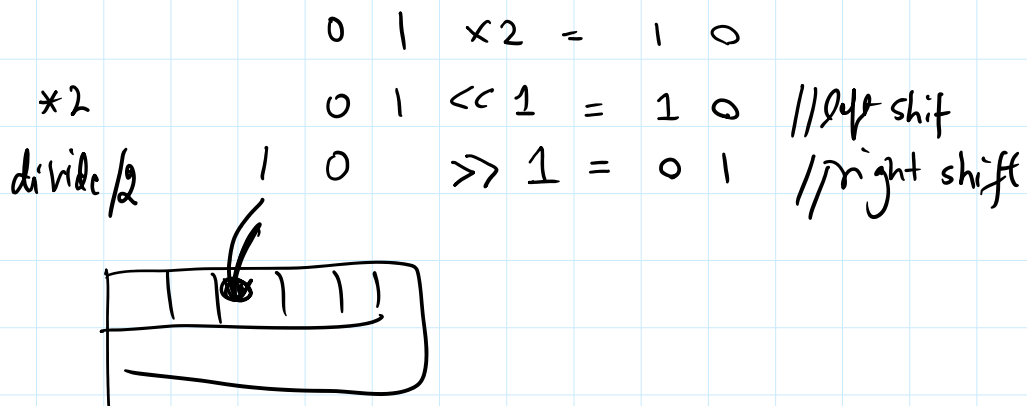


- ① Root = highest element
- ② Elements with lesser priority are lying beneath the higher priority.
- ③ Complete tree

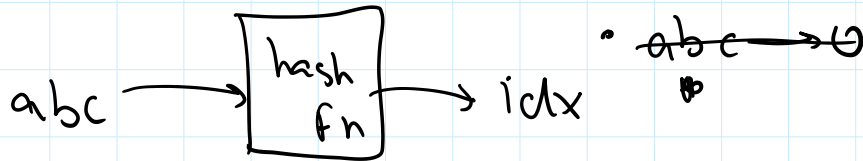
$$2^{10} \quad 1 < i \leq 10$$



abc → 123
def → 456
ghi → 567

0	1	2	3	4
abc	def	ghi	x	x
123	456	567		

arr["abc"] = ?



- same inp same out
- one to one func → same
- comp. incomp.

~~abc~~ abc → int

$$= 'a' + 'b' + 'c' = x$$

$$= b + a + c \rightarrow$$

$$= cab \rightarrow$$

0 1 2
a b c

0 1 2
1 2 3

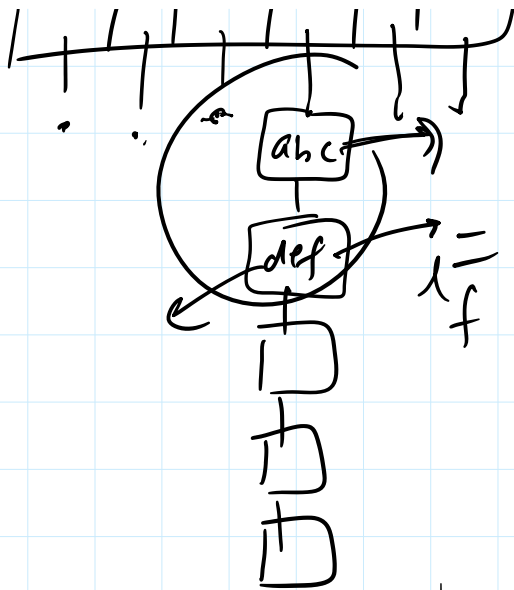
$$a \cdot 26^2 + b(26)^1 + c(26)^0$$

$$a(26)^2 + c(26)^2 = \underline{\hspace{2cm}}$$

abc = $a + b(26) + c(26)^2 = 15678$

efg = $= 19678$ 520

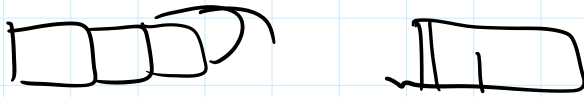
||
collision.



collision.

$$lf = \frac{Size}{Cap} = \frac{5}{10} = 0.5$$

$$lf = \underline{\underline{0.7}}$$



2⁰

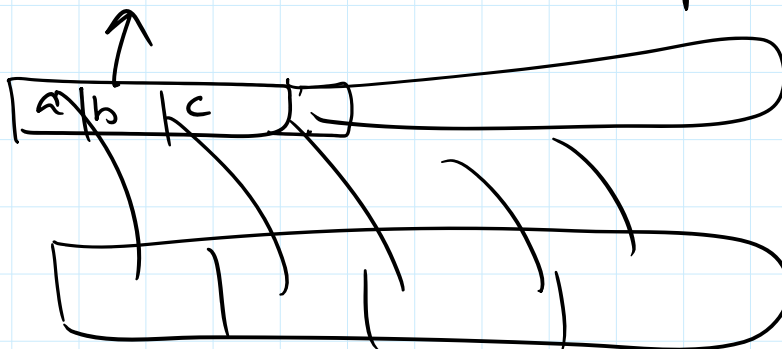
2¹

2²

2³

Amortized time comp.

15 % 11



$$\underline{\underline{(3+6) \% 5 = 4}} \rightarrow (3 \% 5 + 6 \% 5) \% 5$$

$$9 \% 5 = \textcircled{4}$$

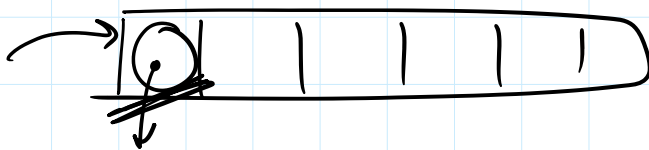
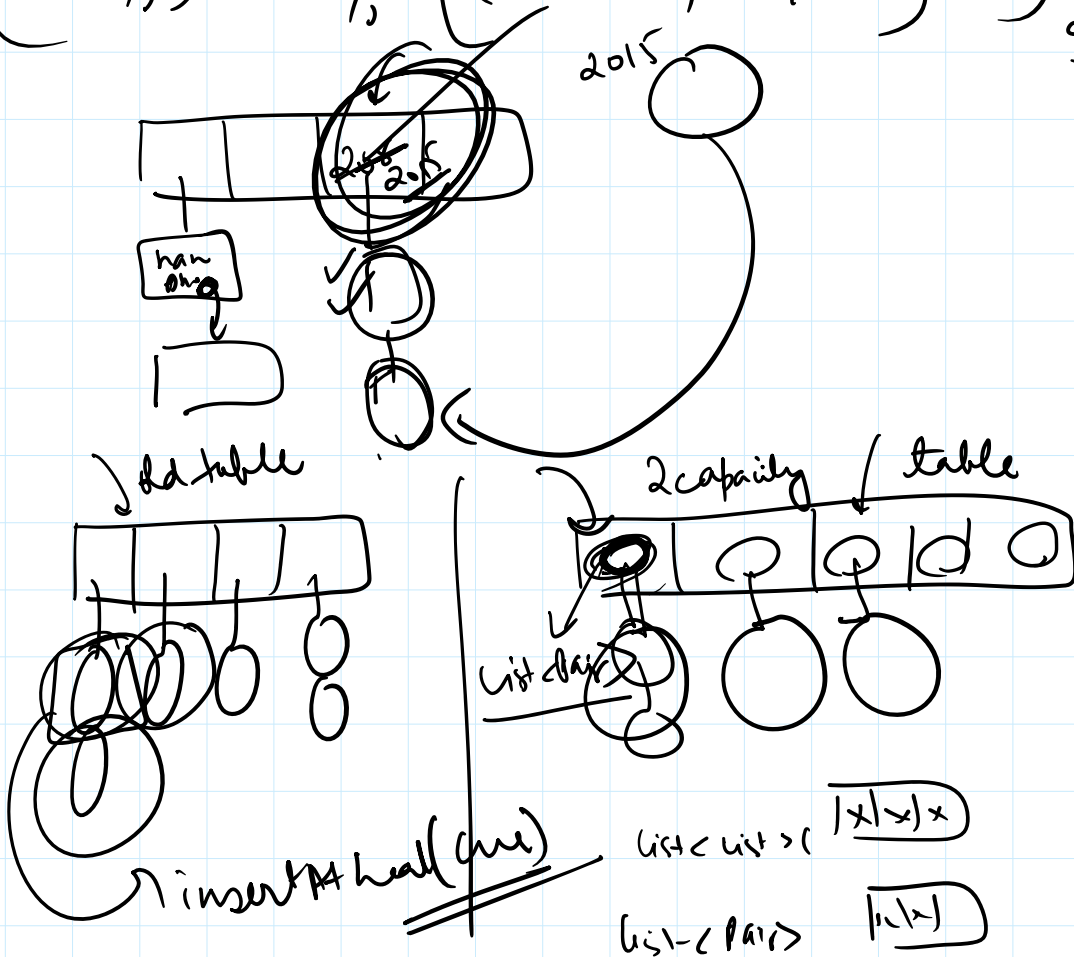
$$(3 + 1) \% 5 = \textcircled{4}$$

$$(3 \cdot 6) \% 5 = (3 \% 5) * (6 \% 5) \% 5$$

$$(3.6) \% 5 \neq ((3 \% 5) * (6 \% 5)) \% 5$$

$$(26^0 + (26)^1 + (26)^2) \% 9 = ?$$

$$\left[(26)^0 \% 9 + (26)^1 \% 9 + \left[(26)^0 \% 9 * (26)^1 \% 9 \right] \% 9 \right] \% 9$$



ref pair

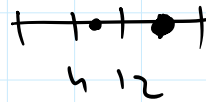
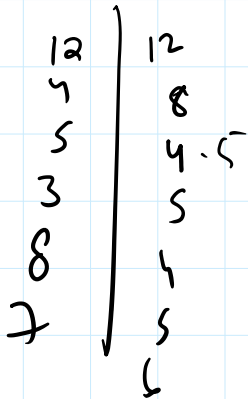
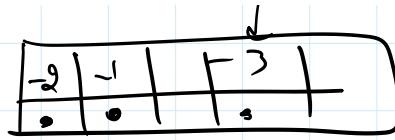
list < pair >

list < ref pair >

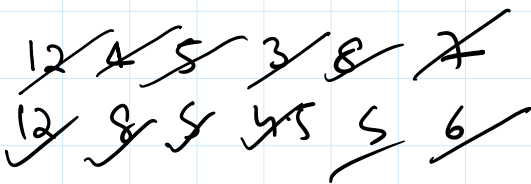
- chalkboard



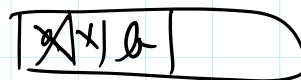
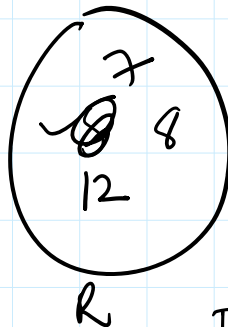
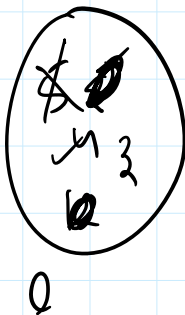
- cb.lk/median
- (vertical print) x top View
- level order next $O(1)$
-



If size == same \Rightarrow avg of top ele
left 4.5



(12)

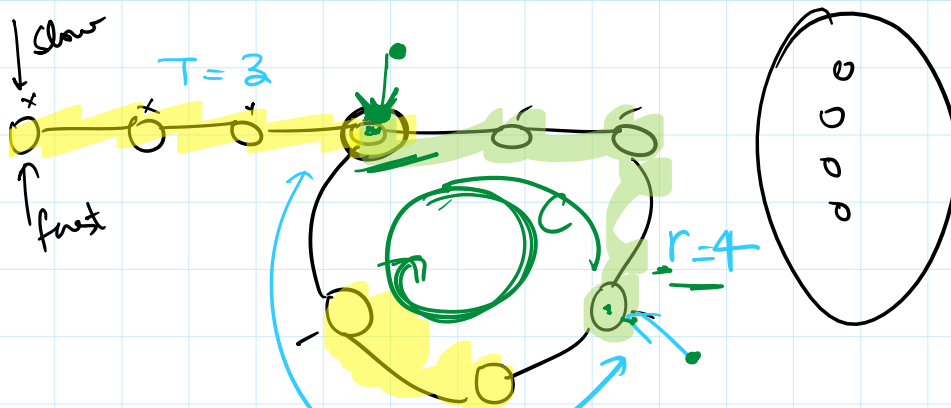
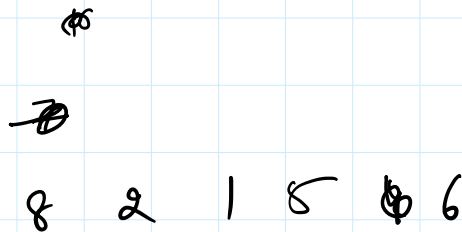
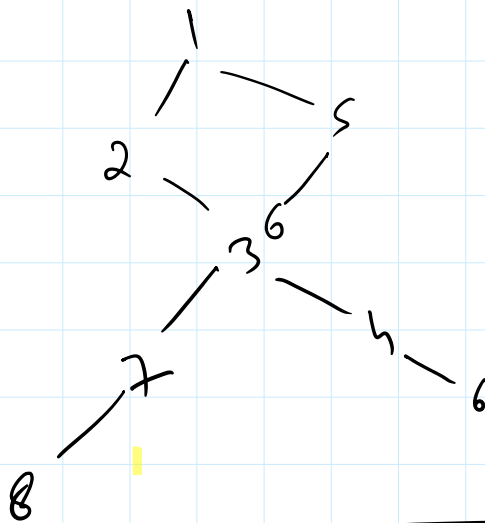
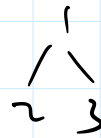


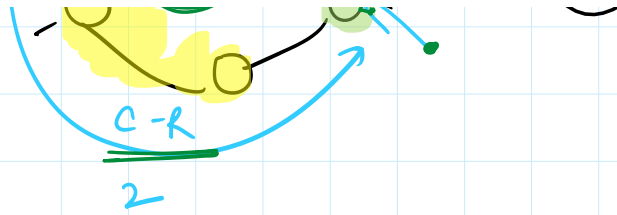
a^0

$\leftarrow 0$

a

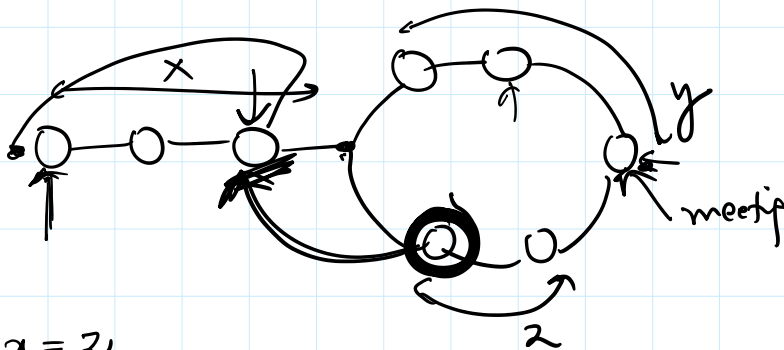
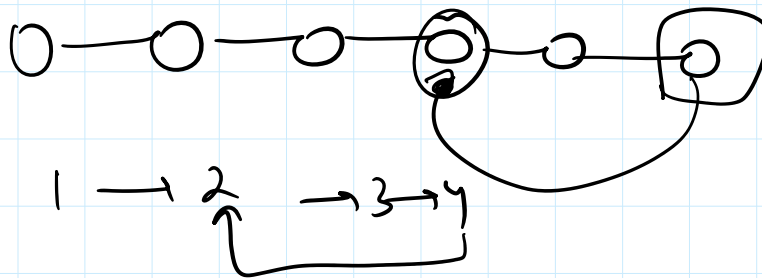
int





$$\underline{C-R} = 2(C-R) + R$$

$$\underline{(C-R)} = (2C-R) \quad \cancel{X} + \underline{C-R}$$



$$x = z$$

$$\text{Time } s \equiv \text{Time } f \text{ at}$$

$$\frac{ds}{s_s} = \frac{df}{s_f}$$

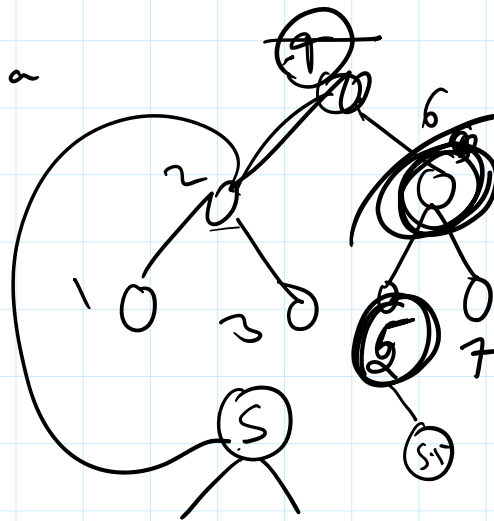
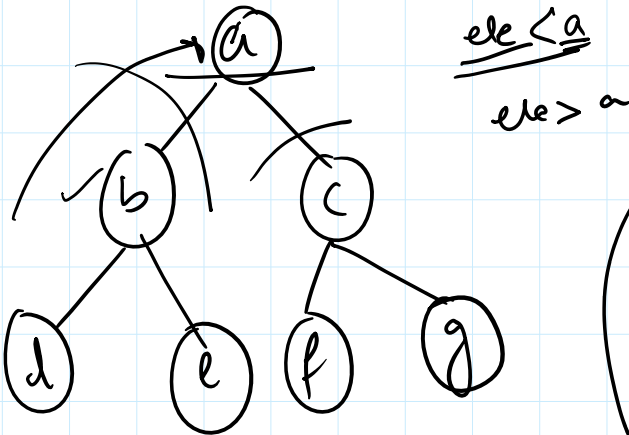
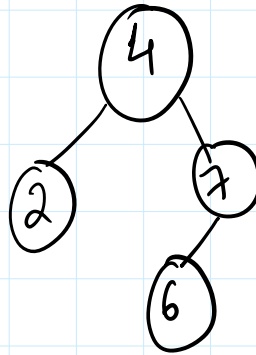
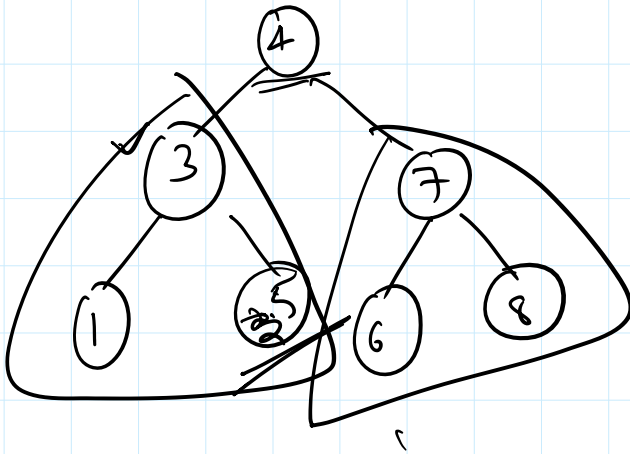
$$\frac{x+y}{1} = \frac{x+m(y+z)+y}{2}$$

$$2(x+y) = x+m(y+z)+y$$

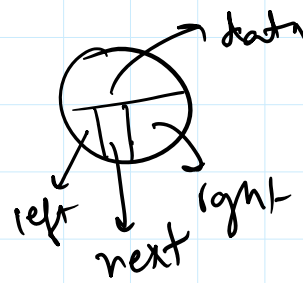
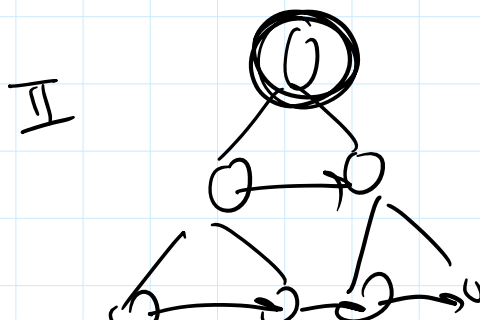
$$x+y = m(y+z)$$

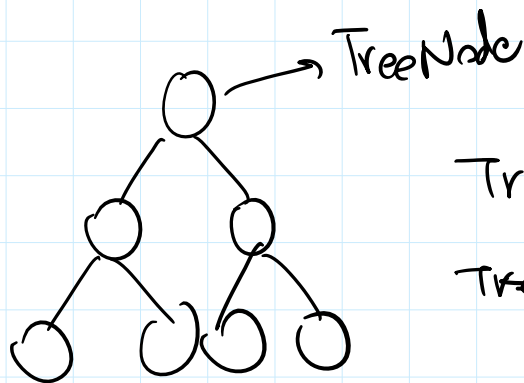
$$\cancel{n+y} = \frac{(m-1)(y+2)}{0} + \cancel{y+2}$$

$a = 2$



- I
- (1) ~~Detach~~ Detach marker
 - (2) Replace Knot





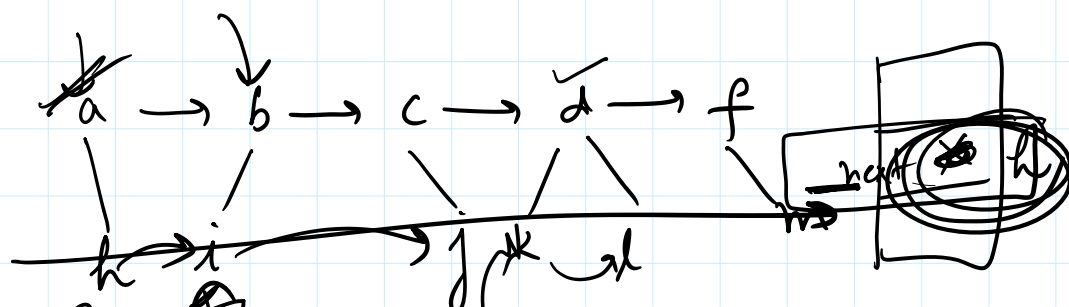
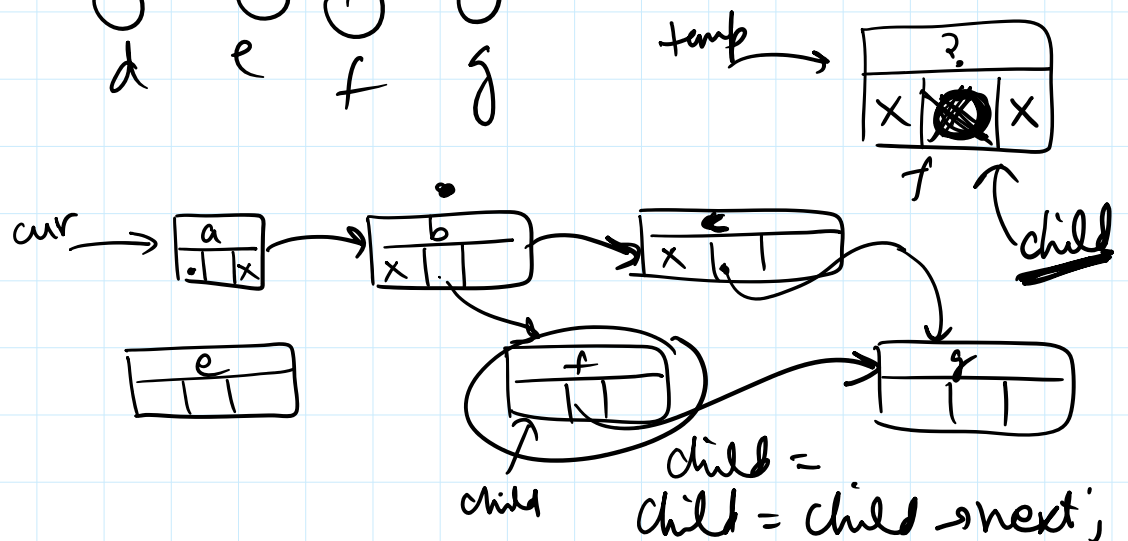
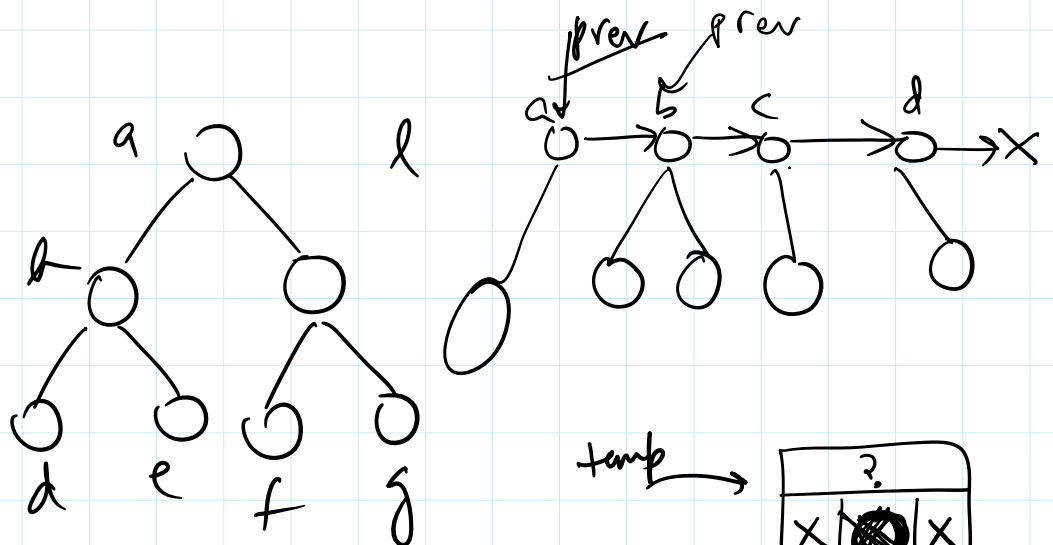
TreeNode^{next} t = ~~new~~ createTree();

~~TreeNode~~ Next t =

~~insertInTree~~ (TN, x);

↓ ↓

TreeNode = createTree (Next)



h → i → j → k → l → m → n → o → p → q → r → s → t → u → v → w → x → y → z