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Difficulty Level: [Medium \(https://practice.geeksforgeeks.org/Medium/1/0/\)](https://practice.geeksforgeeks.org/Medium/1/0/)

Submissions: [13964 \(/problem\\_submissions.php?pid=700013\)](/problem_submissions.php?pid=700013) Accuracy: 40.23%

## Reverse a Linked List in groups of given size. (Function Problem)

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Given a linked list, write a function to reverse every k nodes (where k is an input to the function). If a linked list is given as 1->2->3->4->5->6->7->8->NULL and k = 3 then output will be 3->2->1->6->5->4->8->7->NULL.

### Input:

In this problem, method takes two argument: the head of the linked list and int k. You should not read any input from stdin/console.

The struct Node has a data part which stores the data and a next pointer which points to the next element of the linked list.

There are multiple test cases. For each test case, this method will be called individually.

### Output:

Reverse the linked list in the group of given size and return the reference of starting node(head) of the reversed Linked list .

**Note:** If you use "Test" or "Expected Output Button" use below example format

### Example:

#### Input:

```
1
8
1 2 2 4 5 6 7 8
4
```

#### Output:

```
4 2 2 1 8 7 6 5
```

**\*\* For More Input/Output Examples Use 'Expected Output' option \*\***

Contributor: Harshit Sidhwa

Author: Karan Grover (<https://auth.geeksforgeeks.org/user/Karan%20Grover/practice/>)

All submissions

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My submissions

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Editorial (</editorial.php?pid=700013>)

New to competitive programming? Please see How to Begin? (<https://www.geeksforgeeks.org/how-to-begin-with-competitive-programming/>) and How to Pick a Category? (<https://practice.geeksforgeeks.org/pickACategory.php>)

Since this is Function Problem, your code is concatenated with this ( `C (/viewInitialCode.php?pid=700013&problemName=Reverse a Linked List in groups of given size.&lang=c&problemLevelCode=1&problemLevel=Medium)` or `C++ (/viewInitialCode.php?pid=700013&problemName=Reverse a Linked List in groups of given size.&lang=c++&problemLevelCode=1&problemLevel=Medium)` or `Python (/viewInitialCode.php?pid=700013&problemName=Reverse a Linked List in groups of given size.&lang=python3&problemLevelCode=1&problemLevel=Medium)` ) code.

C (gcc 5.4)

C++ (g++ 5.4)

Python3

Theme Light

Reset



```

1  '''Please note that it's Function problem i.e.
2  you need to write your solution in the form of Function(s) only.
3  Driver Code to call/invoke your function would be added by GfG's Online Judge.'''
4
5
6  """Return reference of new head of the reverse linked list
7  The input list will have at least one element
8  Node is defined as
9  class Node:
10     def __init__(self, data):
11         self.data = data
12         self.next = None
13     This is method only submission.
14     You only need to complete the method.
15 """
16 def reverse(head, k):
17     current=head
18     prv=None
19     Next=None
20     count=0
21     while(current and count<k):
22         Next=current.next
23         current.next=prv
24         prv=current
25         current=Next
26         count+=1
27     if Next:
28         head.next=reverse(Next,k)
29     return prv

```

It is recommended to 'Compile & Test' your code before clicking 'Submit'!

Compile &amp; Test

Submit

Expected Output

Compilation/Execution Result:

Correct Answer.

Execution Time:0.02

Next Suggested Problem: Delete nodes having greater value on right (/problems/delete-nodes-having-grea



Need help with your code? Please use [ide.geeksforgeeks.org](https://ide.geeksforgeeks.org/) (<https://ide.geeksforgeeks.org/>), generate link and share the link here.

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**Trending Problems**

Minimum Difference among K (/problems/minimum-difference-among-k/0/?ref=self)

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Mr Modulo and Pairs (/problems/mr-modulo-and-pairs/0/?ref=self)

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Lucky Number-2 (/problems/lucky-number-2/0/?ref=self)

Exchange the Leaf Nodes (/problems/exchange-the-leaf-nodes/1/?ref=self)

Frequency of each element in an unsorted array (/problems/frequency-of-each-element-in-an-unsorted-array/0/?ref=self)

Smallest K digit number divisible by X (/problems/smallest-k-digit-number-divisible-by-x/0/?ref=self)

Bridge Edge in Graph (/problems/bridge-edge-in-graph/1/?ref=self)

Sum of all subsets formed by first N natural numbers (/problems/sum-of-all-subsets-formed-by-first-n-natural-numbers/0/?ref=self)

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Add two numbers represented by two arrays (/problems/add-two-numbers-represented-by-two-arrays/0/?ref=self)

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The Tiny Miny (/problems/the-tiny-miny/0/?ref=self)

Count of distinct substrings (/problems/count-of-distinct-substrings/1/?ref=self)

Closest Triplet (/problems/closest-triplet/0/?ref=self)

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Name



Pawan Kumar Saini • 6 months ago

Java Please

5 ^ | v • Reply • Share



Nfrankenstein • a month ago

Okay... now you seriously need to look into this :/ @HarshitSidhwa @KaranGrover

Wrong Answer!!!

Please check lower-upper case of your code's output.

Possibly your code doesn't work correctly for multiple test-cases (TCs).

The first test case where your code failed:

Input:



10  
5 9 9 3 5 6 6 2 8 2  
2

Its Correct output is:  
9 5 3 9 6 5 2 6 2 8

And Your Code's Output is:  
9 5 9 3 5 6 6 2 8 2

\ \_ \_ /

1 ^ | v • Reply • Share ›



**sandeep dhanotiya** → Nfrankenstein • 15 days ago

your output is wrong that's it

^ | v • Reply • Share ›



**yakeen sharma** → Nfrankenstein • a month ago

I am facing the same issue.

^ | v • Reply • Share ›



**HIMANSHU SHEKHAR** • 8 days ago

Java ?

^ | v • Reply • Share ›



**Shubham Pandey** • a month ago

@vaibhav29 JAVA???

^ | v • Reply • Share ›



**Dird** • 2 months ago

Why is there no Java :/

^ | v • Reply • Share ›



**Amol Mejari** • 2 months ago

```
struct node *reverse (struct node *head, int k) {
    if (head == nullptr) return nullptr;
    int i=1;
    node* nxt = head->next;
    node* prev = head;
    prev->next = nullptr;
    while(i < k && nxt != nullptr) {
        node* tmp = nxt->next;
        nxt->next = prev;
        prev = nxt;
        nxt = tmp;
        i ++;
    }
    head->next = reverse(nxt, k);
    return prev;
}
```

^ | v • Reply • Share ›



**Bihari** • 3 months ago

I am getting error " Your output is producing less number of lines than expected!!!!"

```
struct node *reverse (struct node *head, int k)
{
    node *prev,*cur,*next;
    cur=head;
    prev=NULL;next=NULL;
    int c=k;
    while(c<k && cur!="NULL") { cur="cur->next";
```



```

cur->next = prev;
prev = cur;
cur = next;
c++;
}
if(next!=NULL)
{
head->next=reverse(next,k);
}
return prev;
}

```

^ | v • Reply • Share ›



**Avinash Bhardwaj** • 5 months ago

Working solution in Java ...

```

public class ReverseListUtility {

public static void main(String[] args) {

Node node = new Node(1);
Node node1 = new Node(2);
node.setNext(node1);
Node node2 = new Node(3);
node1.setNext(node2);
Node node3 = new Node(4);
node2.setNext(node3);
Node node4 = new Node(5);
node3.setNext(node4);
Node node5 = new Node(6);
node4.setNext(node5);
Node node6 = new Node(7);
node5.setNext(node6);

```

[see more](#)

^ | v • Reply • Share ›



**Megha** • 5 months ago

```

struct node *reverse (struct node *head, int k)
{
// Complete this method

if(head == NULL)
return 0;
else if(head->next == NULL)
return head;
else
{
for(int i=0;i<k;i++) {="" node="" *tmp="head->next;
head->next = NULL;

node *rev = reverse(tmp,k);
tmp->next = head;
return rev;
}

}

}


```

My code ends up in reversing the entire list. Can anyone explain why?

^ | v • Reply • Share ›



**Vineeth Sai** → Megha • 4 months ago

 What does this line even mean ?

```
for(int i=0;i<k;i++) {="" node="" *tmp="head-">next;
```

??

^ | v • Reply • Share ›



**Deepak Gupta** • 5 months ago

Java sln

<http://hackerranksolutionc....>

^ | v • Reply • Share ›



**Nishant Bhardwaj** • 5 months ago

<http://codeshattered.blogspot...>

^ | v • Reply • Share ›



**mahi Yadav** • 5 months ago

java please

^ | v • Reply • Share ›



**hulk hogan** • 6 months ago

<http://ideone.com/s4Ya0U>

^ | v • Reply • Share ›



**Kashif Minhaj** • 6 months ago

Here's solution using python3

Time complexity: O(n)

```
def reverse(head, k):
```

```
# Code here
```

```
reverseHead = None # head of each reversed segment
```

```
curr = head # node that's being processed currently
```

```
prevTail = None # tail of the previous reversed segment
```

```
finalHead = None # head of the fully reverse by k LL
```

```
while curr != None:
```

```
tail = curr # in the current segment, curr will always be the tail
```

```
reverseHead = None # head of reversed segment is currently null, will be updated over time
```

```
for i in range(k): # reverse K nodes
```

```
if curr == None:
```

```
break
```

```
nextNode = curr.next # save next node to be processed
```

```
# make current node as the new head of reversed segment
```

[see more](#)

^ | v • Reply • Share ›



**ronny** • 6 months ago

C# or F# please

^ | v • Reply • Share ›



**Anonymous** • 6 months ago

In C++, when I am using `stack<node*> st`, its showing me that 'stack' was not declared in this scope. Please do correct this problem :)

^ | v • Reply • Share ›



**saksham raj seth** Mod ➔ **Anonymous** • 6 months ago

added `bits/stdc++.h` header file ,

please give it a try again

1 ^ | v • Reply • Share ›



**Hemant** • 6 months ago



Displaying Segmentation Fault (SIGSEGV) on submission even though it shows correct answer of test inputs.

code is as follows:-

```
struct node *reverse (struct node *head, int k)
{
    int count=0,i=0;struct node *start=head,*start1=head;

    while(start!=NULL)
    {
        count++;

        start=start->next;
    } //counting no. of terms
    start=head;

    while(i<count) {="" int="" recurr=""0,*reserve;" reserve="(int*)malloc(k*sizeof(int));" while(recurr<k)="" {=""
    reserve[recurr]="start->"data;

    start=start->next;
```

[see more](#)

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**Ankit** • 7 months ago

**@Amit Khandelwal** : When i execute the program, it shows TLE and another times it shows correct output. I think there is problem, please check my code

<http://ide.geeksforgeeks.org...>

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**SHIVAM SAXENA** • a year ago

use data instead of value for java ... **@GeeksforGeeks** please do make the required change

^ | v • Reply • Share ›



**Dinesh Makkar** • a year ago

Expected output is showing compilation error :

Compilation Error

In function `\_start':

undefined reference to `main'

error: ld returned 1 exit status

^ | v • Reply • Share ›



**Amit Khandelwal** → **Dinesh Makkar** • a year ago

Make sure you are not using main function again. It has already been used at backend.

^ | v • Reply • Share ›



**Dinesh Makkar** → **Amit Khandelwal** • a year ago

I am writing only required function not the main.

^ | v • Reply • Share ›



**jd** • a year ago

my java soln..

<http://www.practice.geeksfo...>

^ | v • Reply • Share ›



**Ashish Agarwal** • 2 years ago

there is one problem in the code template given in the text editor

viz. it should be either struct node with small n or struct Node with capital N. but in the given template name of the structure is 'struct node' while the data type for the next pointer is 'struct Node'.

plz clear it. thank u

^ | v • Reply • Share ›



**vaibhav28** → **Ashish Agarwal** • 2 years ago