

## Find K<sup>th</sup> node from the end

```
#include <stdio.h>
#include <stdlib.h>

//linked list node (self referential structure)
struct node
{
    int data;
    struct node *next;
};

void insertAtBeginning(struct node **head, int data)
{
    // allocate new node
    struct node *temp = (struct node*) malloc(sizeof(struct node));
    temp->data = data;
    temp->next = (*head);
    *head = temp;
}

void getNthFromLast(struct node *head, int n)
{
    struct node *NthNode, *refPtr;
    int count;
    NthNode = refPtr = head;
    for(count = 0; count <= n; count++)
    {
        if (refPtr)
            refPtr = refPtr->next;
        else return;
    }
    for(;refPtr; refPtr = refPtr->next, NthNode = NthNode->next);
    if (NthNode)
        printf("%d rd node from end is = %d", n, NthNode->data);
}

int main() {
    struct node *head = NULL;
    insertAtBeginning(&head, 10);
    insertAtBeginning(&head, 20);
    insertAtBeginning(&head, 30);
    insertAtBeginning(&head, 40);
    insertAtBeginning(&head, 50);
    insertAtBeginning(&head, 60);
    getNthFromLast(head, 3);
    return 1;
}
```

Time complexity: O(n)

Space complexity: O(1)