

# Minimum Window Substring

$s = \text{"ADOBECODEBANC"}$

$t = \text{"ABC"}$

$o/p = \text{"BANC"}$

$n^2 \times m$

$\text{len}(s) + 1$

$\begin{matrix} 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 & 11 & 12 \\ \text{A} & \text{D} & \text{O} & \text{B} & \text{E} & \text{C} & \text{O} & \text{D} & \text{E} & \text{B} & \text{A} & \text{N} & \text{C} \end{matrix}$

$E = S + 1$  min:

$TC: O(n)$   
 $SC: O(2)$   
 $O(1)$

Satisfied - 9  
 Hashmap

Required - 3  
 Hashmap

$\text{min: } 4$   
 $[0:5] = 1$   
 $\checkmark$

$A: 0$   
 $B: 1$   
 $C: 1$

$A: 1$   
 $B: 1$   
 $C: 1$

$[5:10]$   
 $[9:12]$

$\text{len}[s[\text{start}]] <$   
 $\text{len}[s[\text{start}]]$



# Merge K Sorted List

1000

10

1

1

1 → 2 → 2 → 3 → 4 → 6 → 7 → 8

↓

9

↓

10

( 1 → 2 → 7 → 8

( 3 → 9 → 10

1 → 2 → 3 → 7 → 8 → 9

↓

10

2 → 4 → 6

1, 2, 7, 8, 3, 9, 10, 2, 4, 6

Tc: sort

N/A  
Sc: O(N)

Tc: NK

Sc: O(1)



$1 \rightarrow 2 \rightarrow 7 \rightarrow 8$

TC:  $N \log K$   
Sc:  $K$

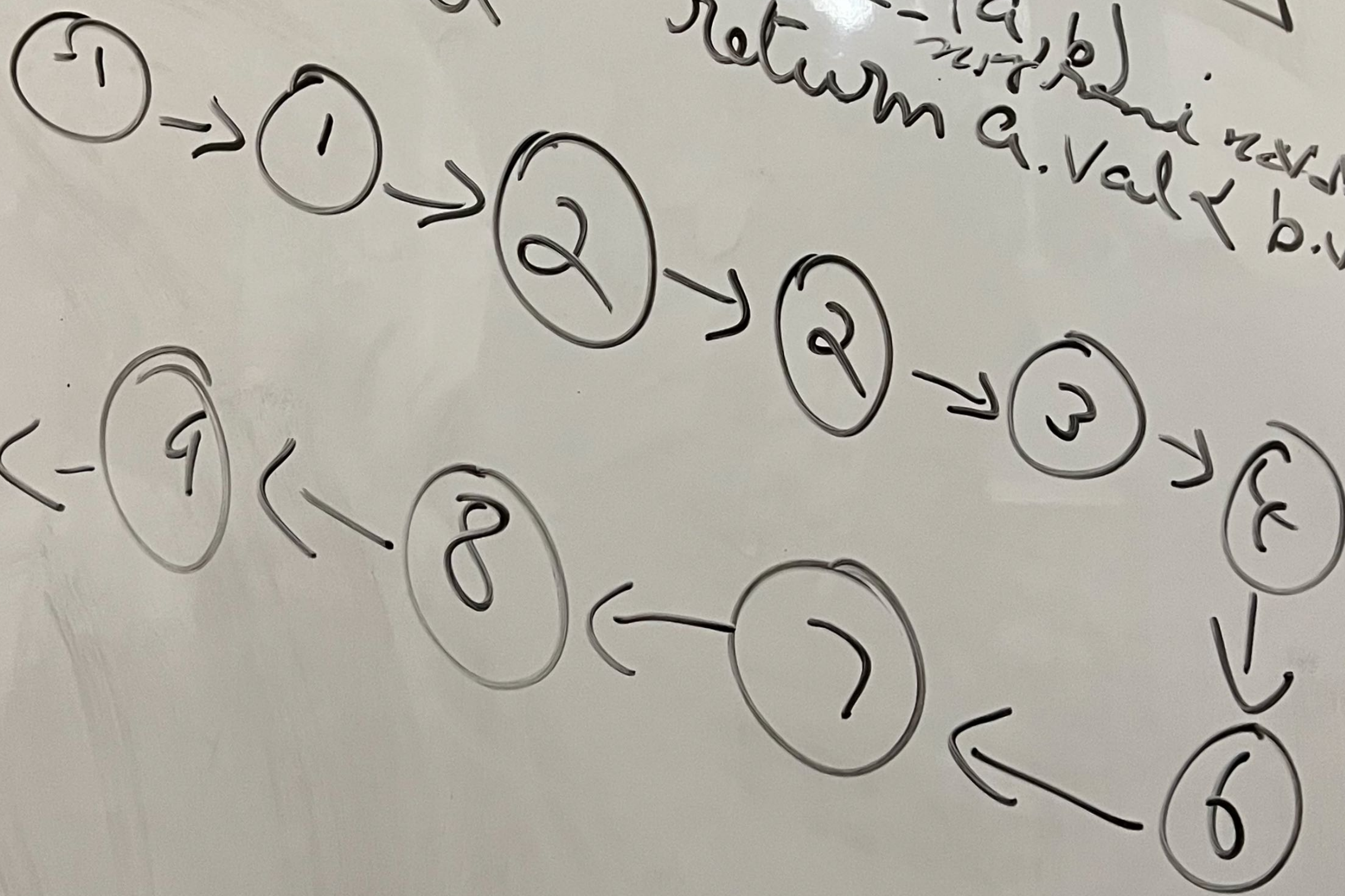
$3 \rightarrow 9 \rightarrow 10$

$2 \rightarrow 4 \rightarrow 6$

result = dummy(-1)

result.next

List Node (a, b)  
return a.val & b.val





# Word Search-11

Words = [

"eat",

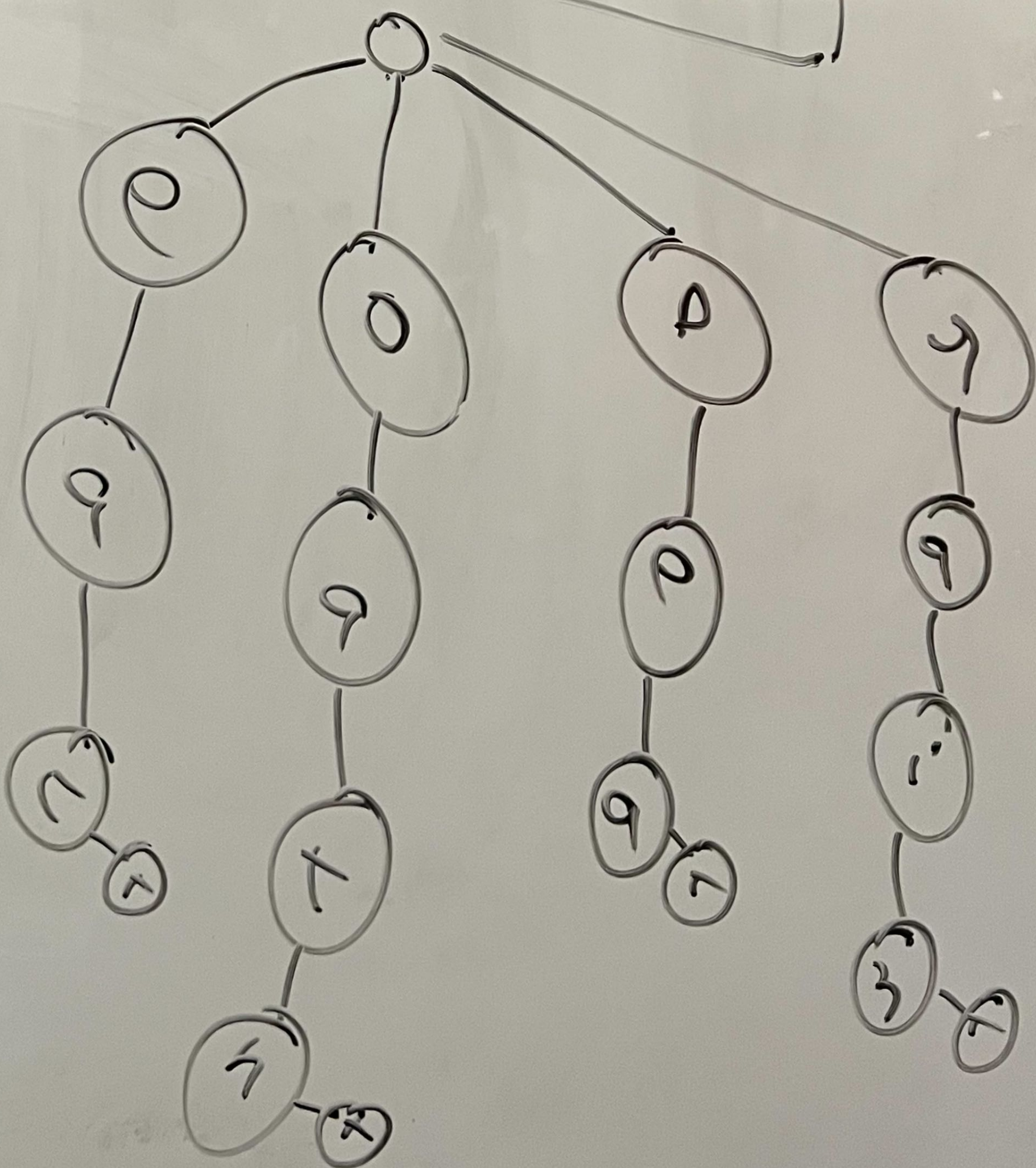
"oath",

"Pea",

"rain"]

	o	a	a	
	e	t	a	
	i	h	k	
	i	f	l	

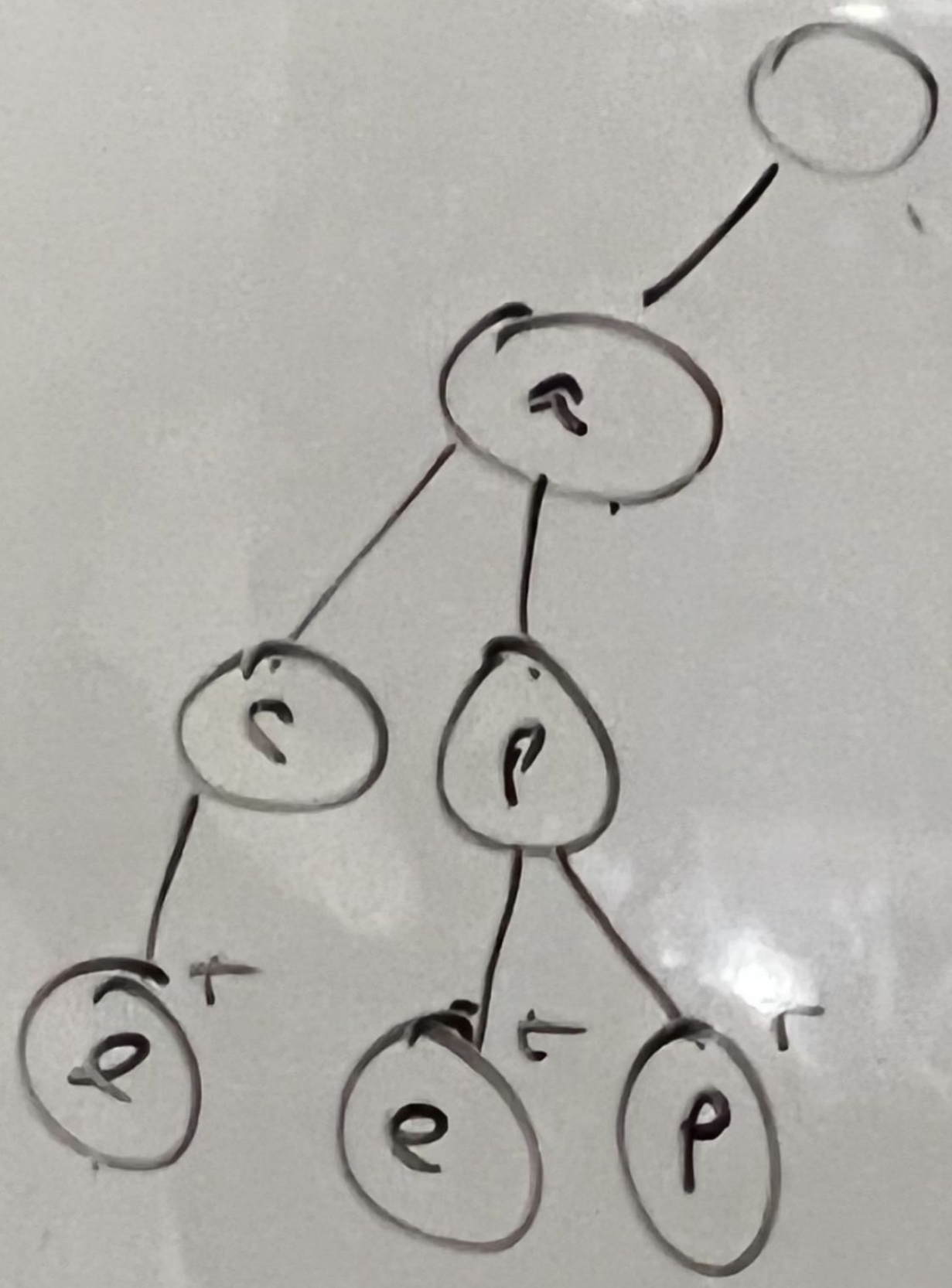
Wxnkn 3<sup>l</sup>





"app", "ape", "ace"

b	d
a	p
c	e



- 5  
 - 7  
 - 9  
 $w_p(2)$   
 $= +$   
 $5 \times T = 20$

Result:  $\{ \text{"ape", "ace"} \}$   
 $w \times l$

$\pi: (\underbrace{(m \times n)}_{\text{max}}(d))$

$Sc: w \times avg(l)$

