1 Objectives

1. Practice peer code review
2. See how peers implement different features

2 Task

Find another person in the course to work with for this lab. For this lab you will work together to evaluate and improve your project 1 submission. Peer code review and debugging is an important skill in the workforce!

In addition to any bugs found and fixed, work with that person to add documentation to their code, clearly explaining 1) the overall code structure, 2) the function and purpose of individual methods/subroutines, and 3) potential areas for improvement: code refactoring, features to be added, and possible future problems. Some basic “checklist” questions you can ask yourself are:

1. Am I able to understand the code easily?
2. Is the code written following good coding standards/guidelines?
3. Is the same code duplicated more than twice?
4. Can I test / debug the code easily to find the root cause?
5. Is this function or class too big? If yes, is the function or class having too many responsibilities?
6. For important objects in the code, does ownership change often? Is the logic easy to follow?

Compile and run their code for Project 1, then complete the following evaluation tasks.
Perform the following tasks:
1. Add at least three students, with all appropriate metadata.
2. Print the list of students to verify they are all there.
3. After adding the students, change the name of one of them.
4. Print the student to make sure the name changed.
5. Add at least one course onto each student.
6. Print the full list of students with courses to make sure the courses worked.
7. Add at least three courses onto one student.
8. Print the full list of courses again to verify.
9. Delete one of the students.
10. Print the database again.
11. Delete one of the courses from one student.
12. Print the details for that student.

Save the output of the above procedures and print it out to be turned in.
After you have tried using the program, read through the source code to see how their program works, and answer the relevant questions about it below.
Finally, work together to improve or fix one of the major issues or deficiencies with the program.

2.1 Submission

You will turn in your own Project 1 if you made changes to it. The grade of this lab will be to see if you made relevant changes and bug fixes, added documentation, and completed a thorough review of your partner.

3 Code Testing and Evaluation

Run the program. Try different inputs. Describe any bugs or errors you encountered:

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Does the program satisfy all the features required by the project instructions? If not, why?

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Was the program easy to use? Did you have to ask for help?

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What parts of using the program did you enjoy?

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What parts of using the program did you not enjoy?

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Read the program source code. Can you identify where any bugs occur in the program?

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Read the program source code. Describe the algorithms used. Does the logic of the program make sense to you? Can you identify parts that you would change to make it simpler? Are there “clever” aspects of the implementation that you haven’t seen, but which you would use later?

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Read the program source code. Is it clearly documented? Would you be able to easily take the code and modify it to, for example, complete one of the bonus tasks if it is not already done?

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Identify specific areas where extra documentation is needed. Discuss with your partner these needs and make notes for them to add the documentation on their own.
Is there any aspect of your own program (user interface, code organization, control flow) that you would consider changing in a “version 2.0” after seeing this person’s implementation?

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Any other general comments about the code you are reviewing?

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