

REPORT

Reflection:

1. What was the easiest and hardest part of this assignment?

The hardest part of this assignment was getting started, but we had significant help in that arena so even that wasn't too bad. I also initially struggled to organize myself as there were so many files that we started with. But once I saw an example of how the program should run I understood better. The easiest part was putting everything all together once it was built (filters, images, main function, etc.)

2. What did you learn?

I had an opportunity to practice working in the command line again, which I enjoyed. I learned how python can be used to quickly manipulate an image. Originally I thought coding something like this would take a lot more work, but once you knew how to get the pixel information and felt comfortable using a nested for loop to iterate through the values, it wasn't too difficult.

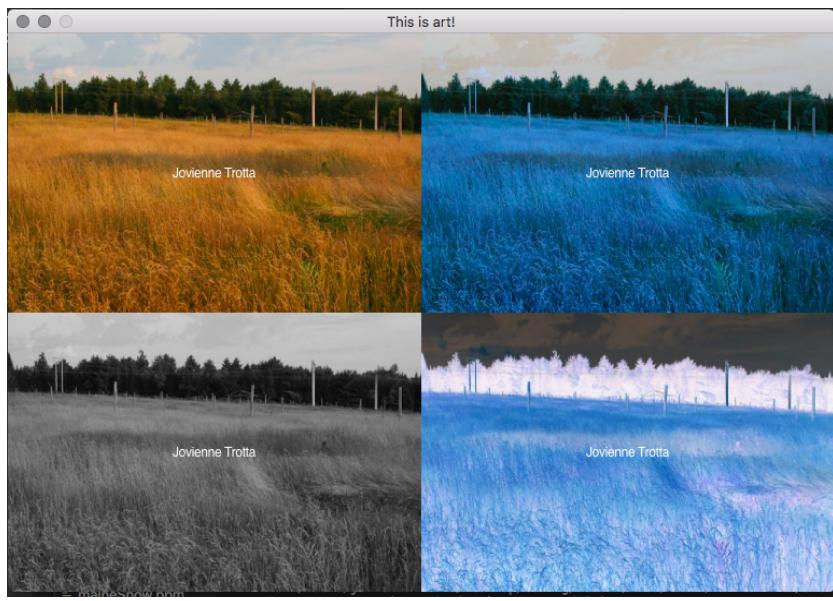
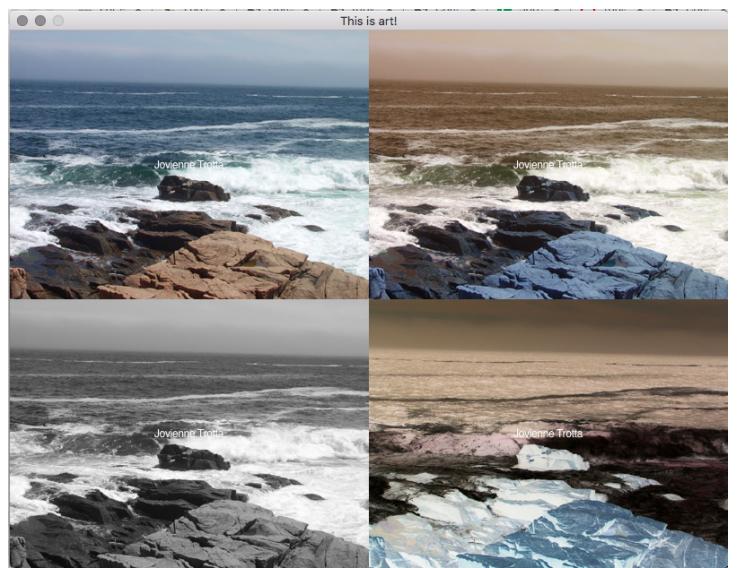
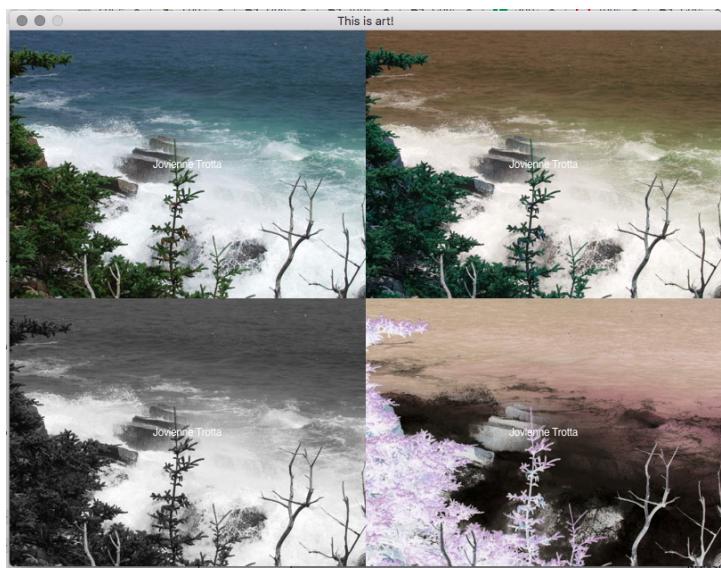
3. What is your understanding/definition of a Pixel?

In my mind, a pixel is the smallest square unit of an image. I know from this lab that each pixel also contains three color values: red, green, and blue. I also learned in class that the color values represent the amount of light of a certain color that is being "turned on" through the computer screen.

4. Why do we use nested for loops to process an image?

We use nested loops to process an image because they can quickly be used to iterate through a series of values (coordinates, for example). The nested loops will first go through all the inner loop values for each outer loop value, then move to the next outer loop value and repeat. This can be shown as follows: (x1,y1), (x1, y2), (x1, y3), and (x2, y1) where the x values represent the outer loop and the y values represent the inner loop.

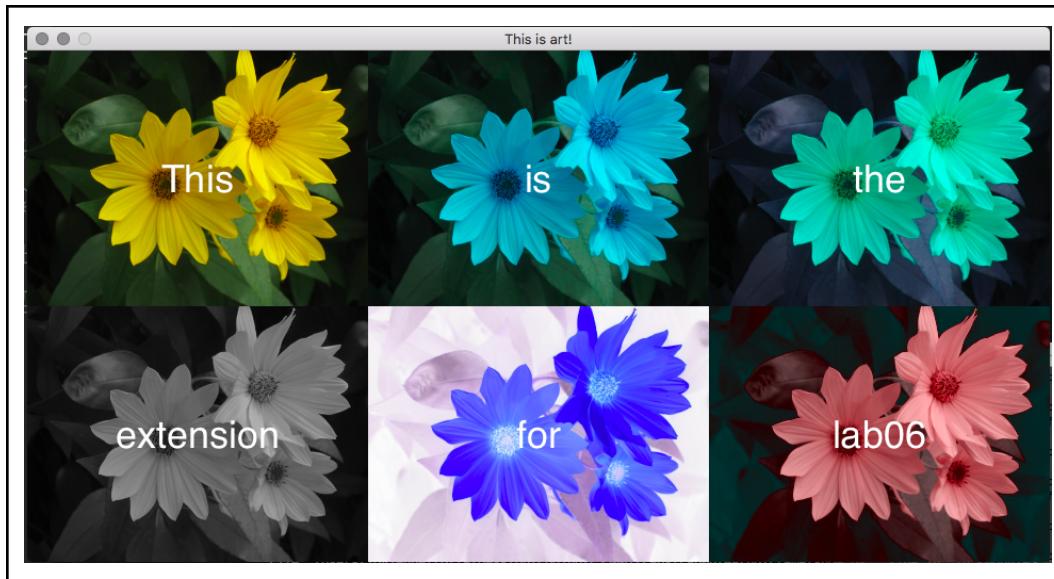
Images:



Extension:

1. What extension did you add to the assignment?

For my extension, I created two extra spots in the grid pattern that could hold two more shapes. I then created two more filters, one which enhanced the red value of each pixel and the other which switched all four of the red, blue, and green values. I also changed the size of my text to make it bigger, which involved using another text method.



Garding Statement:

1. What grade do you think you deserve and why?

I would give myself a 29/30 because I added three extensions (extra images, extra filter functions, and more methods from the Zelle documentation). My code should be organized and easy to read, and should also fill the main requirements of the project. For error handling, I created a simple usage message that would run if the incorrect number of arguments was entered. You can also apply the program to any file.