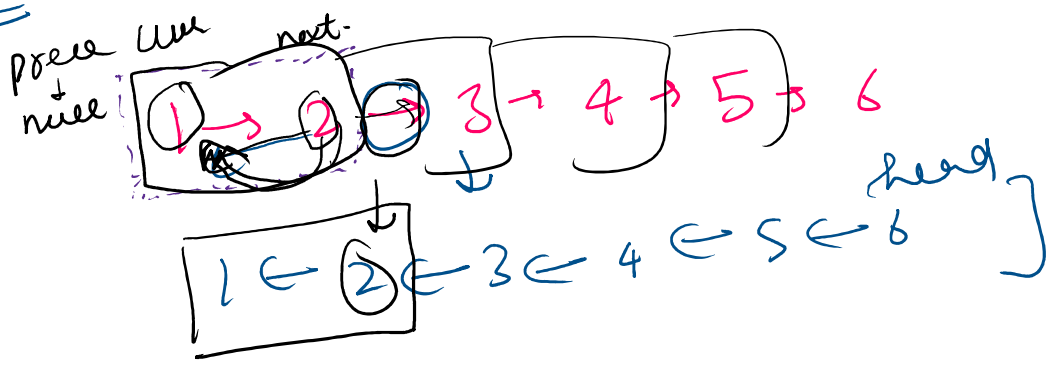
2.11 - Linked List - 2

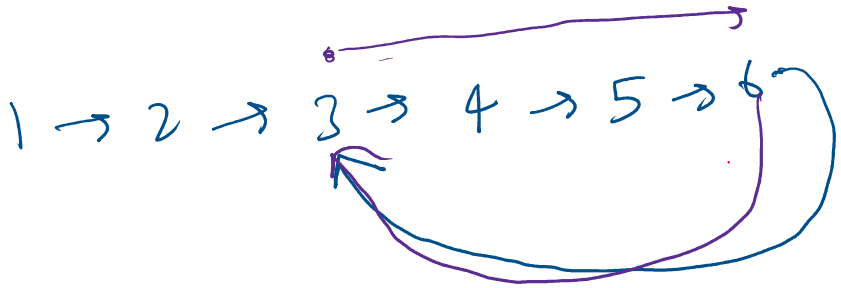
Saturday, June 28, 2025 10:41 AM

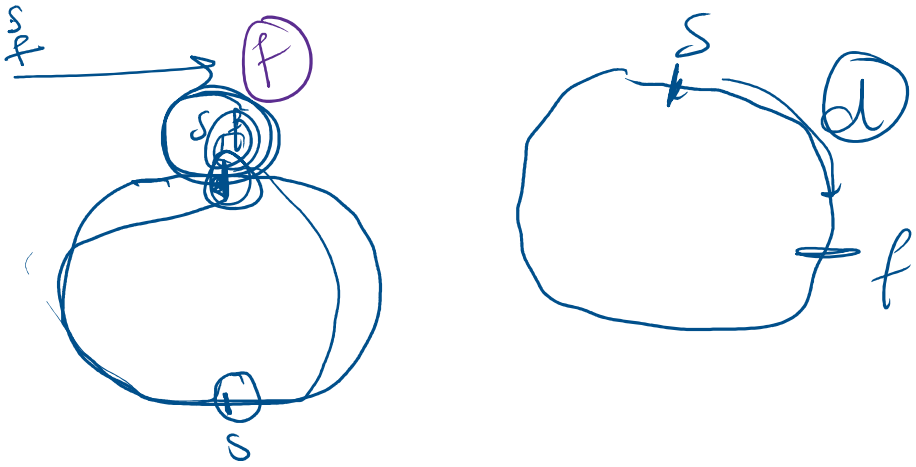
How to reverse a LL

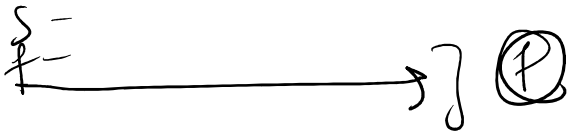
-) Iterative

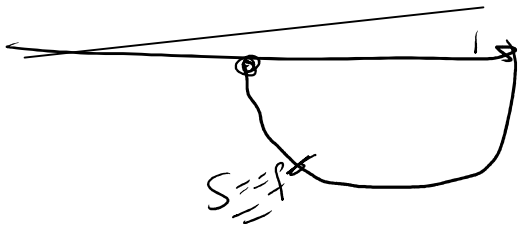


Cycle in a LL → Floyd's Cycle detection algo

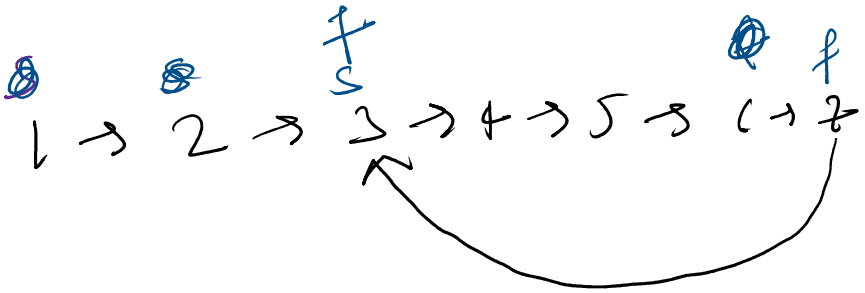


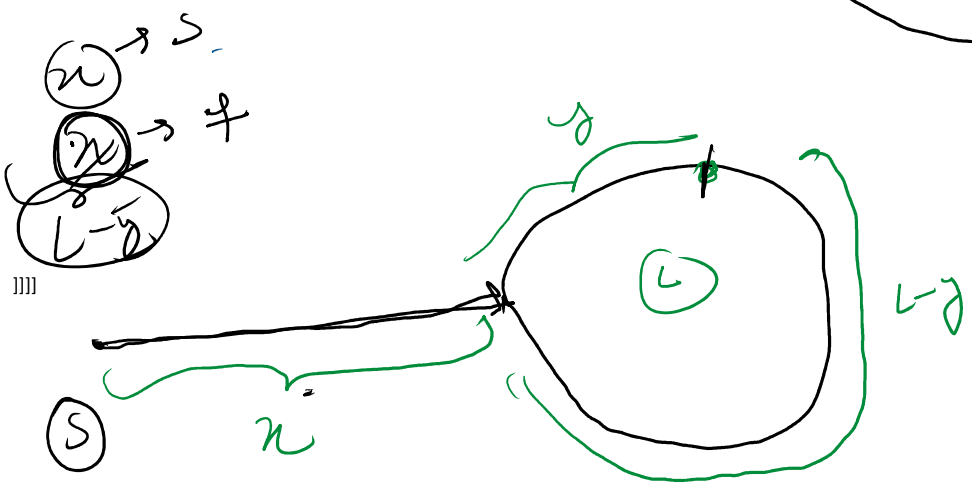






Detecting the start of the loop





$$2\underbrace{(x+y)}_{\text{fast}} - \underbrace{(x+y)}_{\text{slow}} = L$$

$$\boxed{x+y = L} \quad \textcircled{3}$$

Concept of modulo in Maths

$10 \% 5 = 0$

(*) modulo is always taken with a prime number

$10^9 + 7$ → prime

Rules

$a = 13$, $b = 11$, $m = 7$

LHS

RHS

→ $(a+b) \% m = (a\%m + b\%m) \% m$

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

→ $(a-b) \% m = (a\%m - b\%m + m) \% m$

→ $(a/b) \% m =$ $a \neq 1$, $b \neq 7$