

## 10. Linked Lists :: Implementation :: DList Class :: remove() Pseudocode

Here is the pseudocode for the *remove()* method:

Method *remove*(In: *pIndex*) Returns Integer Throws *IndexOutOfBoundsException*

-- Obtain a reference to the *Node* being removed. Note that *getNodeAt()* throws

-- an *IndexOutOfBoundsException* if *pIndex* is out of bounds.

*node* ← *getNodeAt(pIndex)*

-- Check to see if we are removing the only element in a list with one element.

If the size of the list is 1 Then

    Change *mHead* and *mTail* to null

-- Else, check to see if we are removing the head element.

ElseIf *pIndex* = 0 Then

    Change the *mPrev* reference of the *Node* succeeding *node* to null

    Change the *mHead* reference to refer to the *Node* succeeding *node*

-- Else, check to see if we are removing the tail element

ElseIf *pIndex* = *getSize()* - 1 Then

    Change the *mNext* reference of the *Node* preceding *node* to null

    Change the *mTail* reference to refer to the *Node* preceding *node*

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-- Else we removing an element in the interior of the list.

**Else**

Change the *mNext* reference of the *Node* preceding *node* to refer to the *Node* succeeding *node*

Change the *mPrev* reference of the *Node* succeeding *node* to refer to the *Node* preceding *node*

**End If**

Decrement *mSize*

**Return** the data stored at *node*

**End Method** *remove*