CS 323_33 Programming Language: C++

Mock Final 2 Selection Sort LinkList

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Source Code

```
#include <iostream>
#include <string>
#include <fstream>
using namespace std;

class Node{
    public:
    int data = -9999;
    Node* prev;
    Node* next;

    Node(int d){
        data = d;
        next = NULL;
    }
};

class selectionSort{
    public:
    Node* head = new Node(-9999);
    int N = 0;

    void createList(ifstream& inFile){
        int data;
```

```
    while(!inFile.eof()){
        inFile >> data;
        Node* newNode = new Node(data);
        N++;

        Node* temp = head->next;
        head->next = newNode;
        newNode->prev = head;
        newNode->next = temp;
    }
}

void selectionSorting(){
    Node* position = head->next;
    while(position->next->next != NULL){
        Node* lowestFound = position;
        Node* findingNode = position->next;

        while(findingNode->next != NULL){
            if(findingNode->data < lowestFound->data){
                lowestFound = findingNode;
            }
            findingNode = findingNode->next;
        }

        if(lowestFound->data < position->data){

            Node* temp;
            temp->next = lowestFound->next;
```

```
                temp->prev = lowestFound->prev;

                lowestFound->next = position->next;
                lowestFound->prev = position->prev;

                position->next = temp->next;
                position->prev = temp->prev;

                delete temp;


            }

            position = position->next;

        }
    }

    void printList(ofstream& outFile){
        Node* spot = head->next->next;
        while(spot->next != NULL){
            outFile << spot->data << endl;
            spot = spot->next;
        }
    }
};

int main(int argc, char* argv[]){
    ifstream inFile(argv[1]);
```

```
    ofstream outFile(argv[2]);


    selectionSort S;

    S.createList(inFile);

    // S.selectionSorting();

    S.printList(outFile);


    inFile.close();

    outFile.close();

}
```

Output (selections sort not work)