End of Course Reflection

- **What stood out to you as the most important things you learned about computer programming this quarter? Why do you think they're important?**
  In general, I think the most important thing is learned in this class about computer programming is how capable I am. Starting with Assignments 7-10, which seemed so impossible at the beginning, yet by giving it my all, I was able to devise a solution to the tasks. These assignments were well placed in terms of difficulty, being just out of reach of the current skills I had at the time, but not so far out of reach as to be demoralizing. I learned that with the right stick-to-it-ive attitude, Google searches and Slack chatting, that I can do way beyond what I would have self-assessed. I believe this is an important thing to learn because undoubtedly, I will face many challenges as a programmer that I will not know the solution at first. I can't imagine having a career of problems to which I already know all the solutions, and that is OK. It's OK to not know the solution immediately if I am willing to put in the work to get the desired results. I believe this ability is probably most important.
  More specifically regarding C++, the most important things I learned were about pointers, dynamic memory allocation and reading/writing to files. These were brand new concepts for me, and I could immediately see their usefulness. The concepts of using pointers/dynamic memory to save memory in a program really intrigued me as I knew they would be useful. Despite the difficult nature of these subjects, I was fueled by the desire to learn more about these obviously useful topics. Reading/writing to files was fun to learn about as well because up until then, I had always had programs that lived while they ran and disappeared without a trace when the programs ended. The ability to have some record that is carried on after the program ended was seriously cool for me. There is little doubt that I will be using this concept as I continue in this degree and career.

- **What topics do you still find confusing? What can you do to get a better grasp on them?**
  The only topic I am still mildly confused on is pointers, which I have come a lot further on. Assignment 10 Shop.cpp Class was very pointer intensive. I honestly thought I was going to struggle quite a bit more on the pointers. Granted, I had moments where I was stumped, but with enough thought, I could figure out how to make the pointers work and perhaps more importantly WHY we chose to use pointers in the first place. The why was missing for me at the start of Shop.cpp. I remember thinking it was a forced, lame usage of pointers. Boy, was I wrong. I can see now that it is quite preferable to use pointers for the Shop class.
  As for getting better with pointers, like anything, it just takes practice. I will most likely go through some of the more complex pointer examples in the chapter that I was never able to get to while class was going.

- **What did you learn this quarter about how taking online courses works for you?**
  Online courses are preferable to me, especially with a classroom management software like Canvas. It's hard to screw up when all my assignments are listed out in the order in which they are due. I think the only challenge was keeping track of all the resources in different locations within classes in Canvas. To solve this, I made some folders on my computer for important documents, such as syllabi and calendars. The lectures can be watched at my convenience, and I don't have to worry about travel time to some local college. Basically, online courses are the way to go for me, if the quality is reputable, which I am happy with OSU so far on.

- **How can you generalize your experience in this course in a way that will help you in future courses?**

  This course presented a series of ever-increasing, difficult challenges that took time, dedication, and the right attitude to complete. I feel 10x the programmer I was when I started this class because I worked through these challenges without giving up.

  Looking toward the future, this will not be an easy CS degree and I will meet many more difficult challenges in my future courses. This course will help me to remember that I've had challenges before that I thought I could not complete at first, but I did complete them with the right effort/mindset! The only easy day was yesterday!

- **How has this course helped crystallize your ideas about what a career that involves computer programming might be like?**

  This course has made me realize that I have made the right move pursuing a CS degree. I was genuinely excited for the assignments we had in this class. Sure, I had my moments beating my head on my desk, but I loved every second of it. Programming is fun for me, and that means a lot when examining a future career. One thing this course has shown me about the computer programming career is that nothing will come easy at first. Looking back after I'm done with it, it all seemed easy now. In short, computer programming will be a tough career riddled with challenges, but I will find the challenges fun, and that's probably what matters most.

  One aspect of this course that stands out in relation to a career in computer programming is making my code readable for others. Specifically, when we were working in groups comparing each other's code, I learned that readability of code is most desirable. Readability is not only desirable for me, but also my group members tended to prefer more readable code. I must remember that this career is not performed in isolation, and must ensure that my code is readable for the next poor soul that has to decipher my code possibly 3+ years down the road.

End of course reflection

Criteria	Ratings			Pts
important lessons	4.0 pts thoughtful response that includes support/reasoning/examples and is clearly expressed	2.0 pts response that is cursory, minimal, vague or disorganized	0.0 pts no response	4.0 pts
confusing topics	4.0 pts thoughtful response that includes support/reasoning/examples and is clearly expressed	2.0 pts response that is cursory, minimal, vague or disorganized	0.0 pts no response	4.0 pts
learning online	4.0 pts thoughtful response that includes support/reasoning/examples and is clearly expressed	2.0 pts response that is cursory, minimal, vague or disorganized	0.0 pts no response	4.0 pts
improvement	4.0 pts thoughtful response that includes support/reasoning/examples and is clearly expressed	3.0 pts response that is cursory, minimal, vague or disorganized	0.0 pts no response	4.0 pts
career ideas	4.0 pts thoughtful response that includes support/reasoning/examples and is clearly expressed	3.0 pts response that is cursory, minimal, vague or disorganized	0.0 pts no response	4.0 pts

Total Points: 20.0