```c
/* BY SUBMITTING THIS FILE TO CARMEN, I CERTIFY THAT I HAVE PERFORMED ALL OF
THE WORK TO CREATE THIS FILE AND/OR DETERMINE THE ANSWERS FOUND WITHIN
THIS FILE MYSELF WITH NO ASSISSTANCE FROM ANY PERSON (OTHER THAN THE
INSTRUCTOR OR GRADERS OF THIS COURSE) AND I HAVE STRICTLY ADHERED TO THE
TENURES OF THE OHIO STATE UNIVERSITY'S ACADEMIC INTEGRITY POLICY.
*/
#include "lab4.h"
/*Recalculates all of a single student's grades by ID number*/
void option4(Node *head, char *categories) {
        Node *student; /*The node that matches student ID*/
        int id; /*Student ID number to recalculate*/
        int count; /*Number of scores for the student in each category*/
        float cumulative; /*Temporary variable to store the cumulative score for each
category*/
        float grade; /*Temporare variable to store the current grade*/
        /*Prompts the user for the ID number to be recalculated*/
        printf("What is the Student ID for the scores you want to recalculate?\n");
        printf("Student ID: ");
        scanf("%d", &id);
        student = get_NodeforID(head, id);
        /*If the ID number doesn't exist, then nothing to do*/
        if (student == NULL) {
                printf("Error: No student with ID %d\n", id);
        }
        else {
                /*Lets the user know that the recalculation started and prints out
the student's name and ID number*/
                printf("Recalculating grades for %s , Student ID Number: %d\n",
student->student.student_name, id);
                /*Recalculates the cumulative score for each category omitting scores
listed as -1. If all individual scores are -1, the category cumulative score is -1.*/
                /*Category 1*/
                cumulative = 0;
                count = 0;
                if (student->student.cat1.score1 != -1) {
                        cumulative += student->student.cat1.score1;
                        count++;
                }
                if (student->student.cat1.score2 != -1) {
                        cumulative += student->student.cat1.score2;
                        count++;
                }
                if (student->student.cat1.score3 != -1) {
                        cumulative += student->student.cat1.score3;
                        count++;
                }
                if (count != 0) {
                        cumulative /= count;
                }
                else {
                        cumulative = -1;
                }
                student->student.cat1.cumulative = cumulative;
                /*After recalculating each category, prints out the cumulative for
that category. Repeats this step for the other 3 categories*/
                printf("%s Cumulative: %.2f\n", (char*)categories, student-
>student.cat1.cumulative);
                /*Category 2*/
                cumulative = 0;
                count = 0;
                if (student->student.cat2.score1 != -1) {
                        cumulative += student->student.cat2.score1;
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                        count++;
                }
                if (student->student.cat2.score2 != -1) {
                        cumulative += student->student.cat2.score2;
                        count++;
                }
                if (student->student.cat2.score3 != -1) {
                        cumulative += student->student.cat2.score3;
                        count++;
                }
                if (count != 0) {
                        cumulative /= count;
                }
                else {
                        cumulative = -1;
                }
                student->student.cat2.cumulative = cumulative;
                printf("%s Cumulative: %.2f\n", (char*)categories+15, student-
>student.cat2.cumulative);
                /*Category 3*/
                cumulative = 0;
                count = 0;
                if (student->student.cat3.score1 != -1) {
                        cumulative += student->student.cat3.score1;
                        count++;
                }
                if (student->student.cat3.score2 != -1) {
                        cumulative += student->student.cat3.score2;
                        count++;
                }
                if (student->student.cat3.score3 != -1) {
                        cumulative += student->student.cat3.score3;
                        count++;
                }
                if (count != 0) {
                        cumulative /= count;
                }
                else {
                        cumulative = -1;
                }
                student->student.cat3.cumulative = cumulative;
                printf("%s Cumulative: %.2f\n", (char*)categories+30, student-
>student.cat3.cumulative);
                /*Category 4*/
                cumulative = 0;
                count = 0;
                if (student->student.cat4.score1 != -1) {
                        cumulative += student->student.cat4.score1;
                        count++;
                }
                if (student->student.cat4.score2 != -1) {
                        cumulative += student->student.cat4.score2;
                        count++;
                }
                if (student->student.cat4.score3 != -1) {
                        cumulative += student->student.cat4.score3;
                        count++;
                }
                if (count != 0) {
                        cumulative /= count;
                }
                else {
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                        cumulative = -1;
                }
                student->student.cat4.cumulative = cumulative;
                printf("%s Cumulative: %.2f\n", (char*)categories+45, student-
>student.cat4.cumulative);
                /*Recalculates the current overall grade. If any cumulative is -1,
then it becomes 100**/
                grade = 0;
                if (student->student.cat1.cumulative != -1) {
                        grade += 0.15 * student->student.cat1.cumulative;
                }
                else {
                        grade += 15;
                }
                if (student->student.cat2.cumulative != -1) {
                        grade += 0.3 * student->student.cat2.cumulative;
                }
                else {
                        grade += 30;
                }
                if (student->student.cat3.cumulative != -1) {
                        grade += 0.2 * student->student.cat3.cumulative;
                }
                else {
                        grade += 20;
                }
                if (student->student.cat4.cumulative != -1) {
                        grade += 0.35 * student->student.cat4.cumulative;
                }
                else {
                        grade += 35;
                }
                student->student.current_grade = grade;
                /*Prints out the current overall grade*/
                printf("Current grade is: %.2f\n", student->student.current_grade);
                student->student.final_grade = -1;
                printf("Student's Final Grade was deleted");
        }
}
```