

## USING MAPS AS HASHTABLE - HASHMAPS

(Q) Find intersection of two Linked Lists $\rightarrow O(n+m)$  time,  $O(n)$  space complexity.Linked List 1  $\rightarrow 1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow 6$ Linked List 2  $\rightarrow 2 \rightarrow 4 \rightarrow 6 \rightarrow 8$ Intersection  $\rightarrow 2 \rightarrow 4 \rightarrow 6$ 

Question

Traverse the first LL and create a hashmap

Element	Count
1 $\rightarrow$	1
2 $\rightarrow$	1
3 $\rightarrow$	1
4 $\rightarrow$	1
6 $\rightarrow$	1

Now traverse the second LL and delete from hashmap

Element	Count
1 $\rightarrow$	1
2 $\rightarrow$	0
3 $\rightarrow$	1
4 $\rightarrow$	0
6 $\rightarrow$	0

elements which have count = 0 forms the intersection

think math

 $\rightarrow$  maps will work great if no duplicates present but if duplicates present then use sets

push LL1 element into set, then traverse LL2 and see if that element is present in set or not.

Mostly such questions (using extra space) is not asked in interview but I have just written it as an example that yes we can do using extra space too!!