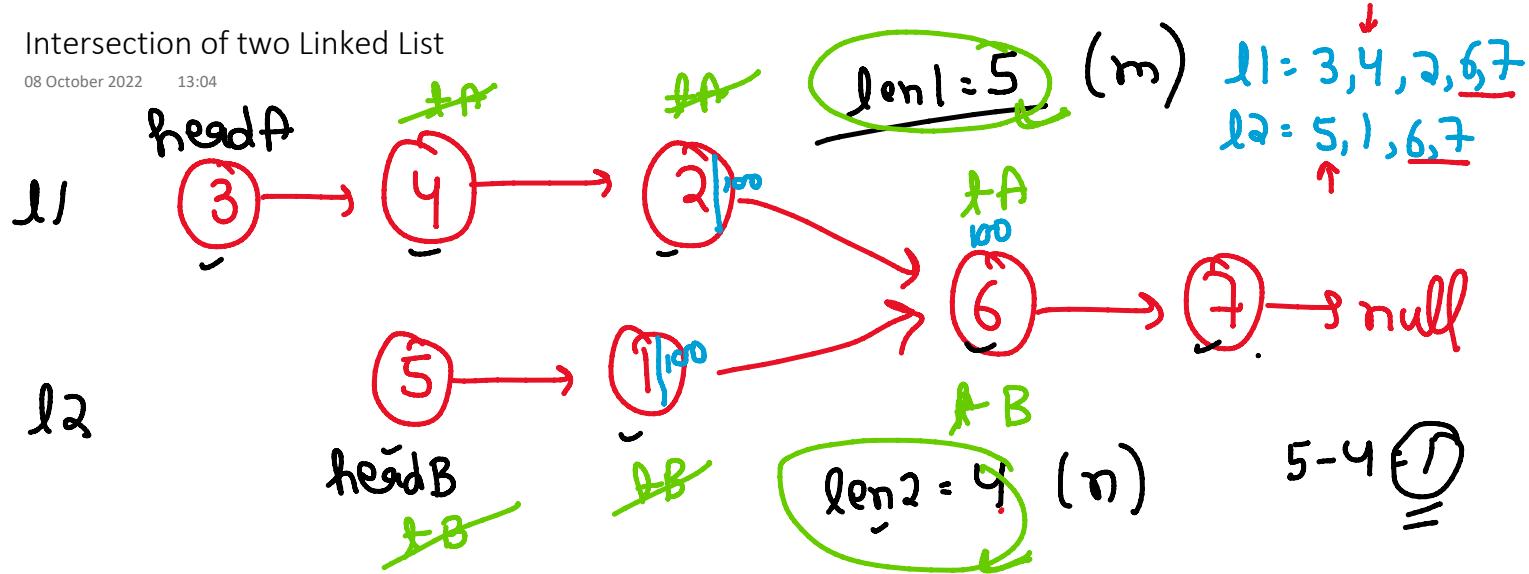


Intersection of two Linked List

08 October 2022 13:04

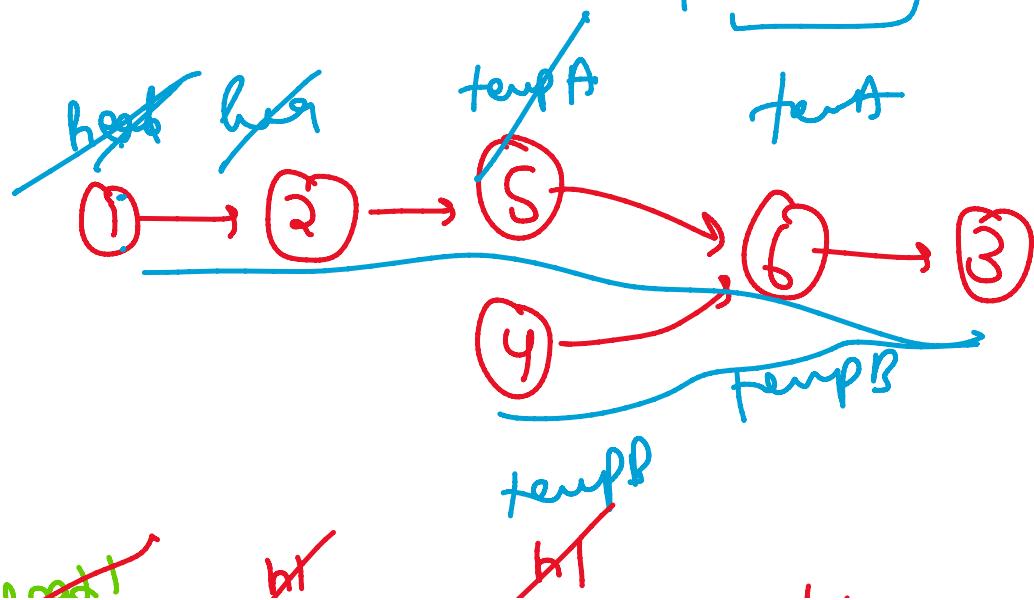
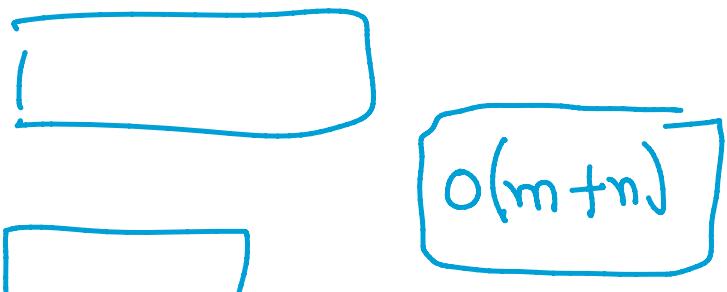


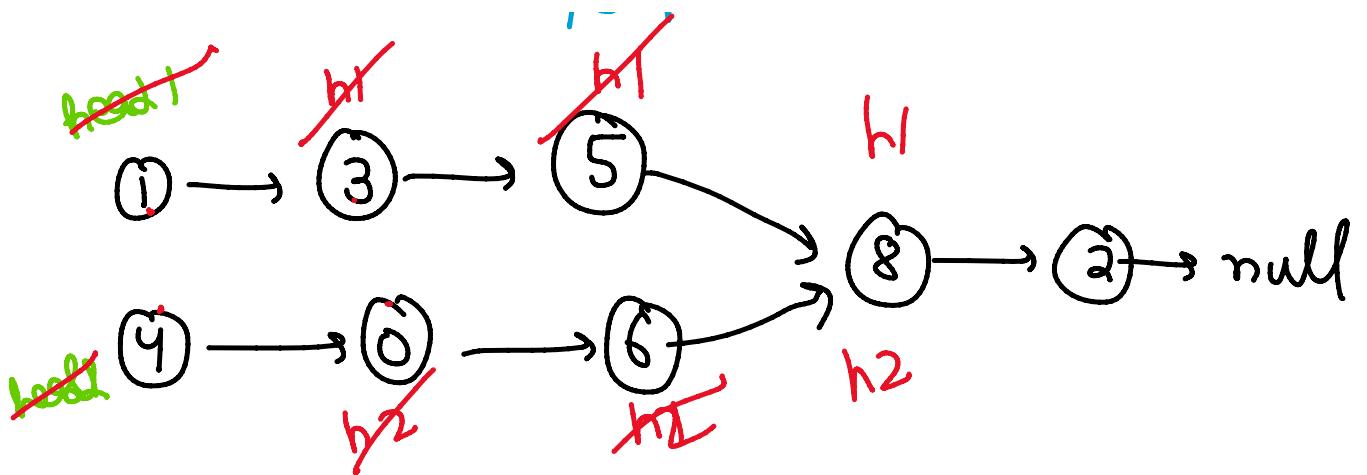
1. find length of both LL.
2. Move head ptr. diff number of times. in greater LL.
3. Move both ptr. and see where is the intersection.

$O(m+n)$ $O(1)$

`findlen (Read)`

```
{
    l1 → 5
    l2 → 6
}
```



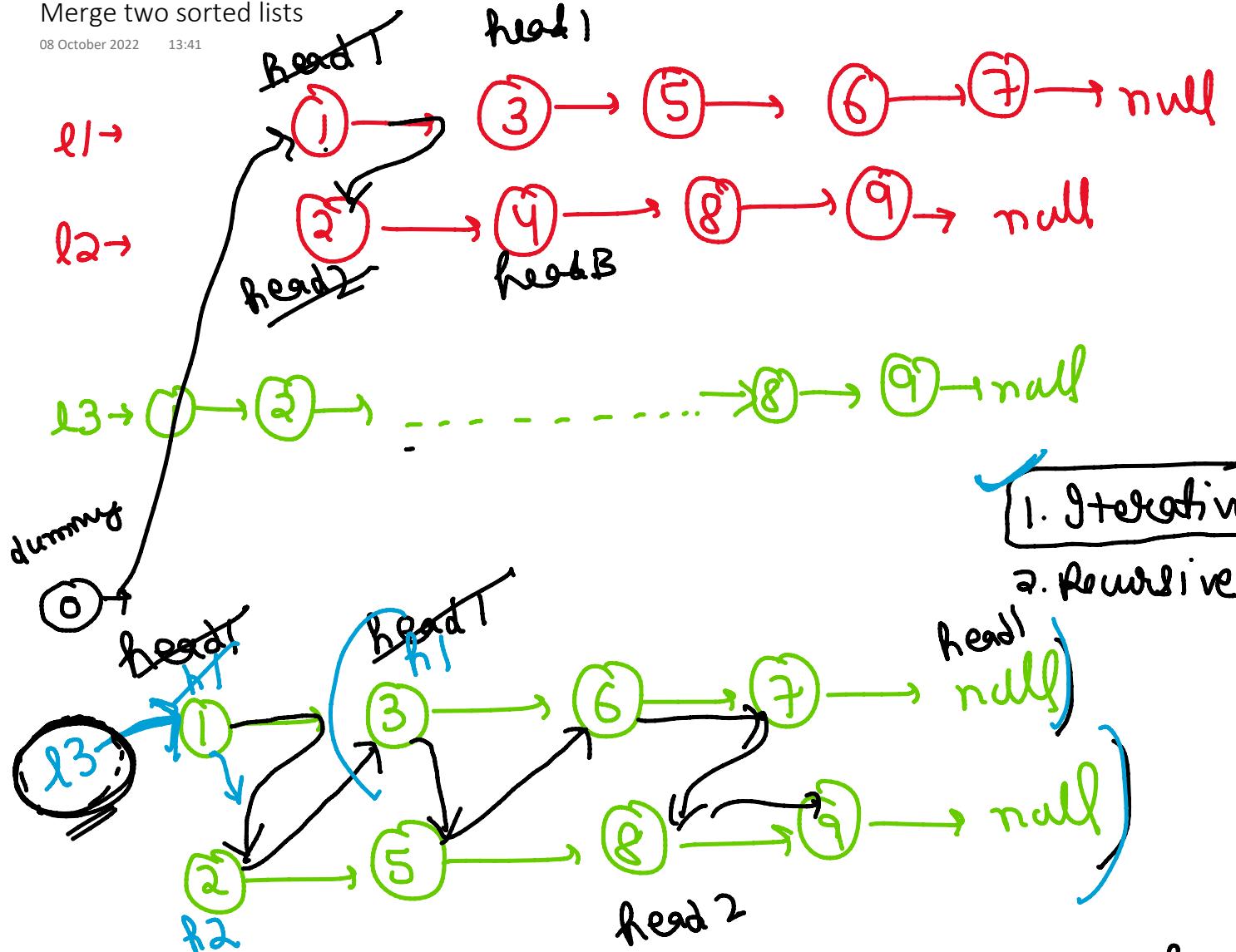


$$l1 = 5$$

$$l2 = 5$$

Merge two sorted lists

08 October 2022 13:41



1. Iterative

2. Recursive

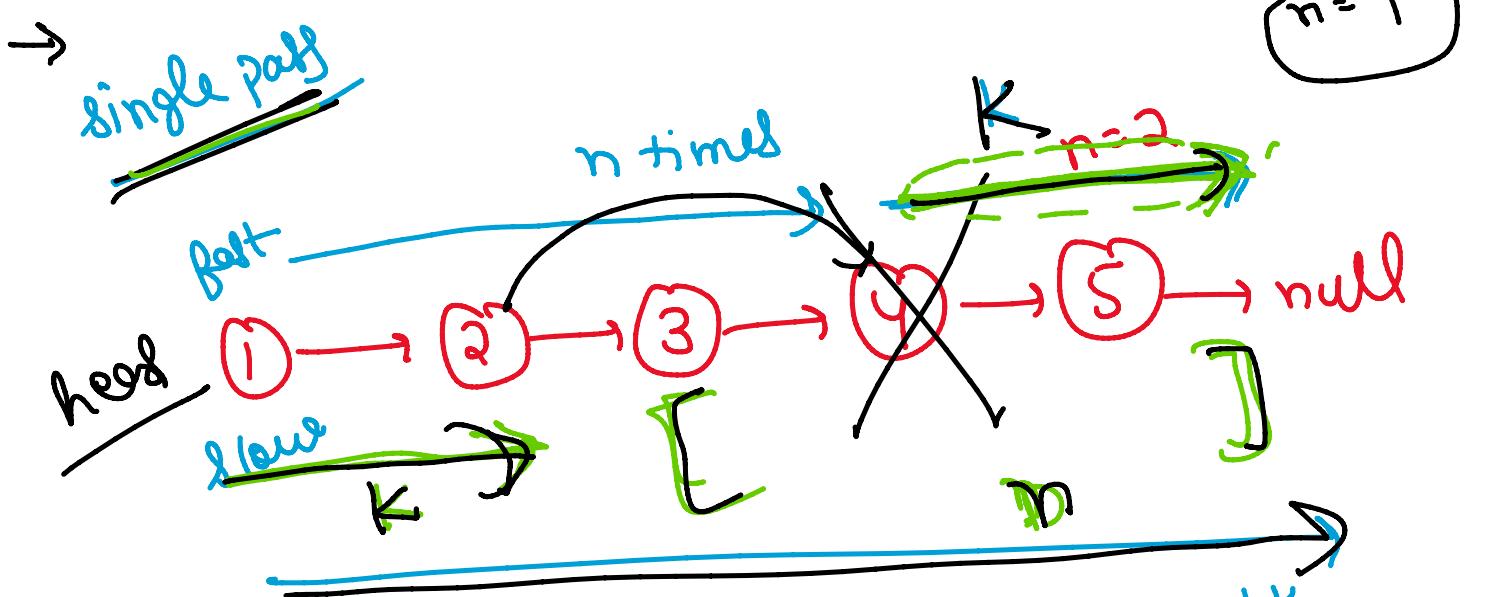
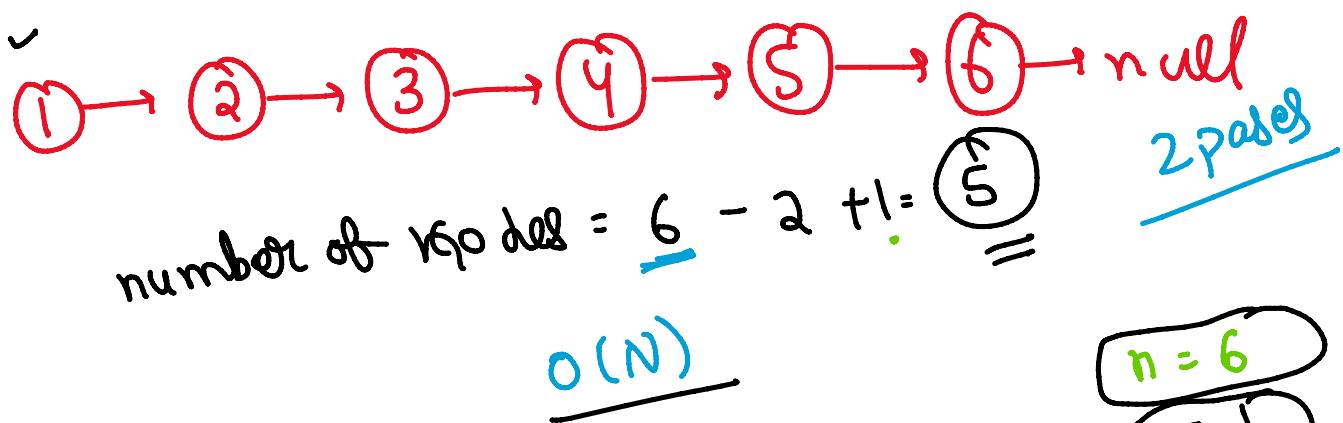
if $head_1 = null$
 $head_2$
 if $head_2 = null$
 $head_1$

rec_fn($head_1, head_2$)

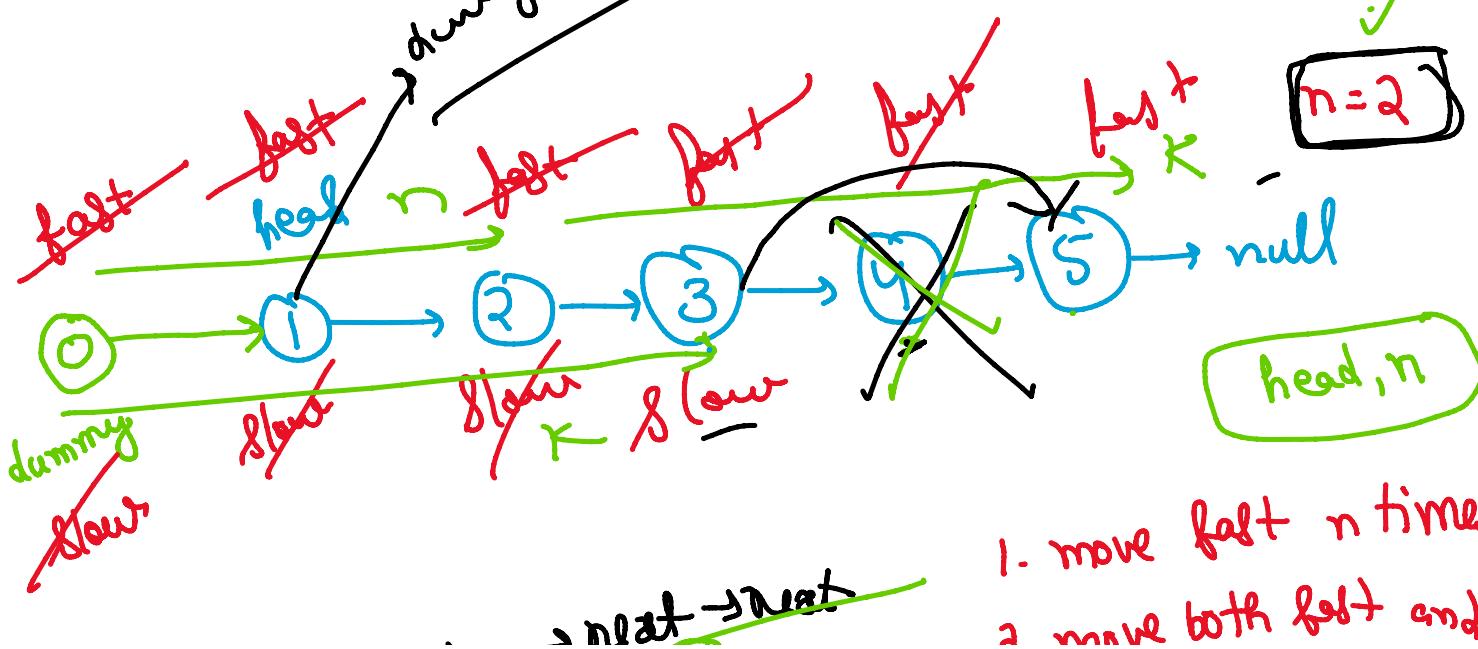
Remove Nth node from end of list

08 October 2022 14:01

$n=2$



1. move fast n times.



~~Slow → neat = Slow → neat → neat → neat~~
 n = 5

1. move "
2. move both fast and slow one time.
- 3.

array

head



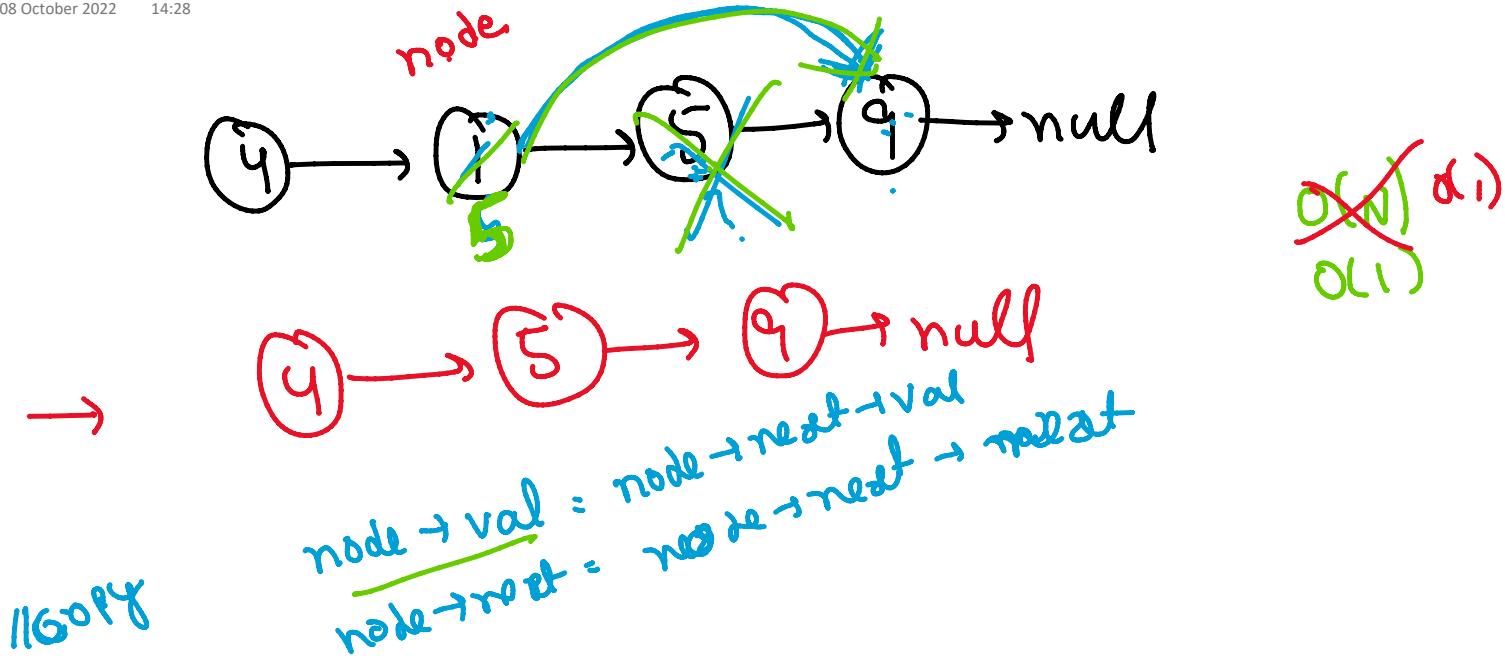
start = 1

while: $(start - n + 1) <= n$

$$n = 5$$

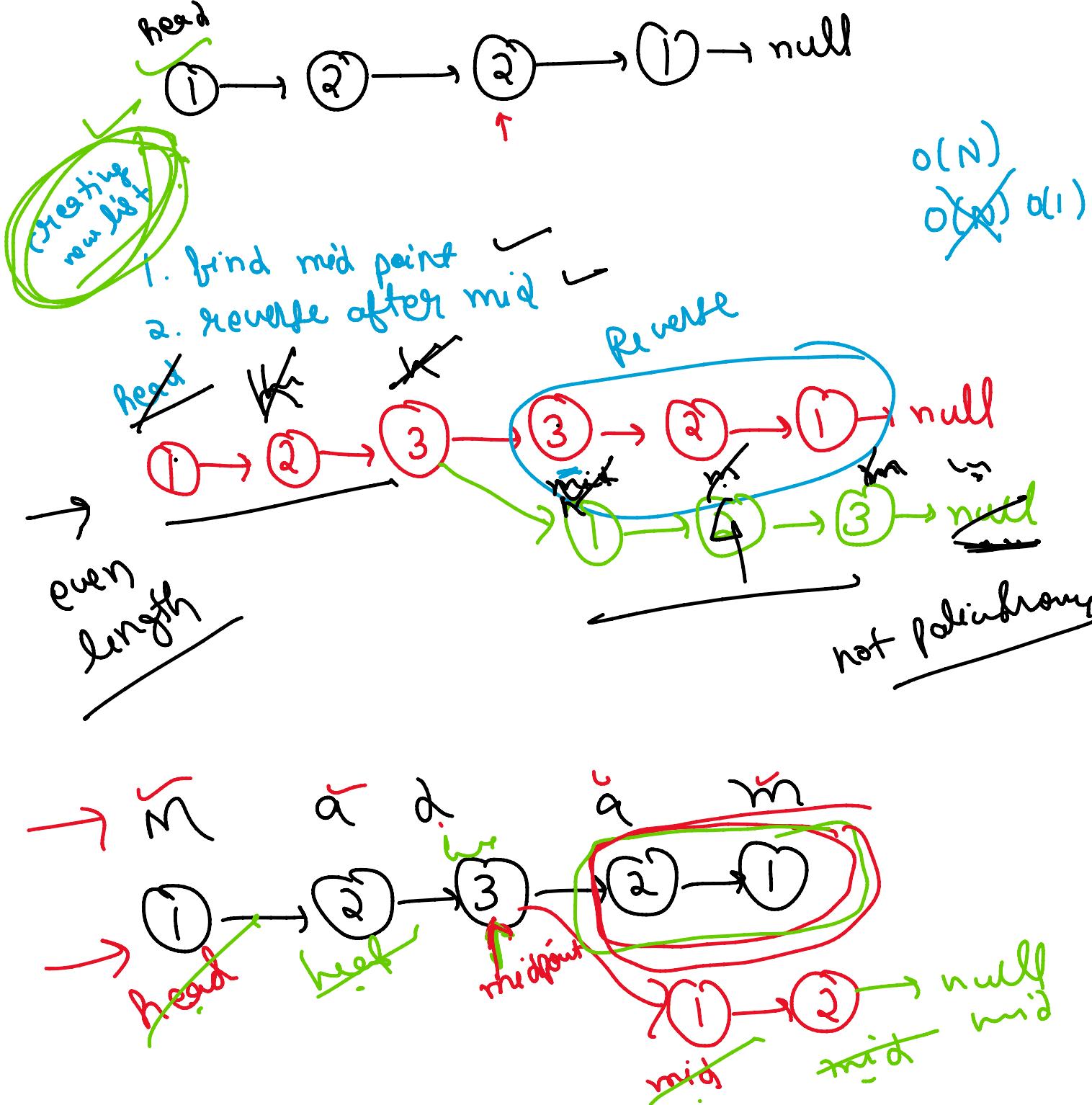
Delete node in linked list

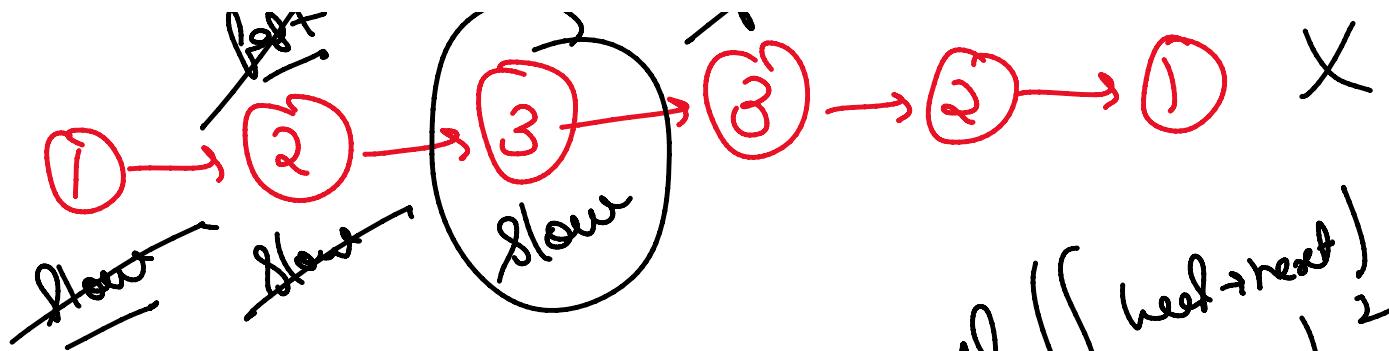
08 October 2022 14:28



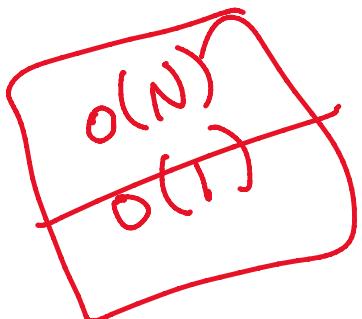
Palindrome linked list

08 October 2022 14:40





$\text{if}(\text{head} == \text{null}) \quad \left(\begin{matrix} \text{head} \rightarrow \text{head} \\ 1 \\ 2 \end{matrix} \right)$



O
extra space

1. Odd even linked list.

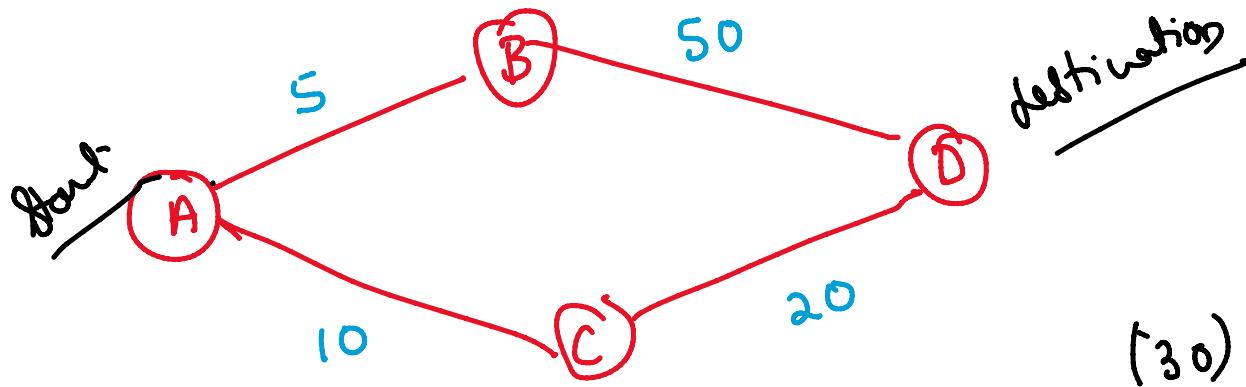
2. Pair wise swapping

3. Reverse nodes in group size k

4. Add two linked list

5. Remove consecutive duplicate nodes in sorted list

gt will always make the choice that looks best at the moment. (55)



coin change: amount = 39

Indian currency
[1, 2, 5, 10, 20, 50, 100, 200, 500, 2000]

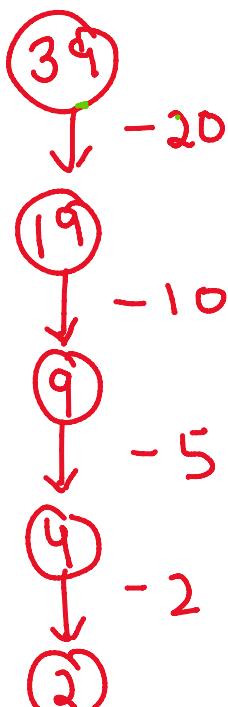
✓ [1, 2, 5, 10, 20, 50, 100, 200, 500, 2000] → 5 coins

39
Amount

[20, 10, 5, 2, 2] → 5 coins

20
20 coins

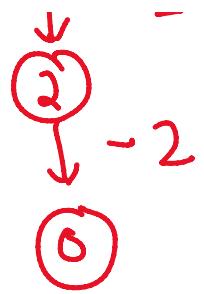
50 + 20



5 coins

39 change.

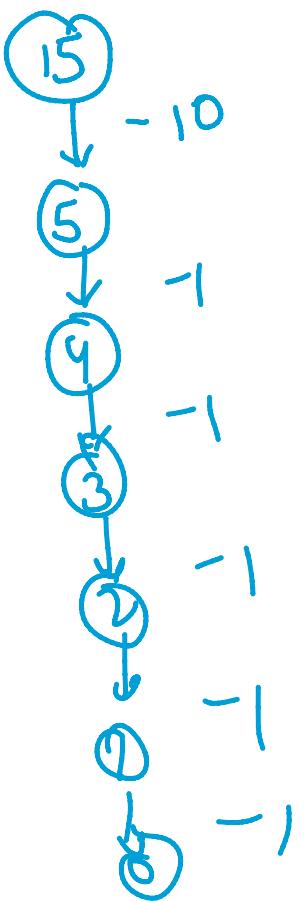
in 5 coins



min number of coins

currency

$\{1, 7, 10\}_{30}$



amount = 15 - - -
 $\therefore [7, 7, 1]$

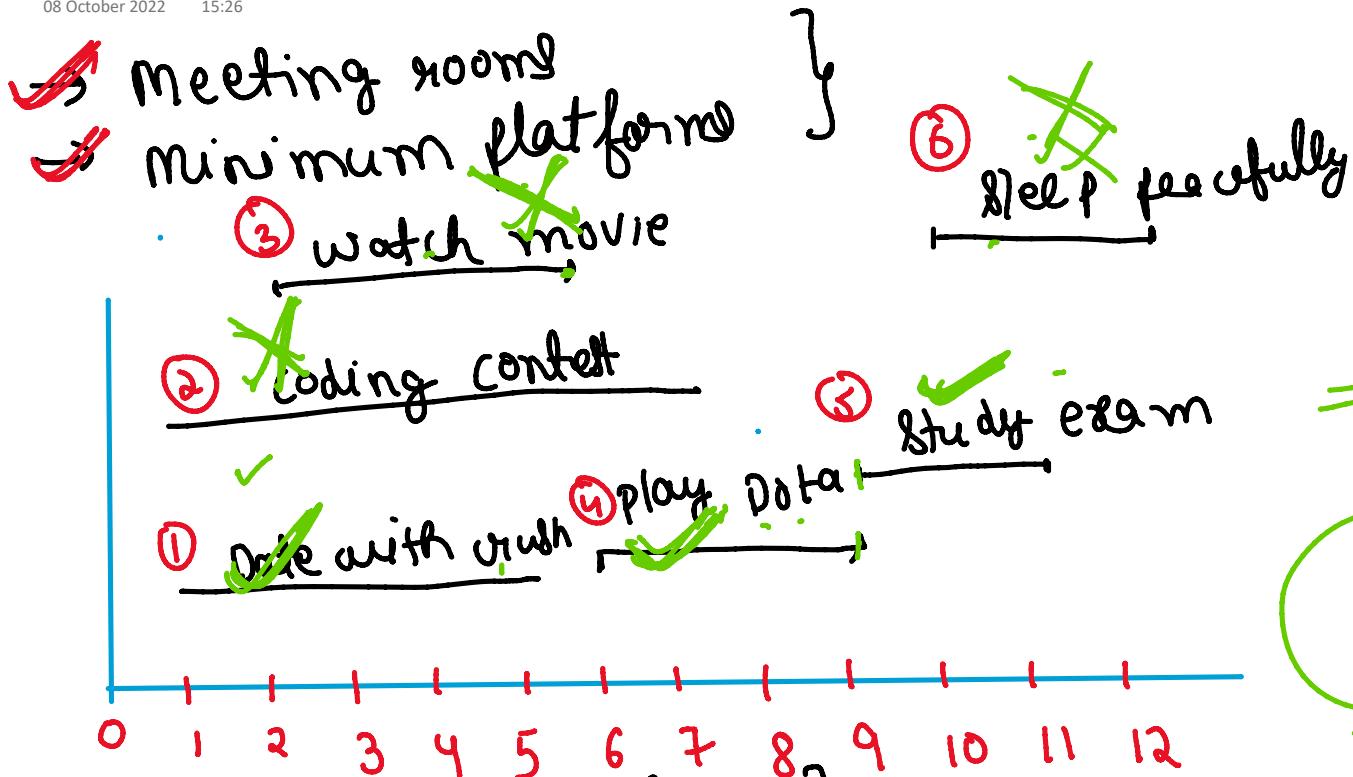
~~bcw~~

~~DP~~

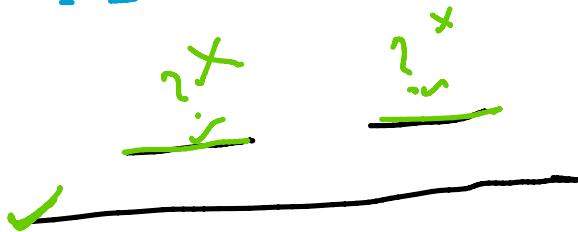
6 coins

Activity selection

08 October 2022 15:26



1. Starts first [6 pm]
2. min duration [3 hrs]
3. finished first [9 pm]



next activity start time should be = or greater than
finish time current activity.

```
class {  
    int start;  
    int end;
```

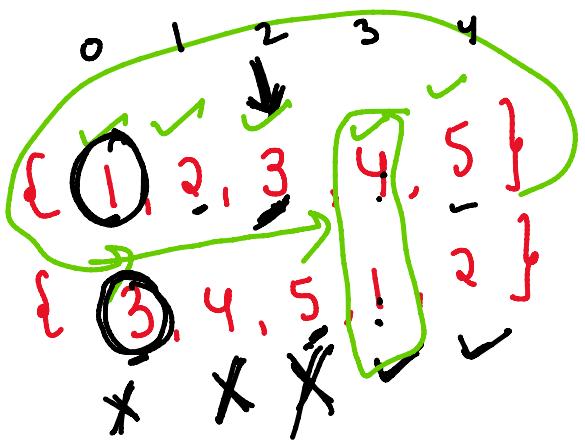
}` int des`

Gas Station

08 October 2022 15:51

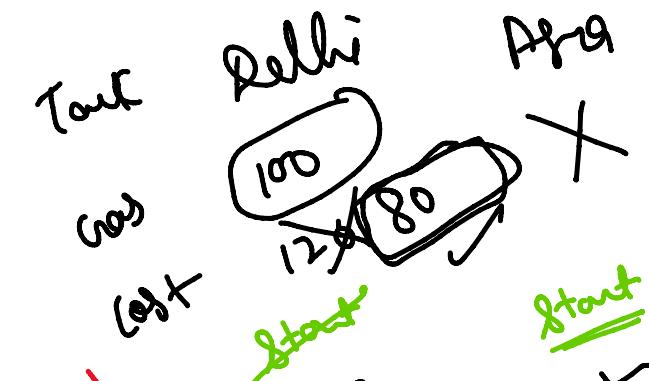
Gas [] =

Cost [] =

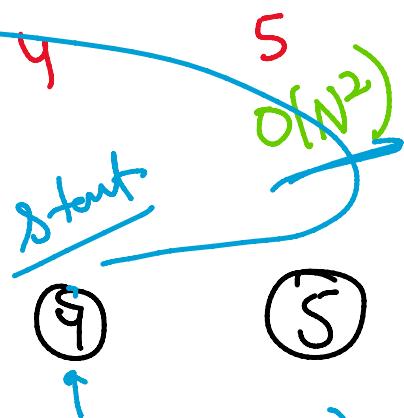


3rd index

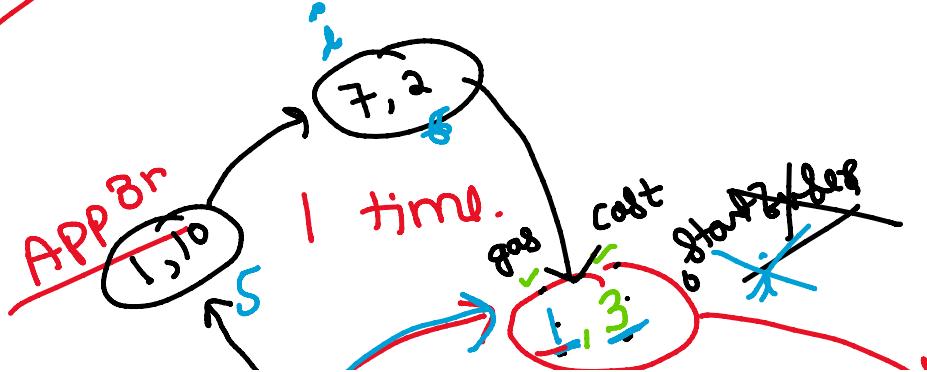
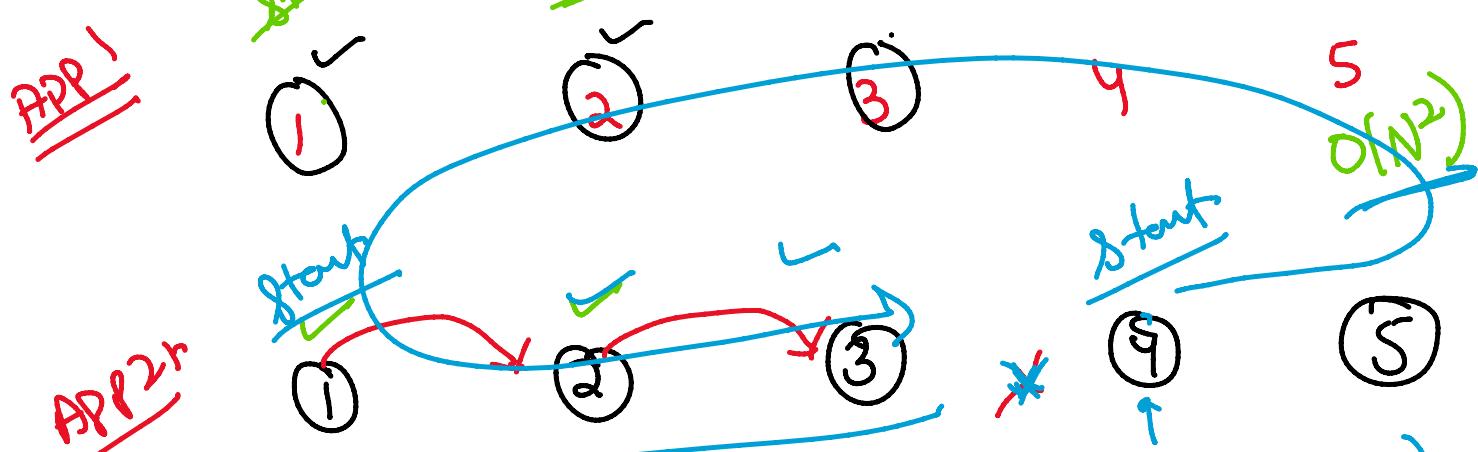
$$\text{amount} = 3 + 5 = 8 - 2 = 6 + 1 = 7 - 3 = 4 + 2 = 6 - 4 = 2 - 3 = 5 \quad O(1)$$



APP 1



APP 2r



APP 3r

$O(N) + N$
 $O(N)$
2 times

