Before going into this project I knew nothing about graphics in java or how to use a GUI. I knew that I could do everything besides the actual representation of the images, it would just take some time to figure out how to do it. With that in mind, the majority of my learning was about GUIs and graphics.

I would give my work a pretty good grade. Some parts of the code may not be elegant and they could be circuitous, but the end product works pretty well and it is quite fun to play.

**Q:** What did you accomplish?

**A:** When I set out I wanted to make a single player snake game that would be playable and be able to keep track of the score. I also wanted to have different speeds as I had played a version of snake that provided different speeds. I figured I would be able to do this and have time to do more, but I didn’t set any goals past that point. I got all that done and then I added two player, color changers, an accelerated mode and some GUI buttons for convenience. I think I accomplished what I wanted and then some, so I’m happy with the result.

**Q:** In retrospect, what choice(s) would you have made differently? Explain.

**A:** When I started project I decided to make the screen quite small as I felt like it would take too long to traverse an area that was too large. In hindsight I should have made the screen bigger or at least allowed for different map sizes as I feel like on higher speeds the confined space inhibits the player’s ability to move. When I tried to change the map size, I discovered it would take a lot of work and a lot of things would have to be changed, so I left it the way it was.

**Q:** What resources/materials were hard to find?

**A:** Many of the GUI tutorials and descriptions required me to go through many websites, most of which didn provide adequate solutions/help. This made it very difficult to transition from the base code to creating an actual dynamic image.

**Q:** Did you discover anything that you still need to learn more about? If so, what? **A:** When trying to implement a score feature that would change as you played, I came across listeners. I had used them in the key listeners and the button action event listeners, but using them to notify listeners proved too complex for what I was doing. I eventually resorted to passing the score label as a parameter so I could change it from another class, but I would like to learn how to do it with listeners as I feel it would be more useful. **Q:** What did you discover about yourself? What else did you learn about how you work and learn? **A:** In previous experiences with free form projects I generally struggled because I wasn‘t sure what to do and if it would be good enough. However, this project has taught me that if I care about what I am doing then it doesn’t matter and it will always be good because I want it to be good and I’m willing to put the effort in.

**Q:** What is the most important programming concept that you learned? **A:** The most important concept I learned and the concept I learned the least about are the same thing. When I initially used listeners for keyboard input and buttons I was just following the instructions people posted online. I knew it was “listening” for input, but I didn’t know how. When I actually tried to make my own listener, I realized I had no idea what I was doing. I knew that it was important though, but I didn’t have enough time to learn to use listeners when I could use another method that perhaps isn’t as graceful but works. This was really the only concept that stood out to me as wow that’s probably something I should learn.