



## Reverse a linked list ★

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Problem

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Editorial

This challenge is part of a tutorial track by [MyCodeSchool](#) and is accompanied by a video lesson.

Given the pointer to the head node of a linked list, change the next pointers of the nodes so that their order is reversed. The head pointer given may be null meaning that the initial list is empty.

### Example

**head** references the list **1 → 2 → 3 → NULL**

Manipulate the **next** pointers of each node in place and return **head**, now referencing the head of the list **3 → 2 → 1 → NULL**.

### Function Description

Complete the reverse function in the editor below.

reverse has the following parameter:

- SinglyLinkedListNode pointer head: a reference to the head of a list

### Returns

- SinglyLinkedListNode pointer: a reference to the head of the reversed list

### Input Format

The first line contains an integer **t**, the number of test cases.

Each test case has the following format:

The first line contains an integer **n**, the number of elements in the linked list.

Each of the next **n** lines contains an integer, the **data** values of the elements in the linked list.

### Constraints

- $1 \leq t \leq 10$
- $1 \leq n \leq 1000$
- $1 \leq list[i] \leq 1000$ , where **list[i]** is the **i<sup>th</sup>** element in the list.

### Sample Input

```
1
5
1
2
3
4
5
```

### Sample Output

5 4 3 2 1

**Explanation**

The initial linked list is: **1 → 2 → 3 → 4 → 5 → NULL**.

The reversed linked list is: **5 → 4 → 3 → 2 → 1 → NULL**.

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Language

Python 3



```
1  #!/bin/python3 ...
38
39  #
40  # Complete the 'reverse' function below.
41  #
42  # The function is expected to return an INTEGER_SINGLY_LINKED_LIST.
43  # The function accepts INTEGER_SINGLY_LINKED_LIST llist as parameter.
44  #
45
46  #
47  # For your reference:
48  #
49  # SinglyLinkedListNode:
50  #     int data
51  #     SinglyLinkedListNode next
52  #
53  #
54
55  def reverse(llist):
56      # Write your code here
57      if llist is None:
58          return
59
60      # Reverse list
61      cur = llist
62      pre = None
63      while cur:
64          buf = cur.next
65          cur.next = pre
66          pre = cur
67          cur = buf
68      return pre
69
70  if name == 'main': ...
```

EMACS

Line: 53 Col: 2

Upload Code as File



Test against custom input

**Run Code**

Submit Code

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# Congratulations

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Next Challenge

Test case 0

Compiler Message

Test case 1

Success

Test case 2

Input (stdin)

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Test case 3

1	1
2	5
3	1
4	2
5	3
6	4
7	5

Test case 4

Test case 5

Test case 6

Expected Output

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