

Question 1

Not complete

Marked out of 1.00

Implement method `bubbleSort()` in class `SLinkedList` to sort this list in ascending order. After each bubble, we will print out a list to check (using `printList`).



```
#include <iostream>
#include <sstream>
using namespace std;

template <class T>
class SLinkedList {
public:
    class Node; // Forward declaration
protected:
    Node* head;
    Node* tail;
    int count;
public:
    SLinkedList()
    {
        this->head = nullptr;
        this->tail = nullptr;
        this->count = 0;
    }
    ~SLinkedList(){};
    void add(T e)
    {
        Node *pNew = new Node(e);

        if (this->count == 0)
        {
            this->head = this->tail = pNew;
        }
        else
        {
            this->tail->next = pNew;
            this->tail = pNew;
        }

        this->count++;
    }
    int size()
    {
        return this->count;
    }
    void printList()
    {
        stringstream ss;
        ss << "[";
        Node *ptr = head;
        while (ptr != tail)
        {
            ss << ptr->data << ",";
            ptr = ptr->next;
        }

        if (count > 0)
            ss << ptr->data << "]";
        else
            ss << "]";
        cout << ss.str() << endl;
    }
public:
    class Node {
    private:
        T data;
        Node* next;
        friend class SLinkedList<T>;
    public:
        Node() {
            next = 0;
        }
        Node(T data) {
            this->data = data;
            this->next = nullptr;
        }
    }
```

```
};  
  
void bubbleSort();  
};
```

For example:

Test	Result
int arr[] = {9, 2, 8, 4, 1};	[2,8,4,1,9]
SLinkedList<int> list;	[2,4,1,8,9]
for(int i = 0; i <int(sizeof(arr))/4;i++)	[2,1,4,8,9]
list.add(arr[i]);	[1,2,4,8,9]
list.bubbleSort();	

Answer: (penalty regime: 0 %)

Reset answer

```
1 |template <class T>  
2 |void SLinkedList<T>::bubbleSort()  
3 |{  
4 |}
```