

5961. Maximum Twin Sum of a Linked List

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In a linked list of size n , where n is **even**, the i^{th} node (**0-indexed**) of the linked list is known as the **twin** of the $(n-1-i)^{\text{th}}$ node, if $0 \leq i \leq (n / 2) - 1$.

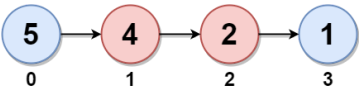
- For example, if $n = 4$, then node 0 is the twin of node 3 , and node 1 is the twin of node 2 . These are the only nodes with twins for $n = 4$.

The **twin sum** is defined as the sum of a node and its twin.

Given the `head` of a linked list with even length, return *the **maximum twin sum** of the linked list*.

User Accepted:	0
User Tried:	0
Total Accepted:	0
Total Submissions:	0
Difficulty:	Medium

Example 1:



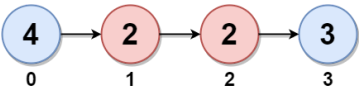
Input: head = [5,4,2,1]

Output: 6

Explanation:

Nodes 0 and 1 are the twins of nodes 3 and 2, respectively. All have twin sum = 6. There are no other nodes with twins in the linked list. Thus, the maximum twin sum of the linked list is 6.

Example 2:



Input: head = [4,2,2,3]

Output: 7

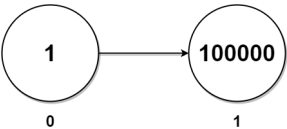
Explanation:

The nodes with twins present in this linked list are:

- Node 0 is the twin of node 3 having a twin sum of $4 + 3 = 7$.
- Node 1 is the twin of node 2 having a twin sum of $2 + 2 = 4$.

Thus, the maximum twin sum of the linked list is $\max(7, 4) = 7$.

Example 3:



Input: head = [1,100000]

Output: 100001

Explanation:

There is only one node with a twin in the linked list having twin sum of $1 + 100000 = 100001$.

Constraints:

- The number of nodes in the list is an **even** integer in the range $[2, 10^5]$.
- $1 \leq \text{Node.val} \leq 10^5$

JavaScript

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```
1▼ const getAllData = (list) => {  
2    let res = [];  
3    let current = list;  
4▼   while (current) {  
5       res.push(current.val);  
6       current = current.next;  
7   }  
8   return res;  
9 };  
10  
11▼ const pairSum = (head) => {  
12    let a = getAllData(head), n = a.length, res = Number.MIN_SAFE_INTEGER;  
13    for (let i = 0, j = n - 1; i < n >> 1; i++, j--) res = Math.max(res, a[i] + a[j]);  
14    return res;  
15 };
```

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