ITEC 3150, Homework #1 - Intermediate Programming Review

Fall, 2018

Due Date: no later than 11:59 PM on Monday, September 3, 2018 (THIS IS LABOR DAY) – NOTE: Monday deadline is for your convenience. I probably will not answer questions after 5 PM on Friday, September 1, 2018

Coding standards note: The coding standards are in a document in a D2L module titled Coding Standards. See Grading Criteria for points lost if not followed.

Create a listing of available courses for a small school. The listing should contain a list of all courses. The user should be able to view a list of courses in the listing and search for a particular course by CRN or course name. It should also be able to delete a course found by the CRN or name. The deletion should be visible the next time the program is run.

The courses should fall into three disciplines: English, Math, and History.

All courses should have a unique CRN (numeric code) , name, category (English, Math, History). English courses additionally have attributes of level (freshman, sophomore, junior, senior), and can be either a reading or writing course or both.

Math courses have the additional attributes of STEM or non-STEM (but not both), and they can be online, in person or hybrid courses.

History courses have the additional attributes of Area E eligible or not, and they can be recorded, online, or in-person.

The courses are always read from a text file each time the program is run since there is not way to add a course. The format of the text file is your choice and you MUST turn in a text file with a minimum of six courses. In order to receive credit for deleting courses, the program must also rewrite the file upon exiting.

Interface to program may be textual or graphic, I expect to see a menu of some sort with the ability to view courses, find a course and delete a course and exit the program.

User interface must be minimally user-friendly.

To receive full credit for the program, it must use inheritance for the different types of courses.

Up to 10 points extra credit on the homework for a working option to add a new course with all its appropriate attributes.

Turn in: All Java files – should be a minimum of 4(four) separate class files. More is fine. Text file containing your minimum courses.

Competencies being graded:

1. Ability to read from a text file
2. Ability to use inheritance to create a set of subclasses all inheriting from a common parent class.
3. Using polymorphism to create and maintain a single list of the subclasses
4. Use System.out.println and Scanner to create a user friendly interface into your program
5. Ability to read an English language problem description and design a multi class solution in Java
6. Ability to follow given coding standards- in D2L content under Coding Standards.

Grading Criteria

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| Compiles and has minimum of 4 separate Java classes and files: | 10 |
| Correctly uses inheritance for courses | 20 |
| Correctly lists courses available | 15 |
| Correctly deletes courses | 10 |
| Correctly finds (or doesn’t find) courses | 10 |
| Correctly reads text file | 10 |
| Correctly writes text file (upon deletion or insertion) | 10 |
| Meets coding standards | 15 |