A7-Q2

Due on 2019-09-21, 23:59 IST
You are given a sequence of integers terminated with a -1. The -1 is not part of the input sequence.

Next, you are given a positive number N.

You have to create a linked list with the input sequence of integers as entries. You can use the following structure.

```c
struct node{
    int data;
    struct node *next;
};
```

Now, you have to delete all but the last N elements from the linked list, and print the resulting list. (i.e. The resulting list will consist of only the last N elements from the list.)

If N is longer than the length of the linked list, you must print -1.

While printing, the entries of the list must be separated by a single space.

**Sample Input**
------------
3 4 5 6 -1

**Sample Output**
-------------
6

**Sample Test Cases**

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 -1</td>
<td>4</td>
</tr>
<tr>
<td>1 2 3 4 -1</td>
<td>2 3 4</td>
</tr>
<tr>
<td>1 2 3 4 -1</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>1 2 3 4 -1</td>
<td>-1</td>
</tr>
<tr>
<td>1 2 3 -1</td>
<td>2 3</td>
</tr>
</tbody>
</table>
Test Case 6

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.
Sample solutions (Provided by instructor)

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

struct node {
    int data;
    struct node *next;
};

int list_length;

struct node* create_node ( int n )
{
    struct node *new_node;
    new_node = (struct node *) malloc ( sizeof(struct node) );
    new_node->data = n;
    new_node->next = NULL;
    return new_node;
}

struct node* create_list ( struct node *head )
{
    int number;
    struct node* current_node, *new_node;
    scanf("%d", &number);
    if (number != -1) {
        head = create_node ( number );
        current_node = head;
        list_length++;
        scanf ( "%d", &number );
        while ( number != -1 ){
            new_node = create_node ( number );
            current_node->next = new_node;
            list_length++;
            current_node = new_node; /* advance to next node */
            scanf ("%d", &number );
        }
    }
    return head;
}

/* Delete the first num nodes from the list */
struct node *delete_first ( int num, struct node *head )
{
    int i=1;
    struct node *current_node = head;
    struct node *next_node;
    while ( i <= num ) {
        next_node = current_node->next;
        free(current_node);
        current_node = next_node;
        i++;
    }
    head = current_node;
    return head;
}

void print_list ( struct node *head )
{
    struct node *current_node;
    if ( head == NULL ) {
        return;
    }
    current_node = head;
    while ( current_node != NULL ) {
        printf ( "%d", current_node->data );
        current_node = current_node->next;
    }
    printf("\n");
    return;
}

```
int main()
{
    int number;
    int pruned_length=0;
    struct node *head;
    head = create_list(_head_);
    scanf("%d", &pruned_length);
    if(pruned_length > list_length){
        printf ( "-1\n" );
        return 0;
    }
    else{
        head=delete_first(list_length-pruned_length, head);
        print_list(head);
    }
    return 0;
}