Internship project

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Cgpa calculator

code

#include <iostream>

#include <iomanip>

#include <string>

#include <cstdlib> // for system("cls")

using namespace std;

const int MAX\_COURSES = 100;

// Function to clear screen (Dev C++ compatible)

void clearScreen() {

system("cls");

}

// Function to show header

void showHeader() {

cout << "=====================================\n";

cout << " ?? CGPA CALCULATOR \n";

cout << "=====================================\n";

}

// Function to input course details

void inputCourseDetails(string courseNames[], float grades[], int credits[], int &numCourses) {

cout << "Enter total number of courses taken: ";

cin >> numCourses;

if (numCourses <= 0 || numCourses > MAX\_COURSES) {

cout << "? Error: Invalid number of courses.\n";

exit(1);

}

for (int i = 0; i < numCourses; i++) {

cout << "\nCourse " << i + 1 << ":\n";

cout << "Course name: ";

cin.ignore(); // clear leftover newline

getline(cin, courseNames[i]);

cout << "Enter grade (0.0 to 10.0): ";

cin >> grades[i];

if (grades[i] < 0.0 || grades[i] > 10.0) {

cout << "? Error: Grade must be between 0 and 10.\n";

exit(1);

}

cout << "Enter credit hours for this course: ";

cin >> credits[i];

if (credits[i] <= 0) {

cout << "? Error: Credit hours must be positive.\n";

exit(1);

}

}

}

// Function to display course and GPA data

void displayResults(string courseNames[], float grades[], int credits[], int numCourses) {

float totalGradePoints = 0;

int totalCredits = 0;

float gradePoints;

cout << "\n\n================== COURSE REPORT ==================\n";

cout << left << setw(25) << "Course Name"

<< setw(10) << "Grade"

<< setw(10) << "Credits"

<< setw(15) << "Grade Points" << endl;

cout << "---------------------------------------------------\n";

for (int i = 0; i < numCourses; i++) {

gradePoints = grades[i] \* credits[i];

totalGradePoints += gradePoints;

totalCredits += credits[i];

cout << left << setw(25) << courseNames[i]

<< setw(10) << fixed << setprecision(2) << grades[i]

<< setw(10) << credits[i]

<< setw(15) << fixed << setprecision(2) << gradePoints << endl;

}

cout << "---------------------------------------------------\n";

cout << "Total Credits : " << totalCredits << endl;

cout << "Total Grade Points: " << totalGradePoints << endl;

float cgpa = (totalCredits > 0) ? (totalGradePoints / totalCredits) : 0.0;

cout << "===================================================\n";

cout << "?? FINAL CGPA : " << fixed << setprecision(2) << cgpa << endl;

cout << "===================================================\n";

}

// MAIN FUNCTION

int main() {

// Arrays to hold course data

string courseNames[MAX\_COURSES];

float grades[MAX\_COURSES];

int credits[MAX\_COURSES];

int numCourses = 0;

clearScreen(); // Clear screen at start

showHeader(); // Display header

inputCourseDetails(courseNames, grades, credits, numCourses); // Input

displayResults(courseNames, grades, credits, numCourses); // Output

cout << "\nThank you for using CGPA Calculator!\n";

return 0;

}



