

HW3_P1 - Student list using array

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Driver.cpp

```
#include<iostream>
#include<string>
#include <algorithm>
using namespace std;
#include "Solution.cpp"
//Your program will be evaluated by this main method and several test cases.

int main() {
    string name;
    string number;
    int rollNo, N, i;
    Student * students;
    Classroom classRoom;
    i = 0;
    while (getline(cin, name)) {
        if (name == "")
            break;
        getline(cin, number);
        rollNo = stoi(number);
        classRoom.addStudent(name, rollNo);
        i++;
    }
    N = i;
    students = classRoom.getAllStudents();
    for (int i = 0; i < N; i++) {
        cout << (students + i)->getRollNo() << " - " << (students + i)->getName();
        if (i < N - 1)
            cout << endl;
    }
    return 0;
}
```

Solution.cpp

```
/*
```

Analysis

We have to take in students, and create objects out of them, and store them into a list.

Design

We can do this by implementing the addStudent and getAllStudents methods, as well as the getter and setter methods.

The getters and setters are straight forward; either set the value or return the property of the class.

For addStudent, we just need to make sure that we add students in order i.e. we are not overwriting anyone.

For getAllStudents, we have to return the array of the students.

```
*/
```

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

```
class Student {
    private:
        string name;
        int rollNo;
    public:
        string getName(){
            return this->name;
        }
        void setName(string name){
            this->name = name;
        }
        int getRollNo(){
            return this->rollNo;
        }
        void setRollNo(int rollNo){
            this->rollNo = rollNo;
        }
};

class Classroom {
    private:
        int i;
        Student students[10];
    public:
        void addStudent(string name, int rollNo){
            Student s;
            s.setRollNo(rollNo);
            s.setName(name);
            students[i] = s;
            i++;
        }

        // return student array
        Student * getAllStudents(){
            return students;
        }
};
```

Name

Custom test case

Input

Lydia 1 Katie 2

Output (Lines:3)

1 - Lydia
2 - Katie

Expected Output (Lines:0)**Status**

NA

Name

Custom test case

Input

Darby 1 Jaclyn 2 Annalise 3

Output (Lines:4)

1 - Darby
2 - Jaclyn
3 - Annalise

Expected Output (Lines:0)**Status**

NA

Name

Custom test case

Input

Carter 1 Trenten 2 Jordan 3 Parker 4 Adrian 5 JP 6

Output (Lines:7)

1 - Carter
2 - Trenten
3 - Jordan
4 - Parker
5 - Adrian
6 - JP

Expected Output (Lines:0)**Status**

NA

Name

Input1

Input

Jack 1 Jones 2 Marry 3

Output (Lines:4)

1 - Jack

2 - Jones

3 - Marry

Expected Output (Lines:3)

1 - Jack

2 - Jones

3 - Marry

Status

Pass
