

CMPE 252 - C Programming, Spring 2022

Lab 04

Please write a program keeping the list of 5 senior project students entered to a project competition with their novel projects in a text file considering their names, surnames and 5 scores earned from referees in the project competition.

project.txt will include:

Ece Yildiz 5 6 7 8 9

Can Sahin 7 7 7 7 8

Sevil Gunduz 6 5 7 8 7

Mutlu Sunal 6 7 7 8 7

Cem Duru 5 4 5 6 5

Follow the following steps while you are writing your program:

Create project_t structure with 4 members:

- 2 char arrays for names and surnames, please assume that the length of each field is maximum 30
- 1 double array for keeping referee scores
- 1 double variable for keeping the average score earned from the referees

Use 5 functions:

- double calculateAverageScore(const project_t *project); **calculateAverageScore** function *gets* a pointer to a constant project_t. Then it calculates the average score of the projects and *returns* it. If the difference between the maximum and minimum score of a project is higher than 5 then exclude the maximum and minimum scores of the project when calculating the average score.
- int scanProject(FILE *filep, project_t *projectp); **scanProject** function *gets* a pointer to FILE and a pointer to project_t. It reads name, surname and referee points from the file, and fills project_t pointed to, by projectp. Returns 1 if the read operation is successful; otherwise, returns 0.

- `int loadProjects(project_t projects[]);` **loadProjects** function *gets* an array of `project_t`. Opens the text file with the entered name. For each array element, reads data by calling `scanProject` function and computes the average score by calling `calculateAverageScore` function. Stops reading when `scanProject` function returns 0. *Returns* the number of read projects.
- `int findPrintLoser(dee_t project s[], int numofProjects);` **findPrintLoser** function *gets* an array of `project_t` and the number of projects. Finds the student with the worst score according to the average score, prints it by calling `printProject` function and *returns* its index in the array.
- **main** function is where you declare an array of projects and call `loadProjects` function, print all project suing `printProject` function and call `findPrintLoser` function.

Please submit both your lab04.c and project.txt files!!!