707. Design Linked List

Medium Topics Companies

Design your implementation of the linked list. You can choose to use a singly or doubly linked list.
A node in a singly linked list should have two attributes: `val` and `next`. `val` is the value of the current node, and `next` is a pointer/refere
If you want to use the doubly linked list, you will need one more attribute `prev` to indicate the previous node in the linked list. Assume all r

Implement the `MyLinkedList` class:

- `MyLinkedList()` Initializes the `MyLinkedList` object.
- `int get(int index)` Get the value of the `index`th node in the linked list. If the index is invalid, return `-1`.
- `void addAtHead(int val)` Add a node of value `val` before the first element of the linked list. After the insertion, the new node will be
- `void addAtTail(int val)` Append a node of value `val` as the last element of the linked list.
- `void addAtIndex(int index, int val)` Add a node of value `val` before the `index`th node in the linked list. If `index` equals the leng
- `void deleteAtIndex(int index)` Delete the `index`th node in the linked list, if the index is valid.

Example 1:

Input
```
["MyLinkedList", "addAtHead", "addAtTail", "addAtIndex", "get", "deleteAtIndex", "get"]
[[], [1], [3], [1, 2], [1], [1], [1]]
```
Output
```
[null, null, null, null, 2, null, 3]
```

Explanation
```
MyLinkedList myLinkedList = new MyLinkedList();
myLinkedList.addAtHead(1);
myLinkedList.addAtTail(3);
myLinkedList.addAtIndex(1, 2);    // linked list becomes 1->2->3
myLinkedList.get(1);              // return 2
myLinkedList.deleteAtIndex(1);    // now the linked list is 1->3
myLinkedList.get(1);              // return 3
```

Constraints:

- `0 <= index, val <= 1000`
- Please do not use the built-in LinkedList library.
- At most `2000` calls will be made to `get`, `addAtHead`, `addAtTail`, `addAtIndex` and `deleteAtIndex`.

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

Yes No

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