7/11/2025

CIS 25

Brief Explanation of code:

My code allows the user to create a "Roster" of students with assigned ID#s and Names, as well as GPAs, and saves these values to a file. The user can then ask to display the student/s they entered to the roster by searching by name or ID#.

List of concepts used:

1. Data Types, sizes
2. File Types: .h, .cpp
3. Pointers
4. Arrays
5. Binary and linear search
6. Strings
7. File Output
8. Two classes

Screenshots:

```
Please input how many students you'd like to add to the roster as a whole number: 3
You have chosen 3 students.
Please input ID#s in ascending order.
Please input student's name:
Henry
Please input student's gpa as a decimal:
3.78
Please input student's id number as a whole number:
1
```

```
Please input student's name:
Robert
Please input student's gpa as a decimal:
3.32
Please input student's id number as a whole number:
2
```

```
Please input student's name:
Rex
Please input student's gpa as a decimal:
3.89
Please input student's id number as a whole number:
3
```

```
Student saved to file.
Student's GPA: 3.78
Student's Name: Henry
Student's ID#: 1
Student's GPA: 3.32
Student's Name: Robert
Student's ID#: 2
Student's GPA: 3.89
Student's Name: Rex
Student's ID#: 3
Would you like to search your roster by name or ID#? (Name/ID#).
```

```
Would you like to search your roster by name or ID#? (Name/ID#). ID#
What is the ID# you are looking for? (Input ID# as a whole number.): 2
Student's GPA: 3.32
Student's Name: Robert
Student's ID#: 2
```

```
Would you like to search your roster by name or ID#? (Name/ID#). Name
What is the name you are looking for? (Input Name): Henry
Student's GPA: 3.78
Student's Name: Henry
Student's ID#: 1
```

Challenges Faced:

- Time constraint was stressful for me, so I solved my stress by completing the assignment.
- Pointers and arrays were a big learning curve, but with research and help from classmates I was able to figure them out to a degree.