Student Grade Tracker Midterm

Explanation (How it works / what it does):

The C++ code in my project enables a user to manage student records, including adding student data (ID, name, and grade), storing and loading that data from a file, and using binary search to find a student by their ID.

Concepts Used:

- Uses int for IDs, float for grades, string for names, and file paths
- Saves and loads data from a .txt file using ifstream and ofstream
- Uses dynamic memory (new/delete) and an array of Student* pointers
- Searches for a student by ID in the searchByID() function
- Handles student names, file paths, and string parsing from files
- Tracker manages Student objects and calls their methods to display or store data

Challenges Faced:

I faced multiple challenges during this project. One of the most stressful issues was that my VS Code and computer both crashed consistently, even after restarts; the VS Code screen remains black. I thought my code might have run wrong, wasn't stored properly, or had other issues, but none of these seemed to be the case. I used a different computer, and it ran just fine. However, a shocking challenge I faced was using pointers with arrays. I used new and delete for my program, but I had to make sure it didn't crash or, more importantly, cause memory leak!

Screenshot (Input/Output):