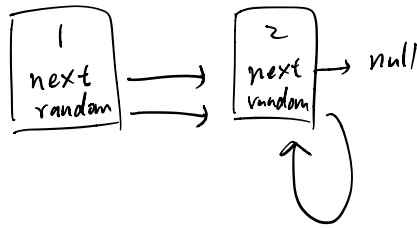


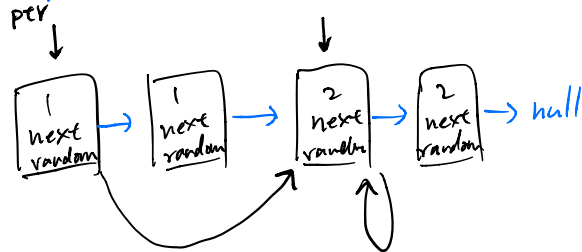
Complexity:

time: $O(n)$

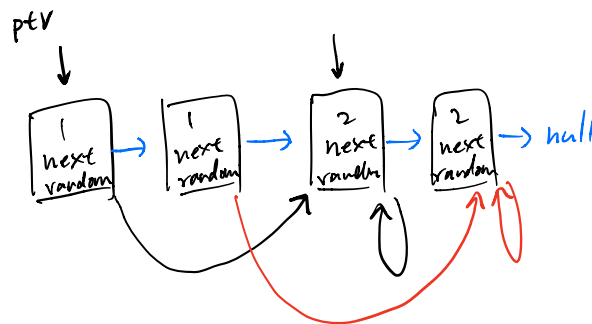
space: $O(1)$



① duplicate for each node.



② set random for each node.

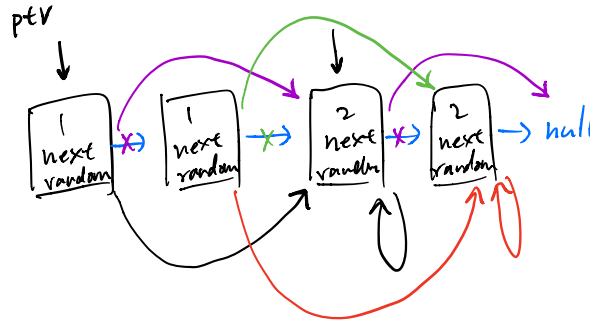


$ptr.next.random = ptr.random$

? $ptr.random.next$

: null;

③ restore and separate.



```
ptr = head;
while( ptr ) {
    const next = ptr.next.next;
    ptr.next.next = next ? next.next : null;
    ptr.next = next;
    ptr = next;
}
```