

Final Project
CS 300/CS 500
Due December 6, 3:00 PM

Goal:

Demonstrate your knowledge of OO concepts in C++ in addition to unit tests, documentation, and linters.

Topic:

You can create your own project, or you may select from the list below.

1. Create a wiki ladder. Inspired by Wikiraces (https://en.wikipedia.org/wiki/Wikipedia:Wiki_Game), this project requires a starting wiki page and an ending wiki page. Your program should find the ladder between the two pages, if one exists.
2. Create a Hamming Code (7, 4) – this problem requires matrix multiplication so you can use Eigen. Parity bits identify errors, hamming code can correct errors. Read more about hamming code (https://en.wikipedia.org/wiki/Hamming_code). Your program should allow the user to enter a file containing Hamming (7, 4) code words. The program should decode the words, correcting errors as it goes; however, if there are multiple errors in one code block, don't try to correct it, just print out an error message.

Requirements:

The following are required for the project.

1. Work with a partner. If you wish to work independently, that is your choice.
2. Must use classes or interfaces appropriately given the needs of the project.
3. Must write classes using const correctness.
4. Use Doxygen to comment the code.
5. Include 15 unit tests. Graduate students must use the Google Test Framework.
6. Include the Github repo and make file.
7. Include a brief write-up answer the following questions:
 - a. How did you contribute to the final project?
 - b. How did your partner contribute to the final project?
 - c. What is your biggest takeaway from the course?
 - d. What is one thing you would change about the course?
8. Ten bonus points for using a linter – must include a brief write-up of the linter you used and how you used it.