

> Date

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* Finding intersection of a L.L

- ① using a list to iterate and search other list for the intersection.
- ② using HashSet/Map on a list and search for hash value for list 2.
- ③ using difference in lengths.
 1. find lengths of both lists.
 2. move the longer list until both become equal length.
 3. now move both lists together until they are not equal.
- ④ taking 2 dummy nodes and making them to point other nodes head if they reach the end.



* Adding 1 to a number represented using L.L.

- ① reverse L.L
- ② Add 1 to the initial node & carry '1' with if exceeds 9.
- ③ Continue until the end.

And if a carry exists till last, then add new node at end.



- ④ reverse the L.L for our output.

* Reversing (k-Nodes Group) for whole L.L.

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We 1st need to find 1st k Nodes, then reverse it, then arrange it back in the original L.L.

Hence, we use reverse (L.L.)

finding the next Node after the kth node function to do all these.

Node reverse (Node head)

```
{
    Node prev = null, temp = head;
    while (temp != null)
    {
        Node nextNode = temp.next;
        temp.next = prev;
        prev = temp;
        temp = nextNode;
    }
    return prev;
}
```

Node findkth (Node head, int k)

{ we need to return the kth node from head if available else null;

Node temp = head;

while (--k > 0 && temp != null)

temp = temp.next;

return temp;