Project Two Guidelines and Rubric

CS 300 Project Two Guidelines and Rubric

Competency

In this project, you will demonstrate your mastery of the following competency:

- Develop code using algorithms and data structures to solve basic programming problems

Scenario

The academic advisors in the Computer Science department at ABCU are very happy with the planning and design you have completed for th they would like you to move forward with writing the code for the application so the department advisors can start using this to help when th

Directions

All of your coding will be completed in the integrated development environment (IDE). Additional references on the use of this IDE are linked coding, you will be using the data structure that you recommended in Project One to complete the following.

1. **Input: Design code to correctly read the course data file**. The program you will submit will be a command-line program writte file name that contains the course data and read that file into course objects that are stored in your chosen data structure. Your data str
2. **Menu: Design code to create a menu that prompts a user for menu options**. The menu should include the following option
    a. Load Data Structure: Load the file data into the data structure. Note that before you can print the course information or the sorte data structure.
    b. Print Course List: This will print an alphanumeric list of all the courses in the Computer Science department.
    c. Print Course: This will print the course title and the prerequisites for any individual course.
    d. Exit: This will exit you out of the program.
3. **Loading Data Structure: Develop working code to load data from the file into the data structure**.
4. **Course List: Develop working code to sort and print out a list of the courses in the Computer Science program in a**

courses). To print out a course list, use the pseudocode you created previously to guide your work. Then, create code that will allow advi

Remember that this code should do the following:

a. Sort the course information alphanumerically from lowest to highest.
b. Print the sorted list to a display.

5. **Course Information: Develop working code to print course information.** This code should allow users to look up a course a prerequisites. Your program will need to prompt the user to enter the courseNumber. You will then print out the name of the course alo titles. See Project Two Sample Program Output in the Supporting Documents section.
6. **Industry Standard Best Practices: Apply industry standard best practices in code design**. Your program should display a within parameters. You should also use in-line comments and appropriate naming conventions to enhance readability and maintainabili

What to Submit

To complete this project, you must submit the following:

Advising Assistance Program

Submit all of your C++ code that is needed to implement the project in a single ZIP file. Make sure the code compiles and runs.

Supporting Materials

The following resources may help support your work on the project:

Course Information

This document outlines the courses and pathway you will be designing for.

ABCU Advising Program Input

This file contains all of the course information you will need to run your program. The text is written in comma-separated values for the fields prerequisites. The course number and title will be on every line in the file, but a course may have 0, 1, or more prerequisites. A prerequisite wi

Project Two Sample Program Output

This file shows an example of the kind of output you would expect from the program you are designing.

Project Two Rubric

Criteria	Exemplary (100%)	Proficient (85%)	Needs Improvement (55%)	
Input	Exceeds proficiency in an exceptionally clear, insightful, sophisticated, or creative manner	Designs code to correctly read a data file	Shows progress toward proficiency, but with errors or omissions; areas for improvement may include taking care of missing files	D
Menu	Exceeds proficiency in an exceptionally clear, insightful, sophisticated, or creative manner	Creates a menu that prompts a user for appropriate input	Shows progress toward proficiency, but with errors or omissions; areas for improvement may include ensuring the output matches exactly what is provided in the sample	D
Loading Data Structure	Exceeds proficiency in an	Develops code to load file data	Shows progress toward	D

	exceptionally clear, insightful, sophisticated, or creative manner	into the data structure	proficiency, but with errors or omissions; areas for improvement may include displaying the prerequisites correctly or functioning correctly with multiple input files	
Course List	Exceeds proficiency in an exceptionally clear, insightful, sophisticated, or creative manner	Develops the appropriate algorithm to print out a sorted list of data from a data structure	Shows progress toward proficiency, but with errors or omissions; areas for improvement may include properly sorting the list of courses	D
Course Information	Exceeds proficiency in an exceptionally clear, insightful, sophisticated, or creative manner	Develops the appropriate algorithm that looks up a course using an appropriate data structure	Shows progress toward proficiency, but with errors or omissions; areas for improvement may include properly displaying the course information	D
Industry Standard Best Practices	Exceeds proficiency in an exceptionally clear, insightful, sophisticated, or creative manner	Applies industry standard best practices in code design	Shows progress toward proficiency, but with errors or omissions; areas for improvement may include adding more comments, naming all variables by convention, or displaying an error message when user input does not fall within parameters	D

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