

## 2130. Maximum Twin Sum of a Linked List

Medium

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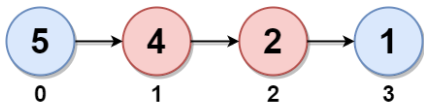
In a linked list of size  $n$ , where  $n$  is **even**, the  $i^{\text{th}}$  node (**0-indexed**) of the linked list is known as the **twin** of the  $(n-1-i)^{\text{th}}$  node, if  $0 \leq i < n/2$ .

- 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*.

### Example 1:



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

**Output:** `6`

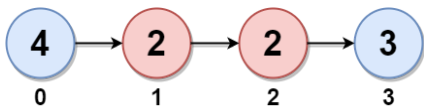
**Explanation:**

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:**

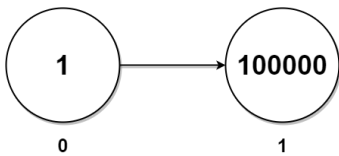
The nodes with twins present in this linked list are:

- 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  $[2, 10^5]$ .
- $1 \leq \text{Node.val} \leq 10^5$

Seen this question in a real interview before? 1/4

Yes No

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