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#include <iostream>

#include <vector>

#include <string>

#include <limits>

using namespace std;

struct Student {

string name;

int grade;

};

class GradeTracker {

private:

vector<Student> students;

static const int MAX\_SIZE = 50;

public:

void addStudent() {

if (students.size() < MAX\_SIZE) {

Student newStudent;

cout << "Enter the student's name: ";

cin.ignore();

getline(cin, newStudent.name);

cout << "Enter the student's grade ): ";

while (true) {

cin >> newStudent.grade;

if (cin.fail() || newStudent.grade < 0 || newStudent.grade > 100) {

cout << "Invalid input! Please enter a grade between 0 and 100: ";

cin.clear();

cin.ignore(numeric\_limits<streamsize>::max(), '\n');

} else {

break;

}

}

students.push\_back(newStudent);

cout << "Student record added!" << endl;

} else {

cout << "Maximum student limit reached!" << endl;

}

}

void displayAllRecords() const {

if (students.empty()) {

cout << "No student records available" << endl;

} else {

for (const auto& student : students) {

cout << "Name " << student.name << ", Grade " << student.grade << endl;

}

}

}

};

int main() {

GradeTracker tracker;

int choice;

do {

cout << "\nMenu:\n1. Add Student\n2. View Records\n3. Exit\nEnter your choice: ";

cin >> choice;

switch (choice) {

case 1:

tracker.addStudent();

break;

case 2:

tracker.displayAllRecords();

break;

case 3:

cout << "Goodbye" << endl;

break;

default:

cout << "Invalid choice try again." << endl;

}

} while (choice != 3);

return 0;

}