// Kartika Shah

//cgpa calculator

#include <iostream>

using namespace std;

// This function turns a grade letter into a number.

int getGradePoint(char grade){

switch (grade){

case 'A':

case 'a': return 10;

case 'B':

case 'b': return 8;

case 'C':

case 'c': return 6;

case 'D':

case 'd': return 4;

case 'F':

case 'f': return 0;

default: return -1;

}

}

int main() {

int numCourses;

cout << "No of course taken ? ";

cin >> numCourses;

char grades[100]; // To store letter grades (A, B, C, etc.)

float credits[100]; // To store the credit hours for each course

float gradePoints[100]; // To store the calculated grade points for each course

float totalCredits = 0; // Sum of all credit hours

float totalGradePoints = 0; // Sum of all grade × credit

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

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

char grade;

int point;

do {

cout << "Enter your grade (A, B, C, D, F): ";

cin >> grade;

point = getGradePoint(grade);

if (point == -1)

cout << " that's not a valid grade. Please enter again.\n";

} while (point == -1); // Keep asking until a valid grade is entered

grades[i] = grade; // Store the grade

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

cin >> credits[i];

// Calculate grade points (grade × credit) and store it

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

totalCredits += credits[i];

totalGradePoints += gradePoints[i];

}

// Now let's show a summary of all the courses

cout << "\n--- Here's What You Entered ---\n";

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

cout << "Course " << i + 1 << ": Grade = " << grades[i]

<< ", Credits = " << credits[i]

<< ", Grade Points = " << gradePoints[i] << "\n";

}

// Final cgpa

if (totalCredits == 0) {

cout << "\nOops! You didn't enter any valid credit hours.\n";

} else {

float cgpa = totalGradePoints / totalCredits;

cout << "\n Your CGPA is: " << cgpa << "\n";

}

return 0;

}