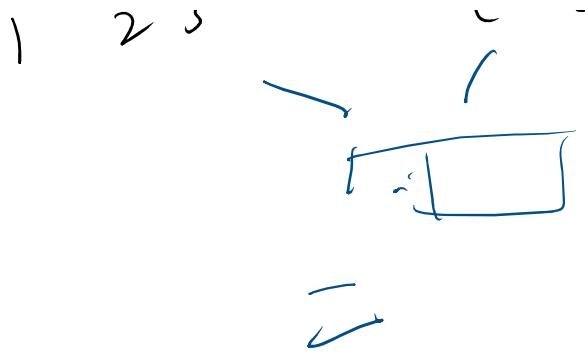# Reverse a LL

Node prev = null
Node curr = head
Node next;
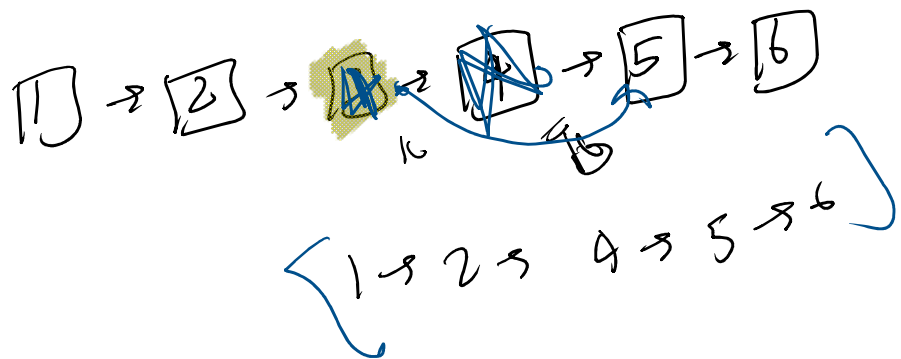
next = curr.next
curr.next = prev
prev = curr
curr = next

Merge two sorted Arrays

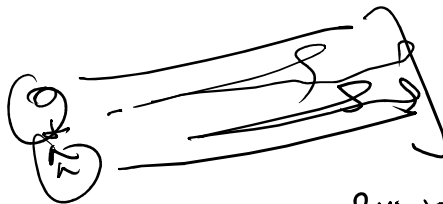1 2 3   4 5 6
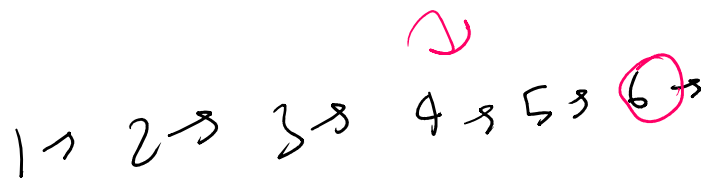
1   2   3   ...

Delete a Node in a LL

1 → 2 → 4 → 4 → 5 → 6

{ 1 → 2 → 4 → 5 → 6 }

Cycle in a LL

1 → 2 → 3 → 4 → 5 → 6 →

→ Floyd's Cycle detection algorithms

slow
fast

Start

$$1 \to 2 \to 3 \to 4 \to 5 \to 6 \to 7$$

start yes

Concept of modulo

=)- → remainder

0 int %4 = 2
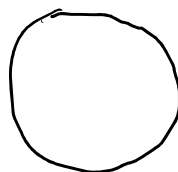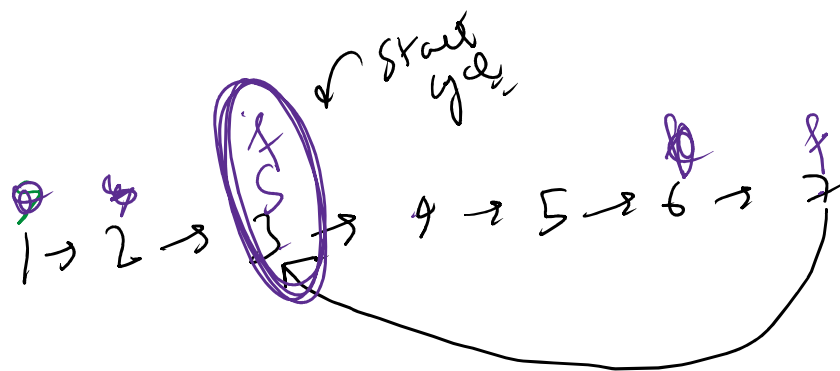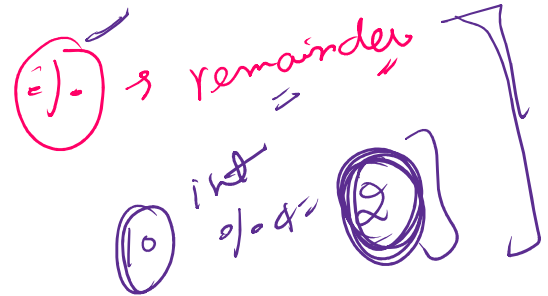
→ $(a+b) \% m$
$$= (a\%m + b\%m)\%m$$

→ $(a \times b)\%m = ((a\%m) \times (b\%m))\%m$

$$(6+9) \% 4 \Rightarrow \boxed{3}$$

$$(6\%4 + 9\%4)\%4$$
$$(2+1)\%4 = \boxed{3}$$

→ $(6 \times 9)\%5$
$$54\%5 = \boxed{4}$$

$$\frac{(6\%5) \times (9\%5)\%5}{(1 \times 4)\%5 = \boxed{4}}$$

→ $(a-b)\%m = (a\%m - b\%m + m)\%m$

$$(20-8)\%5$$

$$(20\%5 - 8\%5 + 5)\%5$$

$(20 - 8) \% \cdot 5$

$12 \% \cdot 5 = \boxed{2}$ ✓

$(20\% \cdot 5 - 8\% \cdot 5 + 5) \% \cdot 5$

$(0 - 3 + 5) \% \cdot 5$

$2\% \cdot 5 = \boxed{2}$

$\rightarrow \left(\dfrac{a}{b}\right) \% \, m \neq \boxed{\dfrac{a \% m}{b \% m}}$

$\left(\dfrac{17}{5}\right) \% \cdot 17 \underset{\underset{\boxed{3 \cdot n}}{}}{}$

$\cancel{\dfrac{17 \% \cdot 17}{5 \% \cdot 7}} = 0$

$\rightarrow \boxed{\text{prime number}}$

$\left[10^{9} + 7 \right] \Rightarrow$