End of Semester Narrative

Coming into this course, I wasn't quite sure what to expect. Coming from computer science into ISAT, I knew I was better off than if I had been starting from scratch, but I was very unsure of my abilities. I was absolutely miserable in CS last semester. So much so that I withdrew from CS 159 halfway through the semester because I just couldn't take it anymore. I thought I was a terrible programmer and I really didn't want to do it anymore but, I didn't have a backup plan because I had spent so many years convincing myself that I was going to end up with a computer science degree. I basically picked ISAT because I felt like it was my only choice to keep my STEM scholarship. At least the course descriptions for this class sounded better than the ones for the computer science classes I took. I also looked at the VA Grades database and saw that most people who took this class got A's and B's so that did make me feel a little better coming in that I could at least keep my GPA where I wanted it to be.

The first thing I wanted to focus on was trying to regain some of the skills I used to have. When I withdrew from programming, I stopped looking at code completely. So, the last time I had looked at anything was around October. Luckily, I decided to keep all of my files, so I figured it would be good to start looking through what I had done in the past to see how much I still understood to get a good jumping off point. Then, I also wanted to figure out a better learning style for myself. The way the CS department approached learning was not a great fit for me and I felt it necessary to determine the best way for me to understand programming so that it would seem more approachable than it did before. Lastly, I really wanted to like coding again. It never stopped sounding interesting, but it definitely stopped being fun. I wanted to get to a point where I could sit down and learn it because I wanted to and not have it feel like a chore. To help this out, I decided to start a hobby blog, so that I could learn code implementations on something that was of more personal interest to me, rather than the more generic projects that I had done before.

For the first few weeks of the semester, I spent my time outside of class brushing up on old skills that were rusty. I mostly used W3Schools modules to refresh my knowledge on Python and then start learning the basics of JavaScript. I also went through my old Python project files and tried to test myself on how well I could explain the things I had done in the past. I pretty much made myself start back at the beginning and try to find a better way to learn it again. I also spent a lot of time in the first few weeks just getting used to using Visual Studio Code and getting my workspace back in order.

After that, I got my website set up, and started searching for tutorials for different things that I could implement using JavaScript (https://www.freecodecamp.org/news/javascript-projects-for-beginners/#how-to-create-a-sidebar). Unfortunately I then found out that Wordpress would charge me too much to be able to upgrade my plan and implement my own code, so I wasn't able to actually add my code into the website the way I wanted to. Even though my website idea didn't go to plan, I was still glad that I went through a few of the tutorials from Free Code Camp because it was helpful to have someone explain the code and at least have that information stored away for later.

By the first half of March, I pivoted back to Python and started working on finding a game tutorial to follow with Tricia. I think that partnering up with Tricia was one of the best things that I did for myself in terms of strengthening my skills. Everytime she had a

question that I didn't know, it made me work harder to find an answer and to be able to know it well enough to explain it. The extra accountability was very helpful to my learning experience. Together, we decided to use a beginner python tutorial from Free Code Camp (https://www.techwithtim.net/tutorials/game-development-with-python/tetris-pygame/tutorial-1/) to make Tetris. The tutorial had a video version as well as written explanations which were helpful to me as I tried to figure out how I was learning best. After finishing it and helping Tricia some more, I started working on making my own modifications to the code. The suggestion to make modifications was so helpful in making me really focus on what I knew for sure and what I needed to spend more time on. Before this tutorial, if I was doing a new project, whether in a class, or an online tutorial, once I was done, I didn't touch the code anymore. I would maybe look at it another time or two if I felt like I didn't get it, but I never really did any deep dives into all of the pieces. Making my own changes helped me do that. It also helped me really get into a good rhythm with my learning style where I could set up my workspace, have the tutorial open, have another tab open to stack overflow for questions, and another to the python library descriptions. It was really satisfying to finally feel like I could tackle a project again. The end of March and the beginning of April, I spent implementing a list of changes and personal touches to the Tetris game. I ended up adding background music, sound effects, a new color palette, new font, clockwise and counterclockwise rotation, and a piece swapping function (https://github.com/Davis-32/python_tetris).

After finishing the Tetris tutorial in Python and seeing how beneficial it was for me to be able to compare the original version to my improved one, I decided to do the same in JavaScript (https://www.youtube.com/watch?v=rAUn1Lom6dw). I kind of pushed JS to the wayside for a couple months, but I figured that I would be using it eventually and being able to use another tutorial and modify the code myself and then also compare its implementation to the Python version seemed like it could be helpful. Getting started in the tutorial, I quickly realized that I needed to brush up a bit on the command line, so I spent a week doing that and reviewing html and learning a bit about CSS exploring CSS Zen Garden. Going through the tutorial, I also found that I was getting better at not only understanding code but understanding how it could be better. While I was watching, I was able to look at different blocks of code and say to myself how it could have been done better. It was definitely a confidence booster to realize that I could do that. Once I finished the tutorial I started making modifications like I did with the Python version. The best part of the JS tutorial for me was that by having three separate files, I was able to learn more about how to call files from other files across languages which I hadn't done before. With this tutorial I found that when researching the changes that I wanted to make that I also am getting better with not just finding solutions but finding the most efficient ones. I wasn't a big fan of the JS tutorial as a whole, but at least that was a big benefit in the end. (https://github.com/Davis-32/js_tetris)

I had a bit of a slow start in the beginning of the semester, partially because I was afraid that I would be spending another semester muddling through coding exercises, but by April, I really got into the swing of things. Most weeks I was spending about 4 or 5 hours coding or reading different tutorials. I do think I would have gotten even more out of the class though if I had spaced out my work more though. A lot of the time, I would do marathon sessions of work and then not do much for the rest of the week. I think that I would have done better if I had done 45 minutes or an hour a day instead. In the future I

definitely want to try harder to make sure I dedicate more days to learning even if it's still the same number of hours in total.
Even though I definitely feel like my programming has gotten better, I think the biggest improvement has been in my perspective about myself doing it. I feel like I have really nailed how I learn programming the best way and what kind of things motivate me to want to invest more time into it. I can confidently say that I'm happy with my choice to come to ISAT and have applied computing as one of my sectors. I still don't really know what I want to do with programming in the future in terms of my career or even my capstone, but I at least know that I want to keep learning, which is more than what I could say a few months ago. For this reason along with the work I was able to accomplish this semester, I would like to have an A reported to the registrar. I was able to see most of my academic goals through and most importantly my goals about my personal feelings on programming.