2) (10 pts) DSN (Linked Lists)

The structure of a node of a doubly linked list is shown below.

```
typedef struct node {
    int data;
    struct node* next;
    struct node* prev;
} node;
```

Write a function that takes in a pointer to the head of a doubly linked list (*head*) and a pointer to a node in that list (*me*), removes that node (*me*) from the list, and returns a pointer to the head node of the resulting doubly linked list. You may assume that both *head* and *me* are not NULL, and that *me* points to a node in the list pointed to by *head*.

```
node* deleteMe(node* head, node* me) {

    // Grading 2 pts: updating head for delete front case.
    if(me == head)
        head = head->next;

    // Grading: 3 pts patch next node to previous node if nec.
    if(me->next != NULL)
        me->next->prev = me->prev;

    // Grading: 3 pts patch previous node to next if nec.
    if(me->prev != NULL)
        me->prev->next = me->next;

    // 1 pt to free the designated node.
    free(me);

    // 1 pt to return the new head of the list.
    return head;
}
```