

2) (5 pts) ALG (Linked Lists)

Suppose we have a linked list implemented with the structure below. We also have a function that takes in the head of the list and returns a node pointer.

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

node* something(node* head) {
    node* t = head;
    if(t==NULL || t->next == NULL )    return t;

    while(t->next->next != NULL)
        t = t->next;

    t->next->next = head;
    head = t->next;
    t->next = NULL;

    return head;
}
```

A linked list, **mylist**, has the following nodes: 1 -> 9 -> 6 -> 7 -> 4 -> 8, where 1 is at the head node of the list.

a) What will be the status of the linked list (draw the full list) after following function call.

mylist = something(mylist);

Draw the updated linked list after the function call:

mylist -> 8 -> 1 -> 9 -> 6 -> 7 -> 4

Grading: 3 pts for a correct list, 1 pt for a reverse list or a list that has a different front element, 0 pts otherwise

b) What general task does the function something perform? Please answer in a single sentence.

The function takes the last node of the list, moves it to the front, and returns a pointer to the front of the resulting list.

Grading: 2 pts (give full credit if the response is regular English and roughly correct, give 1 pt if the answer is in the right direction but has some clear inaccuracies, 0 pts otherwise)