

Answer on Question #48489 – Programming - C

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

typedef struct {
    char name[20];
    char answer[21];
    int score;
    char grade;
} student;

int main(){
    student **array=NULL, **temp_array=NULL;
    student *curr_stud = NULL;
    FILE* file;
    char filename[200];
    char answer[20];
    double grade;
    int i, students_count=0, array_size=0;
    char result=0;

    while (true){
        printf("Enter filename: ");
        scanf("%s", filename);
        file = fopen(filename, "r");
        if (file == NULL){ printf("Error opening file!\n"); }
        else { break; }
    }

    for (i = 0; i < 20; i++){
        fscanf(file, "%c", answer + i);
    }

    while (feof(file) == 0){
        if (students_count == array_size){
            array_size += 5;
            temp_array = (student**)malloc(array_size*sizeof(student*));
            for (i = 0; i < students_count; i++){
                temp_array[i] = array[i];
            }
            free(array); array = temp_array;
        }

        curr_stud=(student*)malloc(sizeof(student));
        if (fscanf(file, "%s", curr_stud->name) < 1) break;
        else{
            curr_stud->score = 0;
            fgetc(file);
            for (i = 0; i < 20; i++){
                curr_stud->answer[i] = fgetc(file);
                if (curr_stud->answer[i] != ' '){
                    if (curr_stud->answer[i] == answer[i])
                        curr_stud->score += 2;
                    else
                        curr_stud->score -= 1;
                }
            }
            curr_stud->answer[20] = '\0';

            grade = curr_stud->score / (20 * 2.0);
            if (grade>=0.9) curr_stud->grade = 'A';
            else if (grade >= 0.8) curr_stud->grade = 'B';
            else if (grade >= 0.7) curr_stud->grade = 'C';
        }
    }
}
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        else if (grade >= 0.6) curr_stud->grade = 'D';
        else curr_stud->grade = 'F';

        array[students_count++] = curr_stud;
    }
}
fclose(file);

for (i = 0; i < students_count; i++){
    printf("%s - %s - %d - %c\n", array[i]->name, array[i]->answer, array[i]->score,
array[i]->grade);
}

printf("Save result? (y\n) ");
getchar(); scanf("%c", &result);
if (result == 'y' || result == 'Y'){
    while (true){
        printf("Enter filename: ");
        scanf("%s", filename);
        file = fopen(filename, "w+");
        if (file == NULL){ printf("Error opening file!\n"); }
        else { break; }
    }

    for (i = 0; i < students_count; i++){
        fprintf(file, "%s - %s - %d - %c\n", array[i]->name, array[i]->answer,
array[i]->score, array[i]->grade);
    }
    fclose(file);
}

for (i = 0; i < students_count; i++){
    free(array[i]);
}
free(array);
}

```