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**1.** Consider the following function definition and suppose that 1) the `node` class consists of an integer `data` element, and a `node` pointer called `next`, and 2) variable `head` is the address of a linked list of such `node`s.

What does the function do?

```
void fun(node * curr) {
   if (curr != NULL) {
      cout << curr->data;
      fun(curr->next);
   }
}

node * head = NULL;
// maybe insert data into the chain here
fun(head);
```

A. `fun` segfaults on lists of odd length.
B. None of the other options is correct.
C. `fun` prints every other element of the list.
D. [Correct Answer] [Your Answer] `fun` prints the elements of the list from `head` to the end.
E. `fun` prints the reverse of the list.

**2.** Consider a class `List` that is implemented using a singly linked list with a `head` and `tail` pointer (i.e. pointers to the first and last nodes in the list).

Given that representation, which of the following operations could be implemented in O(1) time?

I. Insert item at the front of the list
II. Insert item at the rear of the list
III. Delete front item from list
IV. Delete rear item from list

A. [Correct Answer] [Your Answer] I, II and III
B. I, II and IV
C. All of them
D. I and III
E. I and II

**3.** In a doubly linked list of size n, you are given the address of the last node. What will be the time required to access the data stored in the second last node?

A. [Correct Answer] [Your Answer] O(1)
B. O(log log n)
C. O(n)
D. It cannot be accessed
E. O(log n)

**4.** In a singly linked list containing n nodes, the time required to find the maximum element is:

A. O(log n).
B. O(1).
C. O($n^2$).
D. [Correct Answer] [Your Answer] O(n).
E. O(n log n).

**5.** Which of the following List ADT implementations gives us an O(1) time for `removeAtEnd`, i,e removing an element from the end of the list?

I. A singly-linked list with only a `head` pointer.
II. A singly-linked list with `head` and `tail` pointers.
III. A doubly-linked list with only a `head` pointer.
IV. A doubly-linked list with `head` and `tail` pointers.

A. II and IV
B. I, III and IV
C. I and III
D. I, II, III and IV
E. [Correct Answer] [Your Answer] None of the other options is correct