

LinkedList Node Value Retrieval



write java code for the Given a LinkedList and an index (1-based). The task is to find the data value stored in the node at that kth position. If no such node exists whose index is k then return -1.

Example:

Input: 1->10->30->14, index = 2

Output: 10



Here's the Java code to find the data value stored in the node at the given index (1-based) in a LinkedList:

java

```
import java.util.LinkedList;

public class LinkedListExample {

    // Method to get the value at the given index in the LinkedList
    public static int getKthNodeValue(LinkedList<Integer> list, int index) {
        // Since index is 1-based, adjust to 0-based for LinkedList access
        int zeroBasedIndex = index - 1;

        // Check if the index is within bounds
        if (zeroBasedIndex >= 0 && zeroBasedIndex < list.size()) {
            return list.get(zeroBasedIndex);
        }
        // Return -1 if index is out of bounds
        return -1;
    }

    public static void main(String[] args) {
        // Create a LinkedList
        LinkedList<Integer> list = new LinkedList<>();
        list.add(1);
        list.add(10);
        list.add(30);
        list.add(14);

        // Index to retrieve (1-based index)
        int index = 2;

        // Get the value at the kth index
        int result = getKthNodeValue(list, index);

        // Output the result
        System.out.println("Value at index " + index + ": " + result);
    }
}
```

Explanation:

1. The `getKthNodeValue` method takes a LinkedList and an index as input.

2. Since the input index is 1-based, we convert it to 0-based by subtracting 1.
3. We check if the 0-based index is valid (i.e., within the bounds of the list size).
4. If valid, we return the element at that index; otherwise, we return `-1`.

Example Output:

For the input `1->10->30->14` and `index = 2`, the output will be `10`.

ChatGPT can make mistakes. Check important info.