C - Assignment 08 (100 pts)

Exercise 01 (5 pts)

Create a structure `course` that is made from the following fields:

- Department (string, 15 characters)
- Course number (integer, 4 digits, leading 0 if necessary)
- Course title (string, 30 characters)
- Credits (short, 1 digit)

Complete with the required `typdef`.

Exercise 02 (15 pts)

Write a function `inputCourse()` which receives a `course` pointer and allows the user to input its information taking the size of each field into account. Test the function, but don't include the testing code in your homework.

Exercise 03 (20 pts)

Write a function `printCourse()` which receives a `course` pointer and prints all its fields, 1 field per line, using the following conditions:

- The labels ("Department", "Course Number", …) are left aligned
- The values are right aligned
- Course numbers must have leading zeroes

Test the function, but don't include the testing code in your homework.
Upload a screenshot of a sample output.

Exercise 04 (20 pts)

Write a function `printCourseRow()` which receives a `course` pointer and prints all its fields as a single row. Use proper formatting so that when we print 2 or more courses as rows, the same members align below each other. Test the function, but don't include the testing code in your homework.
Upload a screenshot of a sample output.

Exercise 05 (10 pts)

Write a function `inputAllCourses()` which receives an array of `course` pointers and the array's size, then allows the user to input all courses in the array by calling `inputCourse()`

Exercise 06 (10 pts)

Write a function `printAllCourses()` which receives an array of `course` pointers and the array's size, then prints all courses in the array by calling `printCourseRow()`

Exercise 07 (20 pts)

Write a `main()` function using the following requirements:

- Define a `SIZE` constant (the value is irrelevant, but for testing, you may want to keep it small enough – no bigger than 5)
- Create an array of course pointers using `SIZE`
- Dynamically allocate each element of the array
- Call `inputAllCourses()`
- Call `printAllCourses()`

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