

Merge Two Sorted Lists

L1 (1) → (2) → (3)

L2 (4) → (5) → (6)

Merge lists

→ return head

kept on comparing h1 and h2

until the merging is completed

```
ListNode* Merge2Lists(h1, h2) {  
    if (h1 == NULL || h2 == NULL) {
```

```
        if (h1->val < h2->val) → case 1
```

```
        h1->next = Merge(h1->next, h2);  
        return h1;
```

```
    } else case 2
```

```
        h2->next = Merge(h1, h2->next);  
        return h2;
```

T.C

$O(n+m)$

S.C