

Northern Michigan University (Marquette Co, MI)

CS201-01-22F: C++ Programming (Andrew A. Poe)
Quiz 8

Name: _____
Monday 14 November 2022 11:00 A.M. EST

Time: 15 minutes.

Given the following Linked List class definitions:

```
class LL {  
private:  
    LLN *head;  
};
```

```
class LLN {  
private:  
    string s;  
    LLN *next;  
};
```

Write the code for:

```
void LL::PrintFirstLast ();
```

This method prints the first and last strings in alphabetical order in the linked list. If the list is empty, a message should be printed to that effect.

For example, if the list were: I-->LIKE-->TRAFFIC-->LIGHTS-->BUT-->NOT-->WHEN-->THEY-->ARE-->RED , the method would print

First: ARE

Last: WHEN

Do not use loops. Use recursion only.

```
void LL::PrintFirstLast () {  
  
    if (!head) cout << "The list is empty." << endl;  
    else {  
        string first = head->first();  
        string last = head->last();  
        cout << "First:  " << first << endl;  
        cout << "Last:   ": << last << endl;  
    }  
}  
  
string LLN::first () {  
  
    if (!next) return s;  
    string f = next->first();  
    if (s <= f) return s;  
    return f;  
}  
  
string LLN::last () {  
  
    if (!next) return s;  
    string l = next->last();  
    if (s > l) return s;  
    return l;  
}
```