Simple Programs in C

QR_COD_11

Create a simple program in the C programming language that corresponds to the information below

Use the same gitHub repository as in the previous work order
(e.g. Musterperson_QR_COD

Create a folder for each program in your repository – e.g. Sampleperson_QR_COD_Program_1.

Be sure to use the **Microsoft Visual Studio** development environment

Please **use** the previously created **project folder** with the name YourName_QR_COD for all **programs** of this work order .

For each subtask, create a separate project in the project folder with the Name **YourName_QR_COD_X, where x stands for the number of the respective tasks)**

student administration system

Create a C program that implements a simple student management system. The program should allow storing student data, displaying it, searching for a specific student, and calculating the average grade of all students.

Requirements:

Use structure:

Define a structure `Student` that has the following properties:

- `char name[50]`: Name of the student
- `int matriculationNumber`: matriculation number of the student
- `float grade[5]`: An array of 5 grades (e.g. grades for 5 different subjects)
- `float average`: Average grade of the student (to be calculated)

Implement functions:

studentAdd:
Function to add a new student with name, registration number and grades. Calculate the student's average grade and save it in the structure.

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showStudent:

Function to display all saved students, including name, registration number, grades and average.

seekStudent:

Function to search for a student by registration number and display his data.

calculateAverageOfAllStudents: Function
to calculate and output the average grade of all stored students.

Menu and interaction:

Create a menu system that provides the user with the following options:

1. Add students
2. Show all students
3. Search for a student
4. Calculate the average grade of all students
5. Exit the program

Storage space:

The program should be able to store a maximum of 30 students.

Notes:

Input verification:
Make sure that all grades entered are between 1.0 and 5.0 and that the student number is a positive integer.

Calculations: The
function for calculating the average grade should ensure that all values are recorded correctly.

Code structure:

Use functions and, if possible, a clear code structure to make the code maintainable and readable.

Supporting links:

- www.w3schools.com
- www.c-howto.de

Diploma:

Upload your created file to the repository.

20 teaching units

Evaluation:

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