Reorder List

Try to solve the Reorder List problem.

We'll cover the following

- Statement
- Examples
- Understand the problem
- Figure it out!
- Try it yourself

Statement

Given the head of a singly linked list, reorder the list as if it were folded on itself. For example, if the list is represented as follows:

$L_0 \rightarrow L_1 \rightarrow L_2 \rightarrow ... \rightarrow L_{n-2} \rightarrow L_{n-1} \rightarrow L_n$

This is how you'll reorder it:

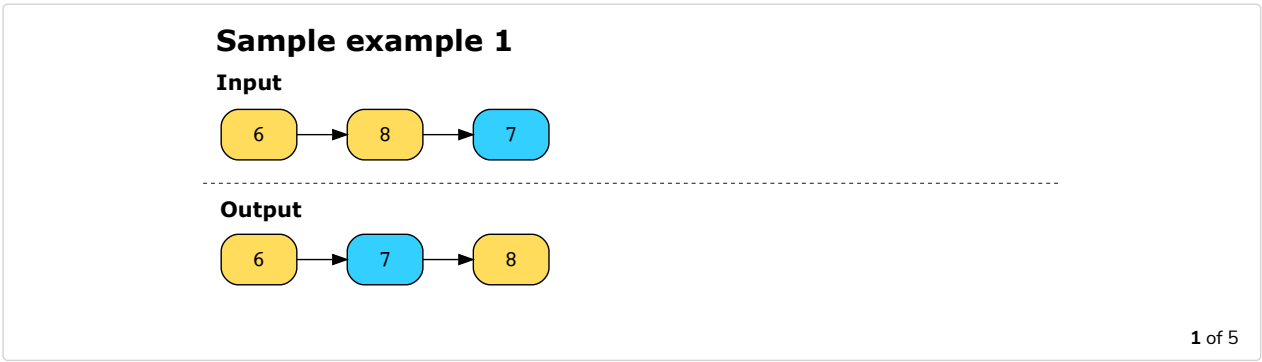
$L_0 \rightarrow L_n \rightarrow L_1 \rightarrow L_{n-1} \rightarrow L_2 \rightarrow L_{n-2} \rightarrow ...$

You don't need to modify the values in the list's nodes; only the links between nodes need to be changed.

Constraints:

- The range of number of nodes in the list is $[1, 500]$.
- $-5000 \leq$ `Node.value` ≤ 5000

Examples



Understand the problem

Let's take a moment to make sure you've correctly understood the problem. The quiz below helps you check if you're solving the correct problem:

Reorder List

1 What is the output if the following linked list is given as input?

$4 \rightarrow 2 \rightarrow 7 \rightarrow 8 \rightarrow 9 \rightarrow 0 \rightarrow 2$

A) $2 \rightarrow 4 \rightarrow 2 \rightarrow 0 \rightarrow 7 \rightarrow 9 \rightarrow 8$

B) $4 \rightarrow 2 \rightarrow 7 \rightarrow 2 \rightarrow 8 \rightarrow 0 \rightarrow 9$

C) $9 \rightarrow 0 \rightarrow 2 \rightarrow 8 \rightarrow 4 \rightarrow 2 \rightarrow 7$

D) $4 \rightarrow 2 \rightarrow 2 \rightarrow 0 \rightarrow 7 \rightarrow 9 \rightarrow 8$

Submit Answer

Question 1 of 4
0 attempted

Reset Quiz

Figure it out!

We have a game for you to play. Rearrange the logical building blocks to develop a clearer understanding of how to solve this problem.

Drag and drop the cards to rearrange them in the correct sequence.

Find the middle node.

If there are two middle nodes, choose the second node.

Reverse the second half of the linked list.

Merge the first and second half of the linked list.

Try it yourself

Implement your solution in `Reorder.java` in the following coding playground. You'll need the provided supporting code to implement your solution.

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Solution: Reverse Link...

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Solution: Reorder List

Mark as Completed