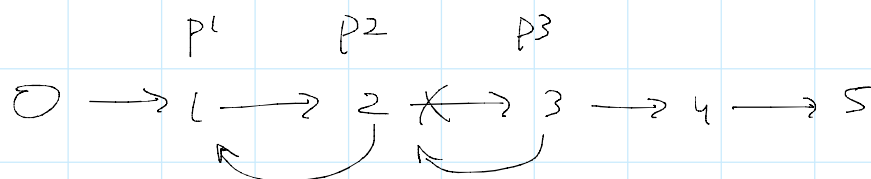
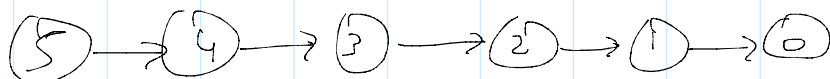
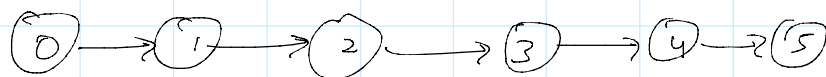


Reverse a Linked list

30 December 2021 10:21 AM

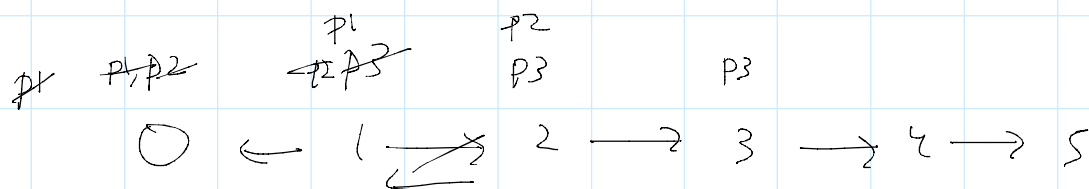
new



$$p1 = p2$$

$$p2 = p3$$

$$p3 = p2.next$$



$$p1 = null$$

Steps

while($p2.next \neq null$)

$$p3 = p2.next$$

$$p2.next = p1$$

$$p1 = p2$$

$$p2 = p3$$

$$(0 \leftarrow 1)$$

$p1 = null$
Steps

{

$while(p2.next \neq null)$
 $p3 = p2.next$
 $p2.next = p1$
 $p1 = p2$
 $p2 = p3$

$(0 \leftarrow 1)$
 -

$0 \leftarrow 1 \leftarrow 2 \leftarrow 3 \leftarrow 4 \leftarrow 5$

$T.C \Rightarrow O(n)$ $S.C \Rightarrow O(1)$

```

class Program {
    // O(n) time | O(1) space - where n is the number of nodes in the list
    public static LinkedList reverseLinkedList(LinkedList head) {
        LinkedList previousNode = null;
        LinkedList currentNode = head;
        while (currentNode != null) {
            LinkedList nextNode = currentNode.next;
            currentNode.next = previousNode;
            previousNode = currentNode;
            currentNode = nextNode;
        }
        return previousNode;
    }
}
  
```