

GNGI106 Homework Problem Set Solutions 5

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#include <stdio.h>
#include <stdlib.h>
#include <math.h>
#include <string.h>

int main()
{
    int run=0, option, t=0, b=0, count=0, numOfStudents = 5;
    char firstName[20], lastName[20], ID[20], userID[20];
    int lab1, lab2, lab3, lab4, lab5, homework1, homework2, homework3,
homework4, homework5, midterm, fin;
    int contains = 0;

    struct Student
    {
        char firstName[20], lastName[20], ID[20];
        int lab1, lab2, lab3, lab4, lab5, homework1, homework2,
homework3, homework4, homework5, midterm, fin;
    };

    struct Student record[200];

    FILE *fp;

    while (run==0)
    {
        printf("Please choose one of the following options:\n\n 1.
Print the information of students\n 2. Add new student \n 3. Exit\n");
        scanf("%d", &option);

        fp=fopen("Assignment5_input.txt", "r");

        numOfStudents = 0;
        while (fscanf(fp, "%s%s%s%d%d%d%d%d%d%d%d%d\n",
firstName, lastName, ID, &lab1, &lab2, &lab3, &lab4, &lab5, &homework1,
&homework2, &homework3, &homework4, &homework5, &midterm, &fin )!=EOF)
        {
            strcpy(record[count].firstName, firstName);
            strcpy(record[count].lastName, lastName);
            strcpy(record[count].ID, ID);
            record[count].lab1 = lab1;
            record[count].lab2 = lab2;
            record[count].lab3 = lab3;
            record[count].lab4 = lab4;
            record[count].lab5 = lab5;
            record[count].homework1 = homework1;
            record[count].homework2 = homework2;
            record[count].homework3 = homework3;
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        record[count].homework4 = homework4;
        record[count].homework5 = homework5;
        record[count].midterm = midterm;
        record[count].fin = fin;
        count++;
        numOfStudents++;
    }
    count = 0;

    fclose(fp);

t =0;
/*Apply conditions for option 1*/
    if (option == 1)
    {
        printf("Enter the student ID number:\n");
        scanf("%s", &userID);

        int i;
        contains = 0;
        for (i = 0; i < numOfStudents; i++)
        {
            if (strcmp(record[i].ID, userID) == 0)
            {

                printf("\nFirst Name: %s\nLast Name: %s\nID:
%s\n\nLab 1:  %d\nLab 2:  %d\nLab 3:  %d\nLab 4:  %d\nLab 5:  %d\n\nHW
1:  %d\nHW 2:  %d\nHW 3:  %d\nHW 4:  %d\nHW 5:  %d\n\nMidTerm:
%d\nFinal:  %d\n\n", record[i].firstName,record[i].lastName,
record[i].ID,

record[i].lab1,record[i].lab2,record[i].lab3,record[i].lab4,record[i].
lab5,record[i].homework1,record[i].homework2,

record[i].homework3,record[i].homework4,record[i].homework5,record[i].
midterm,record[i].fin);
                contains = 1;
                break;
            }
        }

        if (contains == 0)
            printf("Invalid ID number. Please try again:\n");
    }

    else if (option == 2)
    {
        printf ("Enter the ID number:\n");
        scanf("%s", record[numOfStudents].ID);
    }

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printf ("Enter the first name:\n");
scanf("%s", record[numOfStudents].firstName);

printf ("Enter the last name:\n");
scanf("%s", record[numOfStudents].lastName);

printf ("Enter the grade for the 1st lab:\n");
scanf("%d", &record[numOfStudents].lab1);

printf ("Enter the grade for the 2nd lab:\n");
scanf("%d", &record[numOfStudents].lab2);

printf ("Enter the grade for the 3rd lab:\n");
scanf("%d", &record[numOfStudents].lab3);

printf ("Enter the grade for the 4th lab:\n");
scanf("%d", &record[numOfStudents].lab4);

printf ("Enter the grade for the 5th lab:\n");
scanf("%d", &record[numOfStudents].lab5);

printf ("Enter the grade for the 1st homework:\n");
scanf("%d", &record[numOfStudents].homework1);

printf ("Enter the grade for the 2nd homework:\n");
scanf("%d", &record[numOfStudents].homework2);

printf ("Enter the grade for the 3rd homework:\n");
scanf("%d", &record[numOfStudents].homework3);

printf ("Enter the grade for the 4th homework:\n");
scanf("%d", &record[numOfStudents].homework4);

printf ("Enter the grade for the 5th homework:\n");
scanf("%d", &record[numOfStudents].homework5);

printf ("Enter the grade for the midterm:\n");
scanf("%d", &record[numOfStudents].midterm);

printf ("Enter the grade for the final:\n");
scanf("%d", &record[numOfStudents].fin);

printf ("\n\n***RECORD ADDED***\n\n");

fp = fopen("Assignment5_input.txt", "a");

fprintf(fp,"%s          %s          %s          %d
%d          %d          %d          %d          %d          %d
%d          %d          %d          %d\n",
record[numOfStudents].firstName, record[numOfStudents].lastName,

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record[numOfStudents].ID, record[numOfStudents].lab1,
record[numOfStudents].lab2, record[numOfStudents].lab3,
        record[numOfStudents].lab4,
record[numOfStudents].lab5, record[numOfStudents].homework1,
record[numOfStudents].homework2,
        record[numOfStudents].homework3,
record[numOfStudents].homework4, record[numOfStudents].homework5,
record[numOfStudents].midterm,
        record[numOfStudents].fin);

        fclose(fp);

        numOfStudents++;

    }

else
    {
        run=1;
    }

}

fclose(fp);

return 0;
}

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