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CS 162

Langton's Ant Reflection

For the Langton's Ant program, I immediately began thinking of how I was going to attack such a large and open program. First and foremost, I grabbed hold of the idea of creating the menu. As being a very new student to computer science, I wanted to keep this simple for now. I simply wanted to greet the user, and prompt them to begin the program. After this, I started away on how I wanted to create the board itself. I went back and forth on creating the 2d array, and at one point had a third file called Square. I was initially planning on having a Square file to represent each of the squares on the board, and then have a 2d Board array of squares. Ultimately, I decided against this idea as I felt it became too many files and too large of a program. The amount of interaction between the classes tripped me up and I decided on using vectors. This came easier for me, so I created a vector of a vector of chars. The chars became the # and ' ' space characters representing the spaces. At that point, I just wanted to get the basics down. The board needed a number of rows and columns, it needed to be displayed, and I would need to figure out how to decipher the colors on the board. I used a simple for loop to display the board itself, and then allowed the board to randomly assign colors to each square. However I encountered several difficulties with the program, especially with understanding the concept of the board itself and how it would appear. It also took me time to be able to work through the code where the ant would move according to the color of the square. It was repetitious at times but also challenging, trying to understand where it would move and why, and where it would end up. More than anything with this program, I've learned how incredibly challenging it can be when one is given total freedom with a program design. So many things can go wrong, and because we are given so much freedom, it can be really difficult to design how we want the program to be. The most difficult part for me was the beginning, as I had no idea where to start and was overwhelmed by the magnitude of my first real coding assignment with total freedom. With that said, on just this one assignment, I've learned an incredible amount. Vectors and 2d arrays may still haunt me, but with more exposure to them I am sure I will become more comfortable with the idea and concepts. With that said, I feel I have a better handle on free range code than I did before, and I have more of an idea of how to attack a program design.