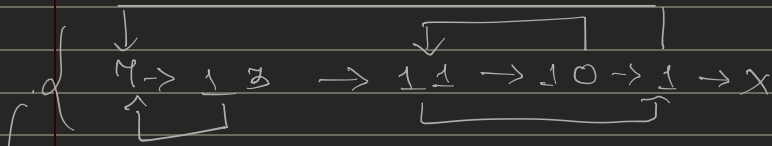


# Copy List with Random Pointer

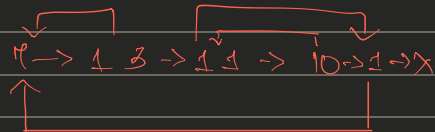


> we want to make Deep copy of it

(M-1)  $\rightarrow$  Map  $\rightarrow$

old ptr	new ptr
7	7
13	13
11	11
10	10
1	1

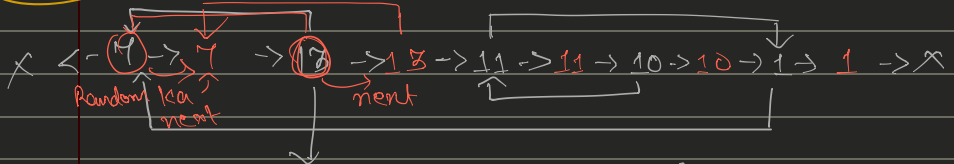
new linked list



T.C  $\rightarrow O(n)$

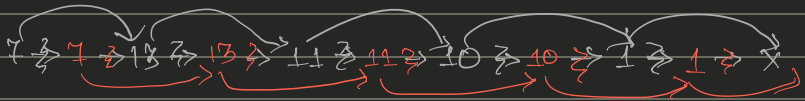
Space  $\rightarrow O(n) + O(n) \xrightarrow{\text{map}} O(n) \xrightarrow{\text{stack}} O(1)$   $\rightarrow$  we want  $O(1)$

Q-2  $\rightarrow$



15 ka Random point kr Rha hai if 10  
 Peh 13  $\rightarrow$  next 15 point krega.

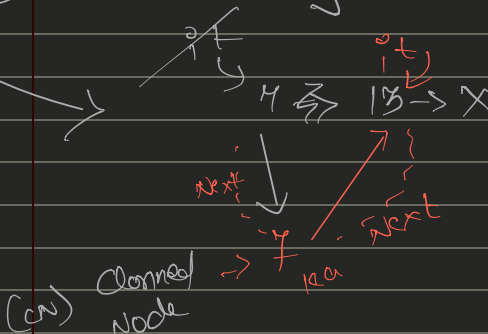
15  $\rightarrow$  random  $\rightarrow$  next ko  $\rightarrow$  7



S-1  $\rightarrow$  clone  $A \rightarrow A'$   
 $\downarrow$   $\rightarrow$  new Node  
 old Node

S-2  $\rightarrow$  Assign Random pointers of  $A'$  with help of old pointers.

S-3  $\rightarrow$  Detach  $A'$  from  $A$



$CN \rightarrow next = it \rightarrow next$   
 $it \rightarrow next = CN$   
 $it = it \rightarrow next \rightarrow next$

