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Homework Description

Design a gradebook program with a menu option like below, using versatile data structure

1. Add a new course - max 10 courses
2. Add a new student - 25 max students
3. Add a student to a course - max 10 students per course
4. Add grades for a student in a course – max 5 grades per student
5. Print a list of all courses
6. Print a list of all students
7. Print a list of all students in a course
8. Compute the average for a student in a course
9. Exit

Program Steps

1. Layout menu options first with switch statement in main, take in a user choice character value
2. Print menu using void function for main to call
3. Each step above needs to be a separate function, start with easy ones
4. Add a new course – simple input
 - a. Declare an array for all 10 courses that could be input, struct data array
 - b. Declare two character arrays, one for course name, and description
 - c. When course is input save it to first value in data array for courses
5. Add a new student- simple input
 - a. Create an array for all 25 students
 - b. Create character string to assign ID to student starting with ID001
6. Add a student to course – for loop and nested if statements
 - a. Use for loop to loop through known courses
 - b. If course exists do the same for student
 - c. If student exists add student to new array
7. Add a grade to student in course – for loop and nested if statements
 - a. Use for loop to loop through existing students and courses
 - b. If exists add grade to pre existing enrolled student
8. Print all courses and students – for loop
 - a. Simply print array of students and courses
9. Print a list of student in course – for loop
 - a. Simply print a list of enrolled students corresponding to course
10. Compute average of student grade – for loop
 - a. Compute and print average of grades entered for student