

Lab 5

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What did you learn from doing this lab?

- My biggest take away from this lab is how to have multiple C++ classes interact together. Specifically, I learned how to leverage pointers so that I could use various outside classes, without having to store actual objects within my classes. I also learned how to represent a 2D array and how to propagate it using input from cin. Lastly, I learned how to use the call "class *ClassName*;" following the include statements for a header file so that I could reference another class from a .h file, without having to #include that entire class in that header file.

What did you find challenging about the lab?

- My biggest challenge for this lab was figuring out the proper way to use pointers to class objects. Coming from Java programming I struggled with the concept of not having a reference to an actual object, as such, it took me some time to get used to just storing the address to an object. In addition, I had a tough time using the 2D array. The reason is that there were so many references to the x and y coordinates, that when I was not careful, I would accidentally confuse the two and end up with very unexpected results. Lastly, I struggled with C++'s lack of bounds checking. This gave me a tough time because when I wouldn't check for bounds, and because arrays are store contiguously in memory, the robot would move out of bounds, but it would appear as a valid move because the Robot would just jump to the next row of MapCells.

What would you recommend changing if this lab is reused in future years?

- There is not much that I would change for this lab in years going forward. I appreciated the provided code and provided UML diagram, as it lent a nice base so that I could focus more on learning how C++ classes can interact together, instead of worrying about object oriented design for the problem space. However, one thing that I think could be changed would be to potentially include a short write up of how to change the input for a CodeLight C++ project from the command line to a text file. I know it was shown in class, and I appreciated that demonstration, however, it would be nice to have a reference page or even just a link to another site so that if issues arose there was a resource to check.