Friday 06 / Late Night in C++

Mood: Caffeinated and Questionable

Finally got the dining table cleared of textbooks and empty coffee cups, which means I can actually work here instead of balancing my laptop on my knees like a raccoon. Spent the whole afternoon and evening on the **Student Record Management System** — it's basically a program that stores information about students, their grades, and their attendance, and lets you search, update, and print reports. Sounds boring when I say it out loud, but I'm weirdly proud of it.

The program uses a **struct** called `Student` to group all the information about one student together — their roll number, name, marks in five subjects, and their attendance percentage. Then I made an array of 100 of those structs, so the program can hold up to a hundred students at once. I also added a menu that loops until the user chooses to exit, with options to add a student, search by roll number, display all students, update marks, and delete a record.

The part that took the most time was the search function. I kept getting it wrong because I was comparing the roll number I typed in as a string against the stored one, and for a while I couldn't figure out why it kept saying "not found" even when the student was clearly in the list. Turns out I had a stray space at the end of my input. Classic. Added a `trim()` function and it worked perfectly after that.

Also learned the hard way that you should never trust user input. I originally had the program crash if someone typed a letter where it expected a number for marks, so I added a little validation loop that clears the error flag and asks again. Much better. Future me will thank past me for that one.

Next up: I want to add file saving so the records don't disappear when I close the program. Probably going to use `ofstream` and `ifstream` for that. Might also try sorting the students by marks so I can print a merit list. Ambitious, but I'm on a roll.
