



## Inserting a Node Into a Sorted Doubly Linked List ☆

Problem Submissions Leaderboard Discussions Editorial

Given a reference to the head of a doubly-linked list and an integer, *data*, create a new `DoublyLinkedListNode` object having data value *data* and insert it into a sorted linked list while maintaining the sort.

### Function Description

Complete the `sortedInsert` function in the editor below. It must return a reference to the head of your modified `DoublyLinkedList`.

`sortedInsert` has two parameters:

1. `head`: A reference to the head of a doubly-linked list of `DoublyLinkedListNode` objects.
2. `data`: An integer denoting the value of the *data* field for the `DoublyLinkedListNode` you must insert into the list.

**Note:** Recall that an empty list (i.e., where *head* = `null`) and a list with one element are sorted lists.

### Input Format

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

Each of the test case is in 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 for each node of the linked list.
- The last line contains an integer *data* which needs to be inserted into the sorted doubly-linked list.

### Constraints

- $1 \leq t \leq 10$
- $1 \leq n \leq 1000$
- $1 \leq \text{DoublyLinkedListNode.data} \leq 1000$

### Output Format

**Do not print anything to stdout.** Your method must return a reference to the *head* of the same list that was passed to it as a parameter.

The output is handled by the code in the editor and is as follows:

For each test case, print the elements of the sorted doubly-linked list separated by spaces on a new line.

### Sample Input

```
1
4
1
3
4
10
5
```

### Sample Output

```
1 3 4 5 10
```

### Explanation

The initial doubly linked list is:  $1 \leftrightarrow 3 \leftrightarrow 4 \leftrightarrow 10 \rightarrow \text{NULL}$ .

The doubly linked list after insertion is:  $1 \leftrightarrow 3 \leftrightarrow 4 \leftrightarrow 5 \leftrightarrow 10 \rightarrow \text{NULL}$

Author [harsha\\_s](#)  
Difficulty [Easy](#)  
Max Score 5  
Submitted By [48821](#)

### NEED HELP?

- [View discussions](#)
- [View editorial](#)
- [View top submissions](#)

### RATE THIS CHALLENGE



### MORE DETAILS

- [Download problem statement](#)
- [Download sample test cases](#)
- [Suggest Edits](#)



C++

```
1  #include <bits/stdc++.h> ...
62
63  // Complete the sortedInsert function below.
64
65  /*
66   * For your reference:
67   *
68   * DoublyLinkedListNode {
69   *     int data;
70   *     DoublyLinkedListNode* next;
71   *     DoublyLinkedListNode* prev;
72   * };
73   *
74   */
75  DoublyLinkedListNode* sortedInsert(DoublyLinkedListNode* head, int data) {
76
77
78  }
79
80  int main() ...
```

Line: 62 Col: 1

 Upload Code as File

☐ Test against custom input

Run Code

Submit Code