

2) (5 pts) DSN (Linked Lists)

Suppose we have a singly linked list implemented with the structure below and a function that takes in the head of the list.

```
typedef struct node {
    int num;
    struct node* next;
} node;

int whatDoesItDo (node * head) {
    struct node * current = head;
    struct node * other, *temp;

    if (current == NULL)
        return head;

    other = current->next;

    if (other == NULL)
        return head;

    other = other->next;
    temp = current->next;
    current->next = other->next;
    current = other->next;

    if (current == NULL) {
        head->next = temp;
        return head;
    }

    other->next = current->next;
    current->next = temp;

    return head;
}
```

If we call whatDoesItDo(head) on the following list, show the list after the function has finished.

head -> 1 -> 2 -> 3 -> 4 -> 5 -> 6 -> 7

Solution

head -> 1 -> 4 -> 2 -> 3 -> 5 -> 6 -> 7

Grading: 2 pts for having the 1, 5, 6 and 7 unchanged, 1 pt each for the position of 4, 2 and 3.