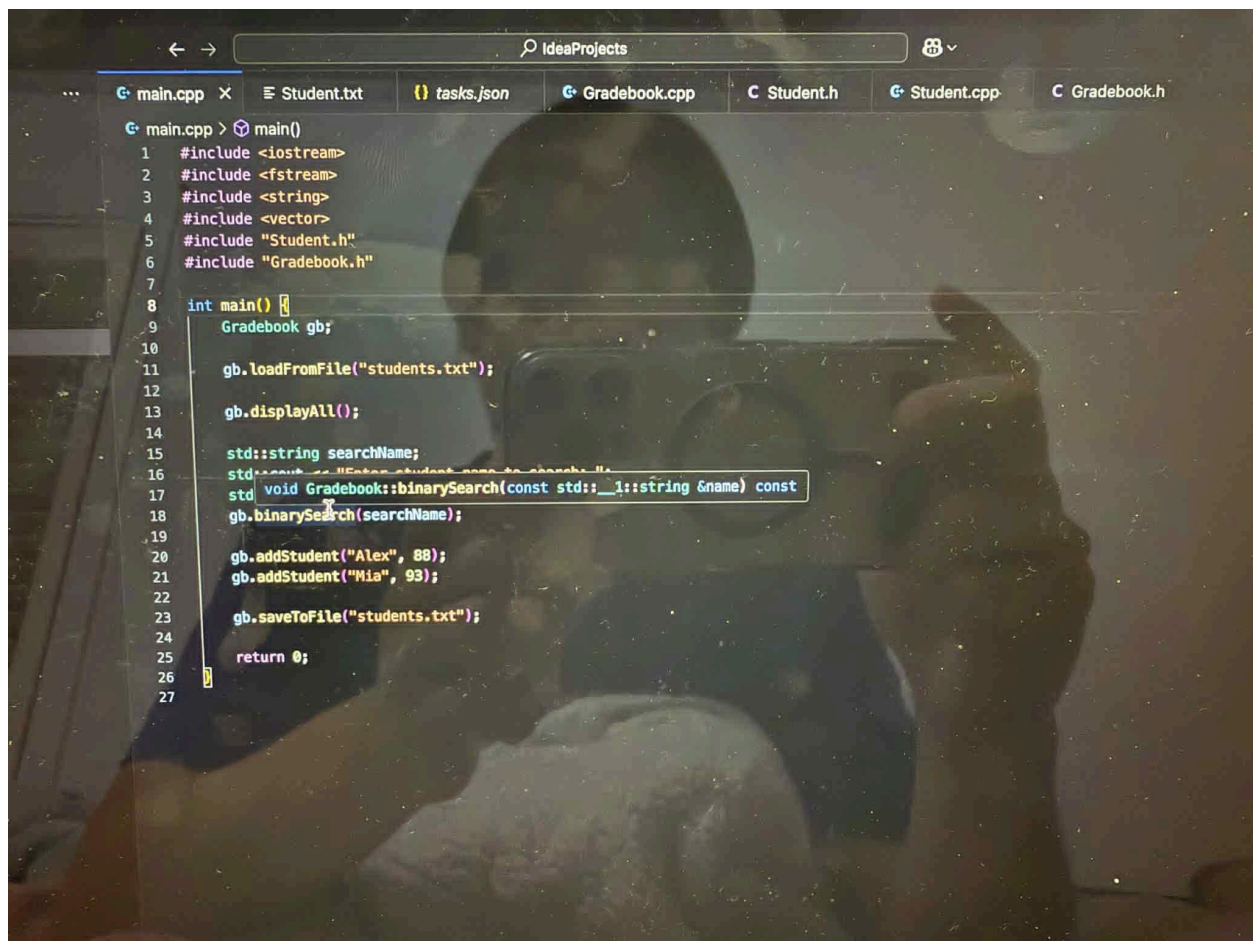


This program is a Student Grade Tracker that allows a user to manage and search for student grades.

It reads a list of students and their grades from a file student.txt, displays them, allows the user to search for a student by name using binary search, adds new students, and then saves the updated list back to the file.

Concept used: Data types and sizes, File I/O, Pointers, Arrays, Binary Search Algorithm, Strings, Dynamic Memory and 2 classes

A challenge I faced was getting the program to compile correctly, at first when I opened it caused linker errors and I had to fix it, it was because it was split across multiple files and it was quite a task for a newcomer to C++ like me. I solve it by creating a custom tasks.json file to compile everything together

A screenshot of an IDE window titled 'IdeaProjects'. The editor shows the 'main.cpp' file with the following code:

```
1 #include <iostream>
2 #include <fstream>
3 #include <string>
4 #include <vector>
5 #include "Student.h"
6 #include "Gradebook.h"
7
8 int main() {
9     Gradebook gb;
10
11     gb.loadFromFile("students.txt");
12
13     gb.displayAll();
14
15     std::string searchName;
16     std::cout << "Enter student name to search: ";
17     std::getline(std::cin, searchName);
18     gb.binarySearch(searchName);
19
20     gb.addStudent("Alex", 88);
21     gb.addStudent("Mia", 93);
22
23     gb.saveToFile("students.txt");
24
25     return 0;
26
27 }
```

The code includes headers for `<iostream>`, `<fstream>`, `<string>`, and `<vector>`, along with project-specific headers `"Student.h"` and `"Gradebook.h"`. The `main` function creates a `Gradebook` object, loads data from `students.txt`, displays it, prompts the user for a search name, performs a binary search, adds two new students, saves the updated list, and returns 0. The IDE interface shows tabs for `main.cpp`, `Student.txt`, `tasks.json`, `Gradebook.cpp`, `Student.h`, `Student.cpp`, and `Gradebook.h`.