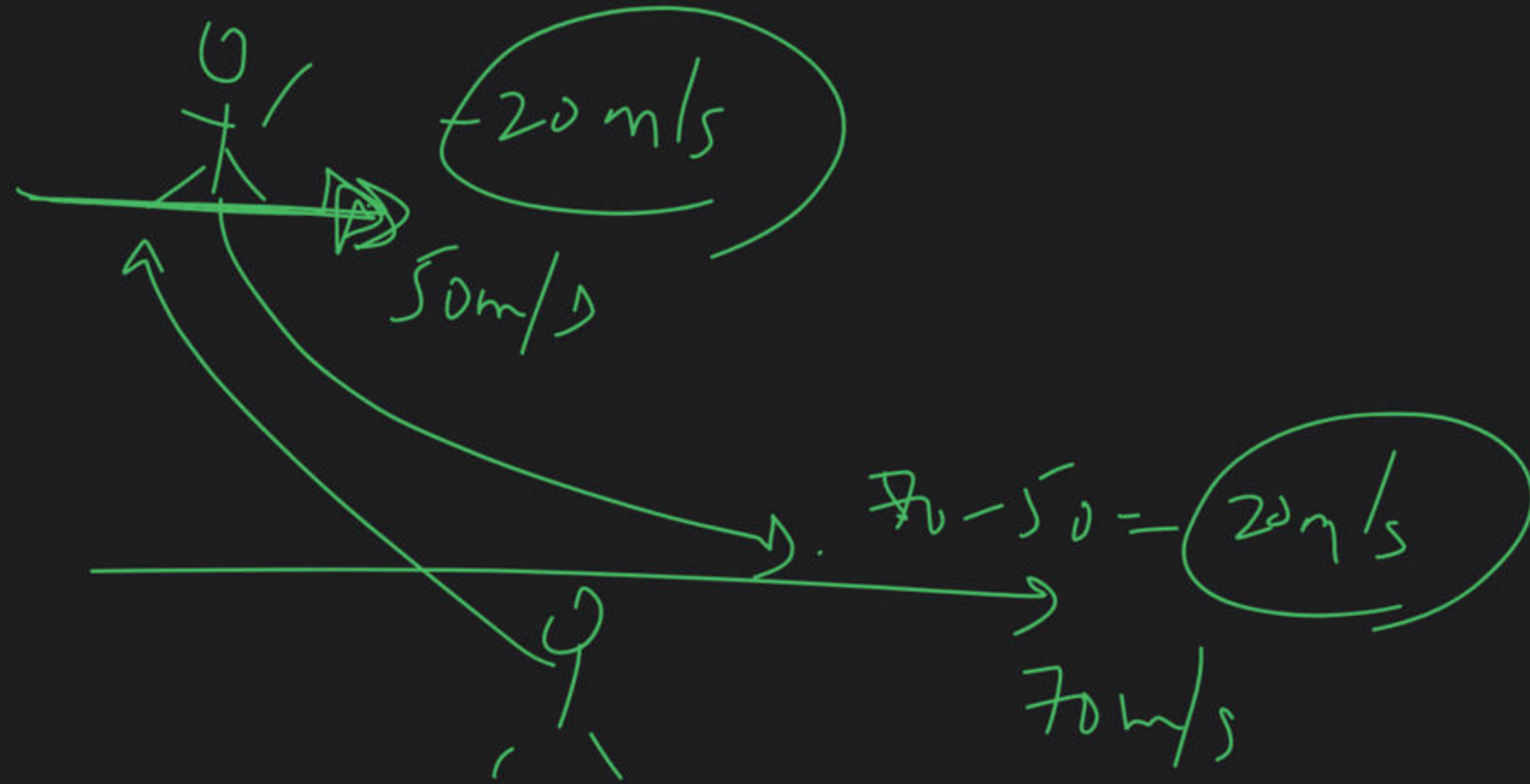












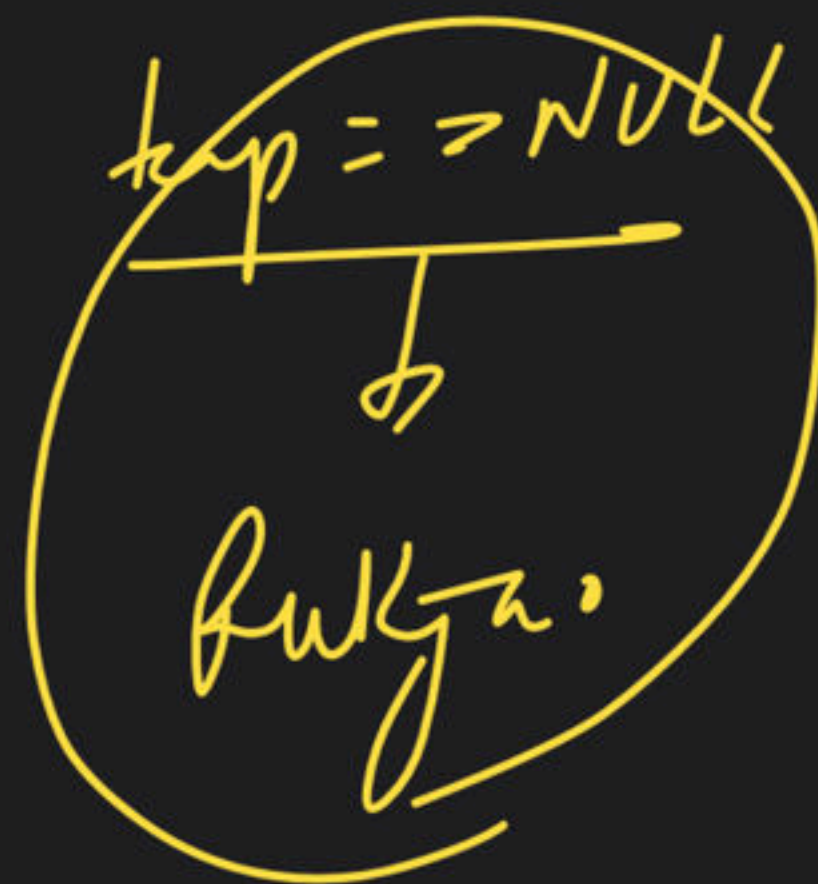




temp -> data != prev -> data

↳ prev -> list

temp -> list



- (I) LL is empty
return head

- (II) single Node
return head

→ (III) > 1 node

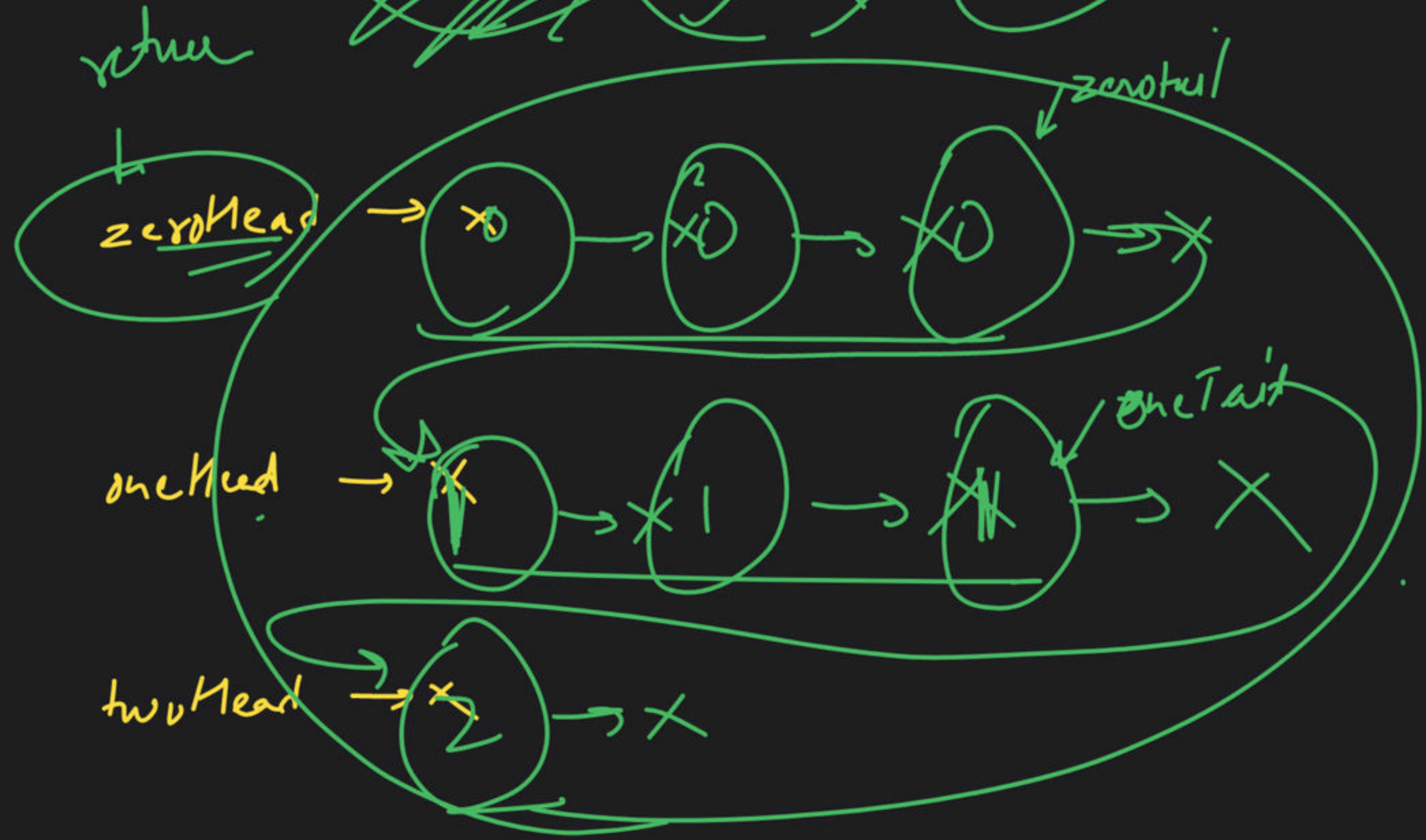
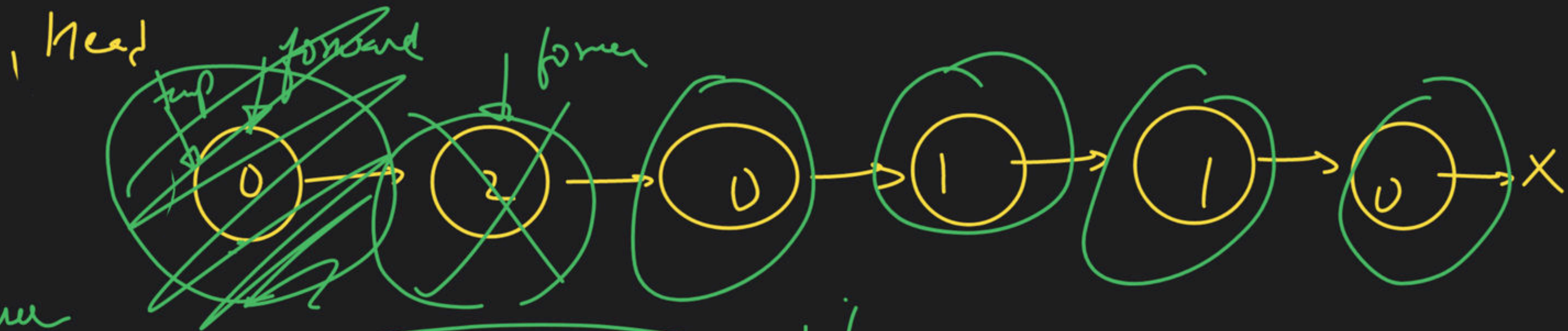
→ Sort 0's, 1's, 2's in LL



Approach → counting → New LL → T.C → $O(n)$ S.C → $O(n)$

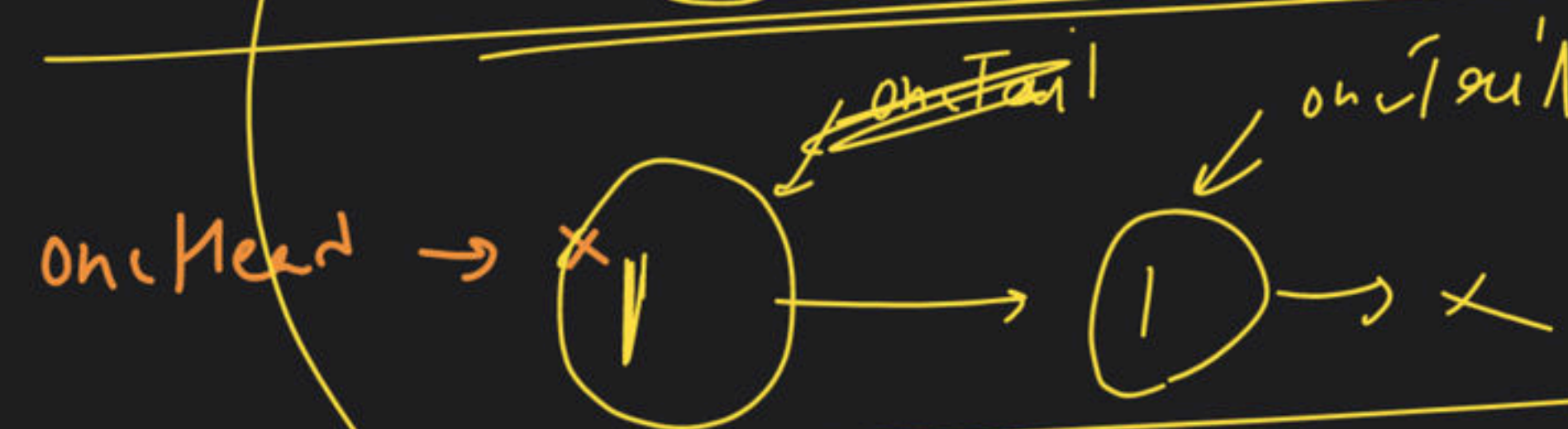
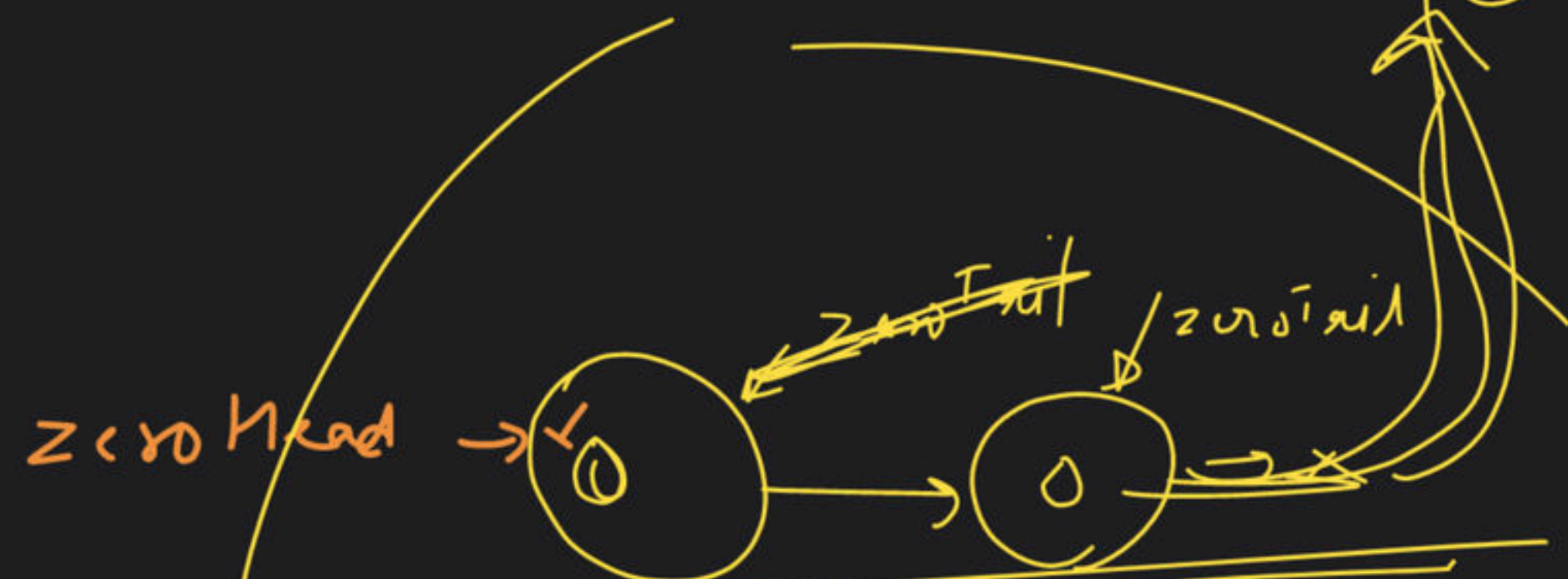
Approach → counting → overwrite

Approach → Pointers K saath Khelna padega



$zeroTail \xrightarrow{next} oneHead$

$oneTail \rightarrow next = twoHead$



Merge

zero Head

One Head

twoHead

zeroList

oneList

twoList

N-E

N-E

N-E

N-E

N-E

Empty

N-E

E

N-E

N-E

E

Empty

E

N-E

N-E

N-E

E

E

N-E

E

return twoHead



N.E

I case

$\text{zeroTail} \rightarrow \text{next} = \text{oneHead}$

return zeroHead

$\text{oneTail} \rightarrow \text{next} = \text{twoHead}$

II case

III case

$\text{zeroTail} \rightarrow \text{next} = \text{twoHead}$

return zeroHead

IV case

Vth case

$\text{oneTail} \rightarrow \text{next} = \text{twoHead}$

return oneHead

VIth case

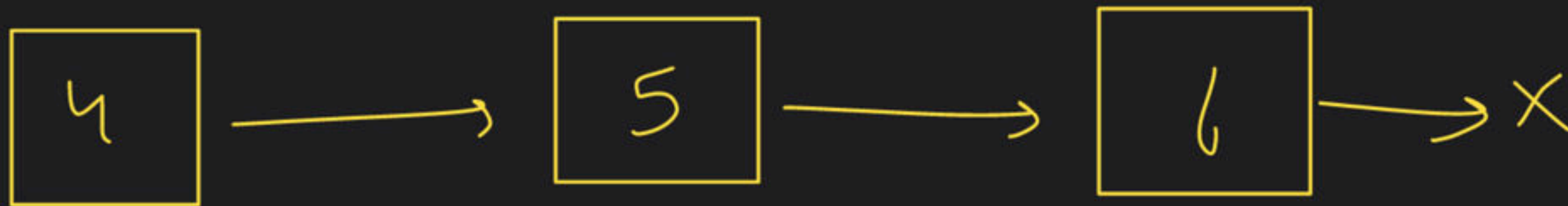
→ Add 1 to Linked List ::



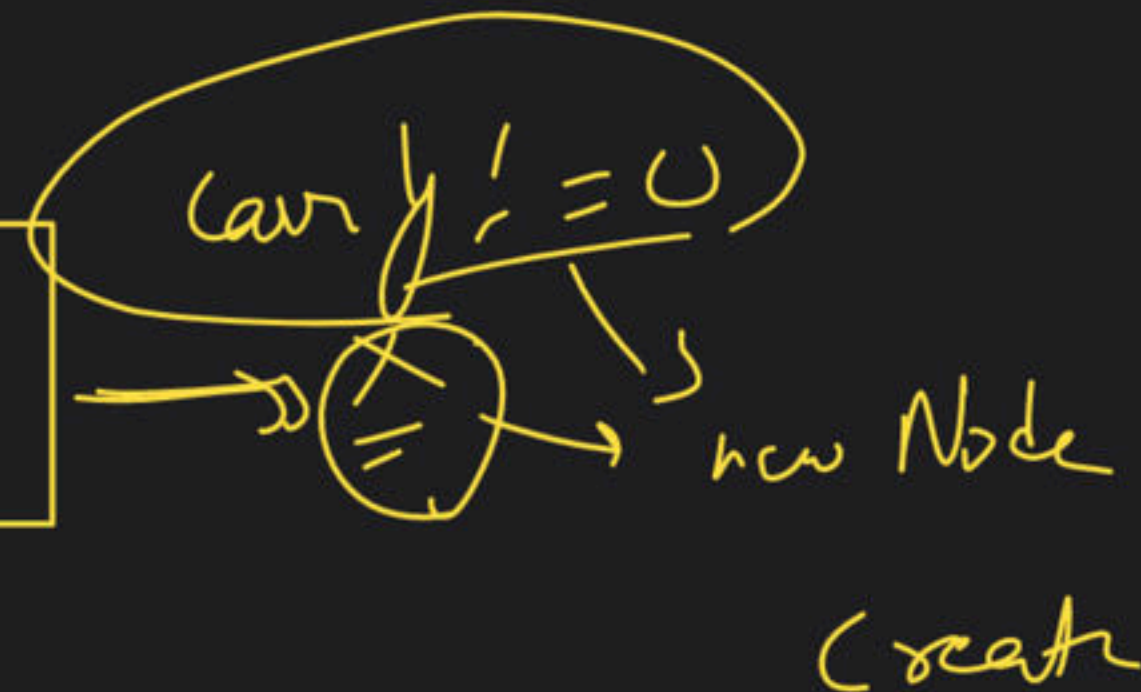
2min

approach

- (1) convert karko integer → +1 → convert LL ✓
- (2) convert karko string → +1 → convert LL ✓
- (3) reverse karko → +1 → reverse



(1) Reverse

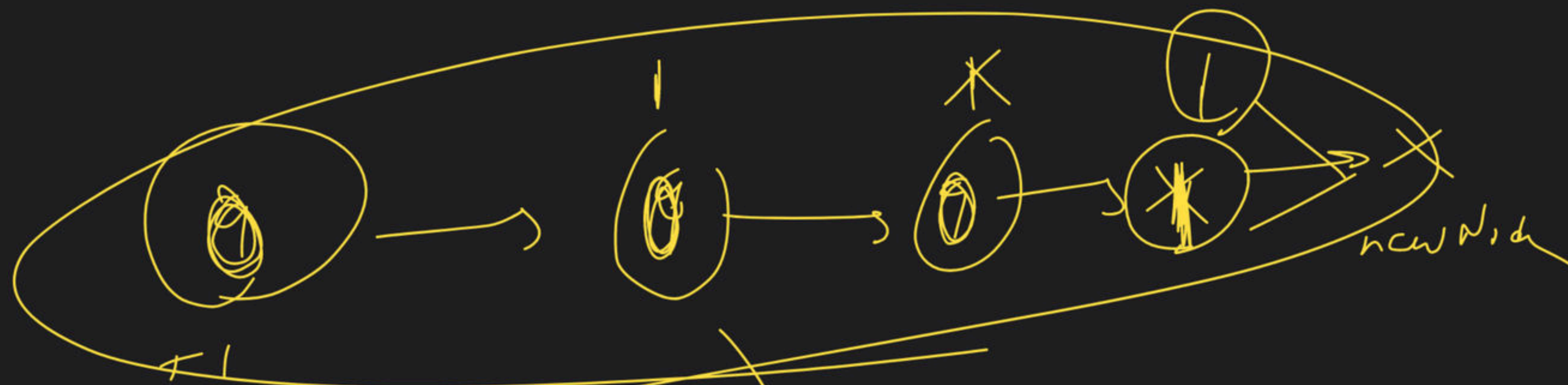


b \rightarrow 1

sum = (7), carry $\rightarrow 0$
 \rightarrow agar kuch

carry $\neq 0 \rightarrow$ next node pr
 plus karu

(2) Reverse

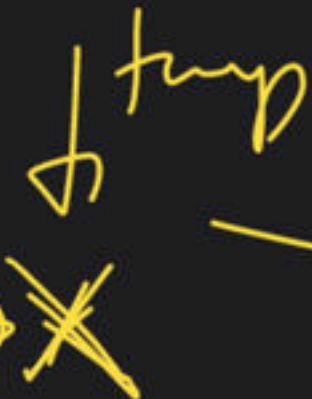
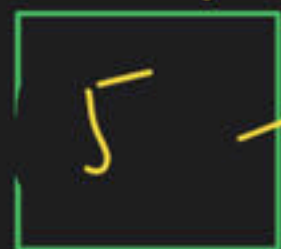
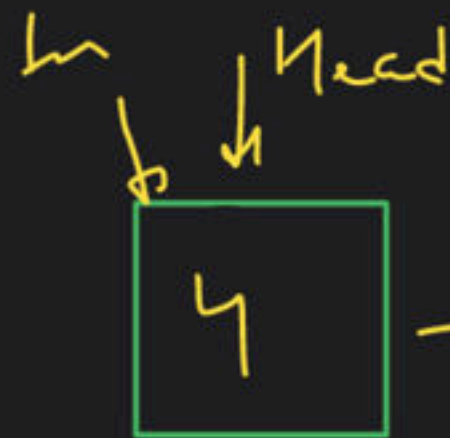


10 →

10

10

1 0 80



return

①

$$\text{Carry} = 1$$

$$\text{sum} = 7$$

$$\text{digit} = 7 \div 10 = 7$$

$$\text{Carry} = 7 \div 10 = 0$$

$$\text{Carry} = 0$$

$$\text{sum} = 5$$

$$\text{digit} = 5$$

$$\text{Carry} = 0$$

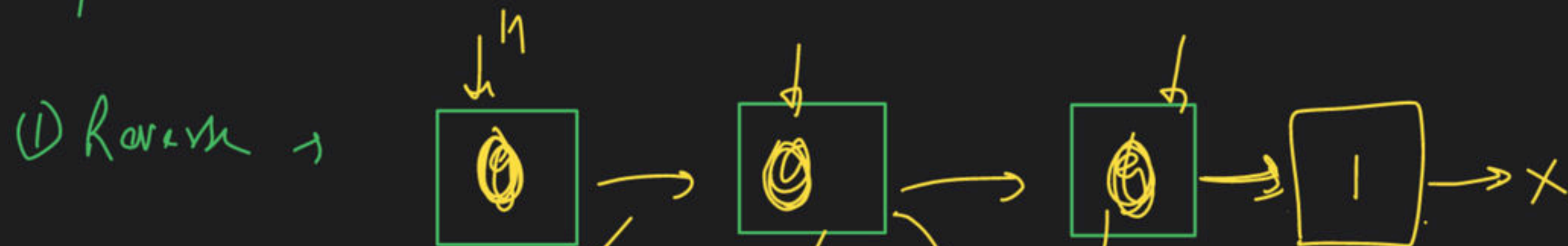
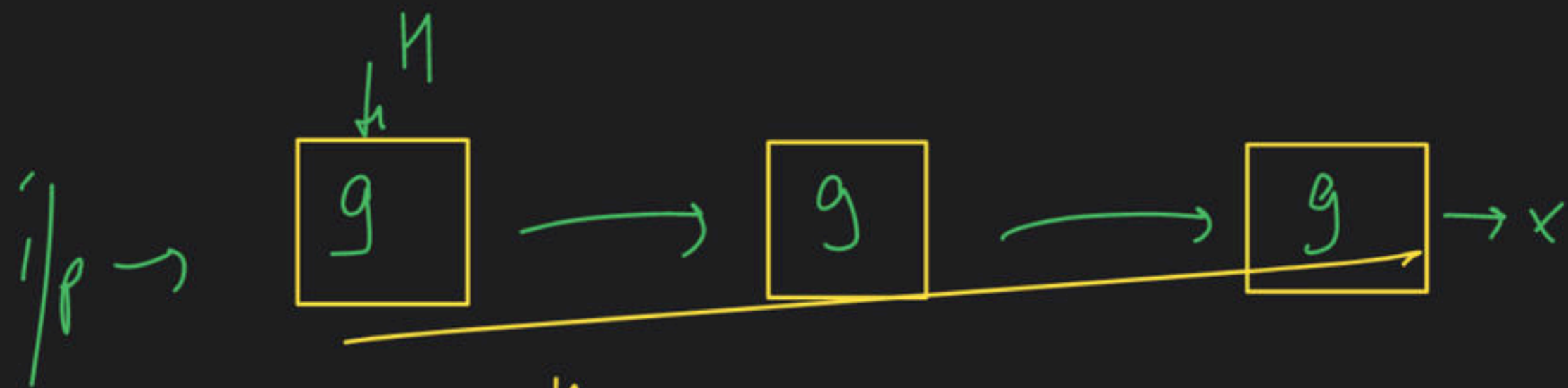
$$\text{Carry} = 0$$

$$\text{sum} = 4$$

$$\text{digit} = 4$$

$$\text{Carry} = 0$$

tail node
extra check



$$\begin{aligned}
 \text{Carry} &= 1 \\
 \text{Sum} &= 10 \\
 \text{digit} &= 10 / 10 = 1
 \end{aligned}$$

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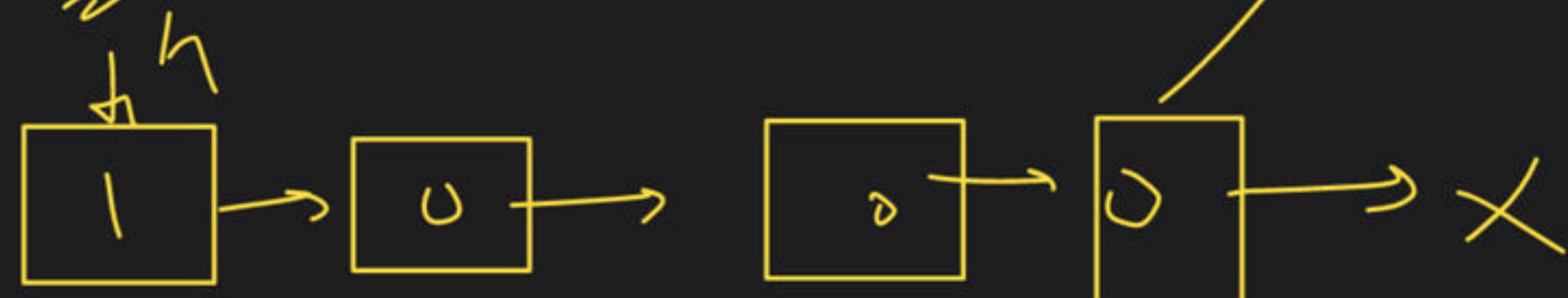
special case

$$\text{Carry} = 10 / 10 = 1$$

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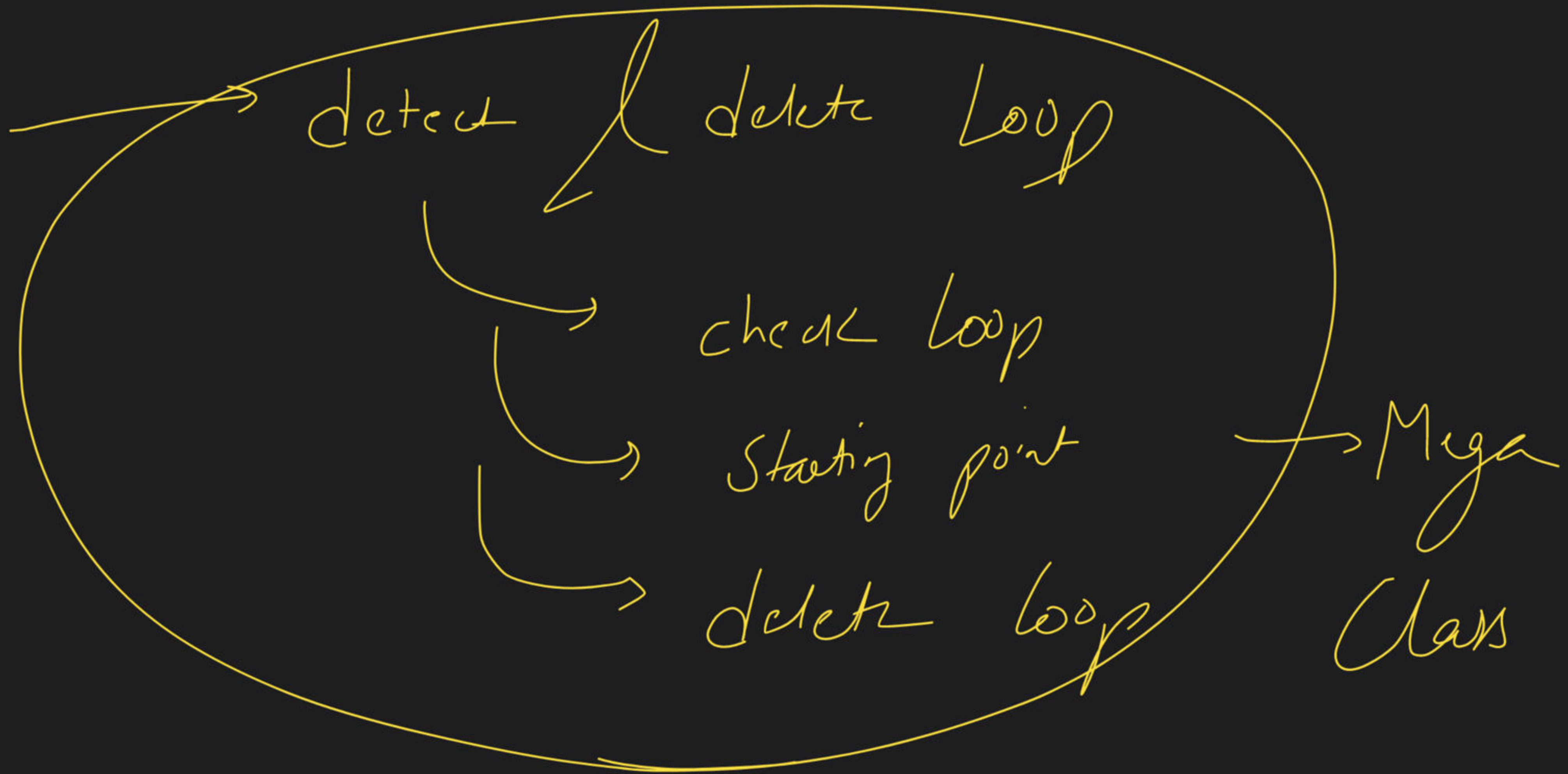
(2) Reverse \rightarrow



H/W

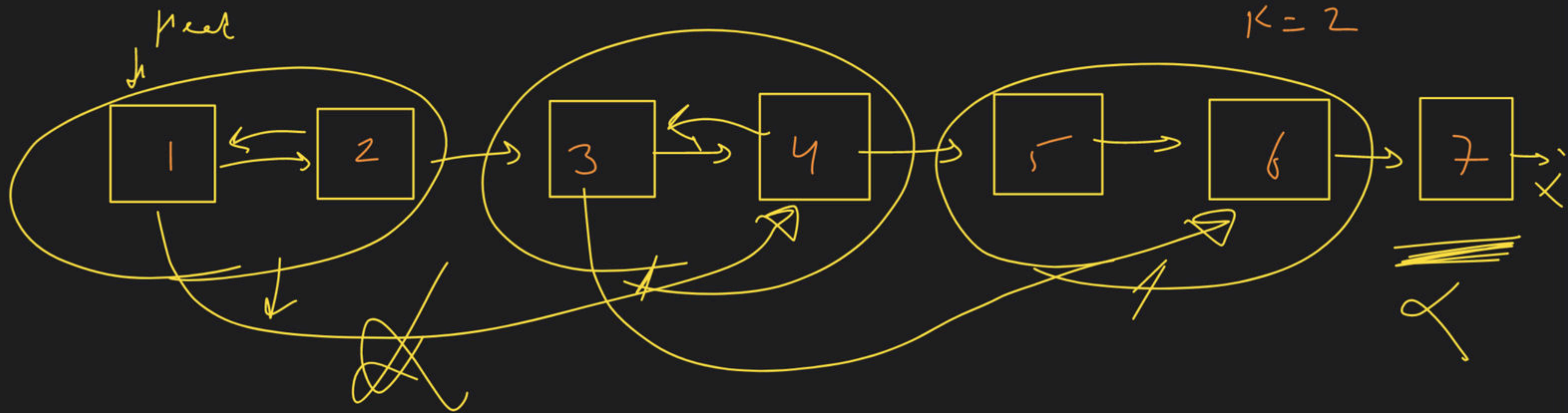
Add 2 numbers represented
by Linked List

Important



M.S \rightarrow Online assessment

reverse in groups of K



find this

