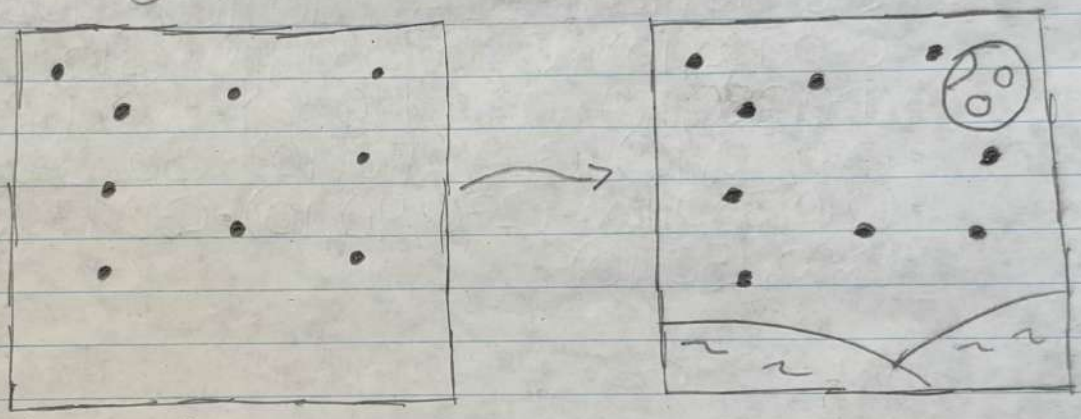
Assignment 2:

Process Work:

Idea: My idea for the 2D Interactive Drawing is similar to a paint and click game. The idea is to have a bunch of colored dots layed out on the screen and the user must click these dots. Once all the dots are clicked the screen will display the full image.

Drawing Example



The image will use left mouse clicks to click on the dots on the screen and will go away once you click them. until you get all of them.

I will be using a 400x400 canvas for this 2D image as I will not need anymore space then that.

I really love looking at stars and space, I also really like point and click.

games as I have been playing them since I was a kid. And this project will be doing both of those so I am really excited to work on it.

Beginning Screen:

- Make background black

- Draw circles with black outline (stars) in these cordinates

- (40, 40, 10) • (270, 210, 10) • (100, 350, 10)
- (100, 180, 10) • (300, 320, 10) • (310, 100, 10)
- (170, 250, 10) • (220, 140, 10) • (80, 110, 10)
- (360, 30, 10) • (360, 250, 10) • (50, 270, 10)
- (210, 330, 10) • (270, 90, 10) • (30, 170, 10)
- (380, 150, 10)

Final Screen:

- Make background Royal Blue

- Draw a Circle for the moon

- (320, 80, 60)

- Draw circles for the moon craters

- (300, 50, 20) • (350, 60, 20) • (310, 110, 20)
- (280, 80, 10) • (350, 100, 10)

- Draw Circles/Ellipses to represent the ground.

Ellipse.(200,375,500,100)

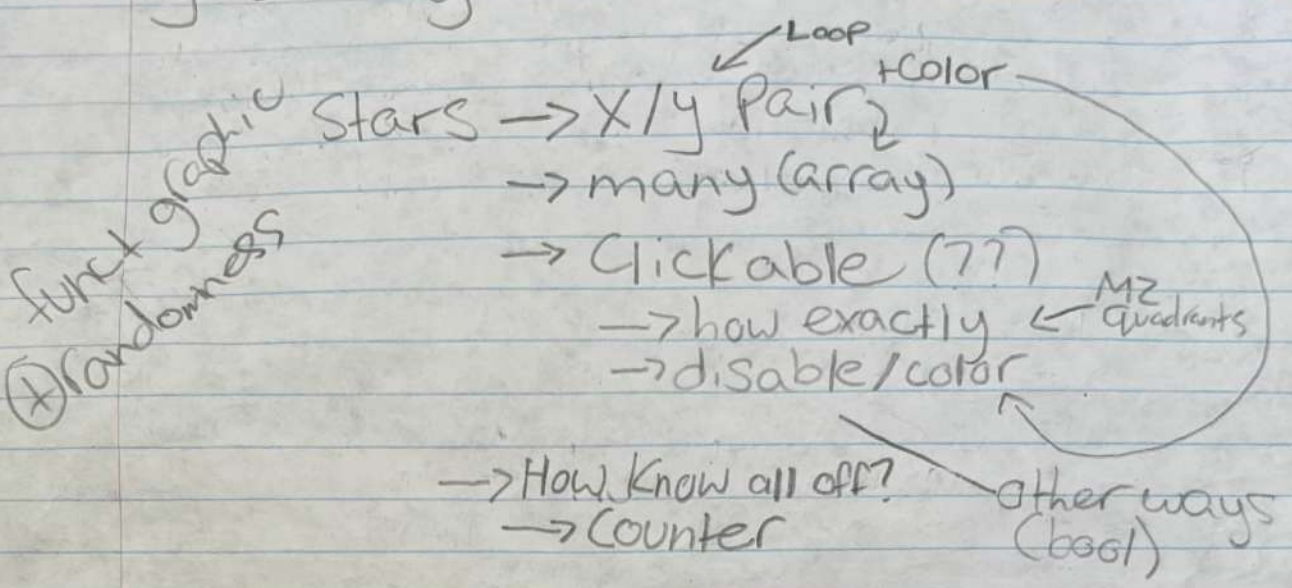
- Redraw Circles (Stars) into new image

Code Plan:

For the beginning screen I plan to have a function that will take in the x, y and radius coordinates for the stars thats inside a loop that has a counter that will add up overtime if you click a star. And if the counter hits the amount of stars on the screen remove the beginning screen and display the final one.

I ran by this by Raphael and he gave me some insight for something I can try to do code wise. My idea most likely will not work.

Here is the information I was given by Raphaël.



After working on some of the code Ive realized the stars in the beginning are a bit big. To change this, on the next screen I am going to make the radius of the stars to be smaller and also make the star be randomized on the screen. To consider the point I needed to add the random function somewhere in my code

To be able to detect the area the mouse is in I needed for both x and y coordinates do =xmouselocation - xcoordinates which would both represent how far the mouse is horizontally and vertically from the specific star.

That is used to see if the mouse is within the boundary of the star. But then we need to find out the total distance from the center of the star to the mouse position. We can use pythagorean theorm.

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Where x_1 is xMouseLocation
y_1 is yMouseLocation
x_2 is xCoordinates[i] (Star location)
y_2 is yCoordinates[i] (Star location)

So then we have

$$d = \sqrt{isMousePositionXOnStar^2 + isMousePositionYOnStar^2}$$

Then to Squareroot the equation we just check in the if Statement if the mouse is in the star radius by squaring the original radius

distanceFromCenterOfStar <= StarRadius^2

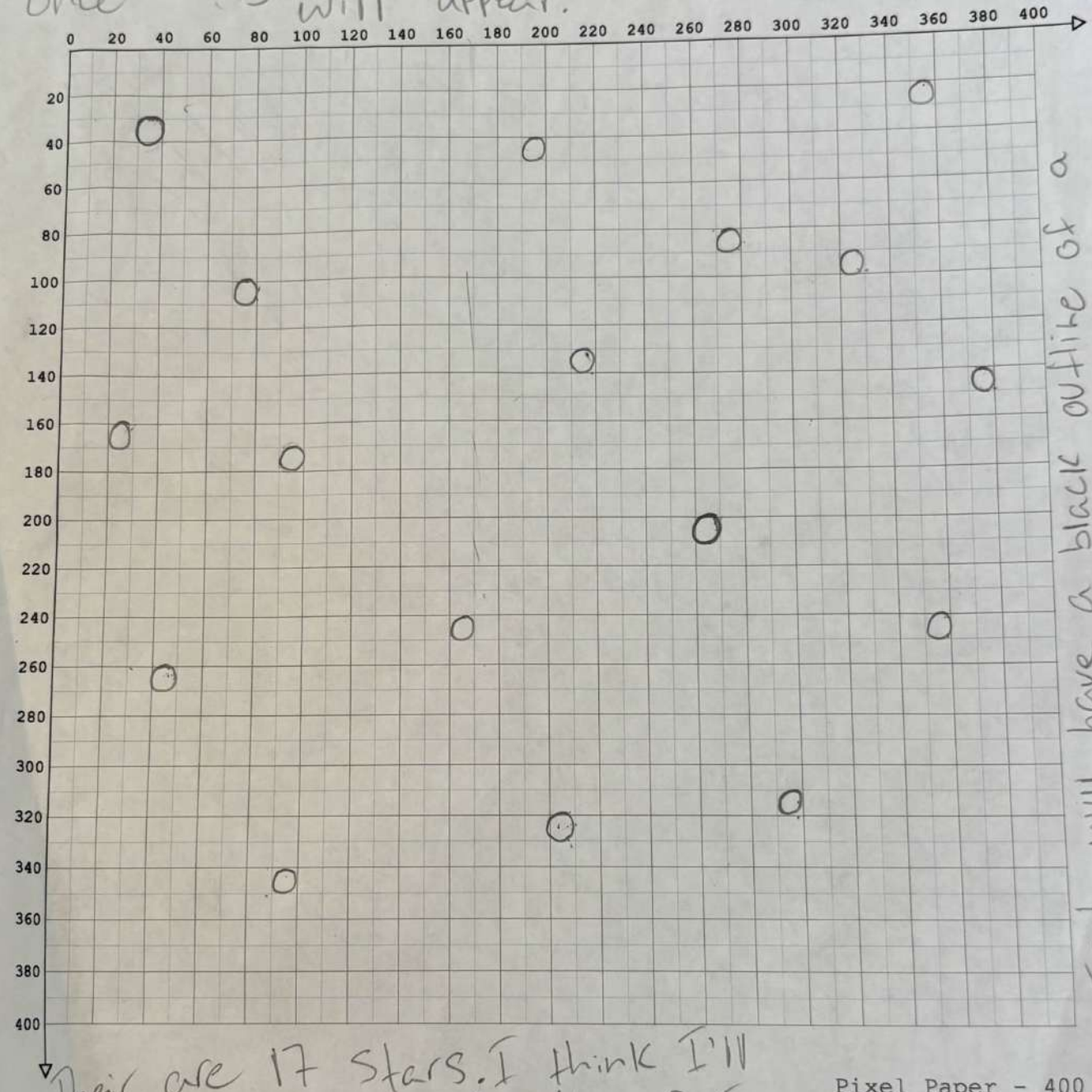
Final Note:

This project was really fun but also had a lot of challenges with it,

I think I mightve went too deep into my project idea as during the coding process I got stuck and confused quite a bit of times, but overall this was quite the fun learning experience for me!!

Beginning Screen #1:

This is the first screen, you will be able to click the stars to make them disappear then once they are all clicked the second screen will appear.



Each star will be the same size

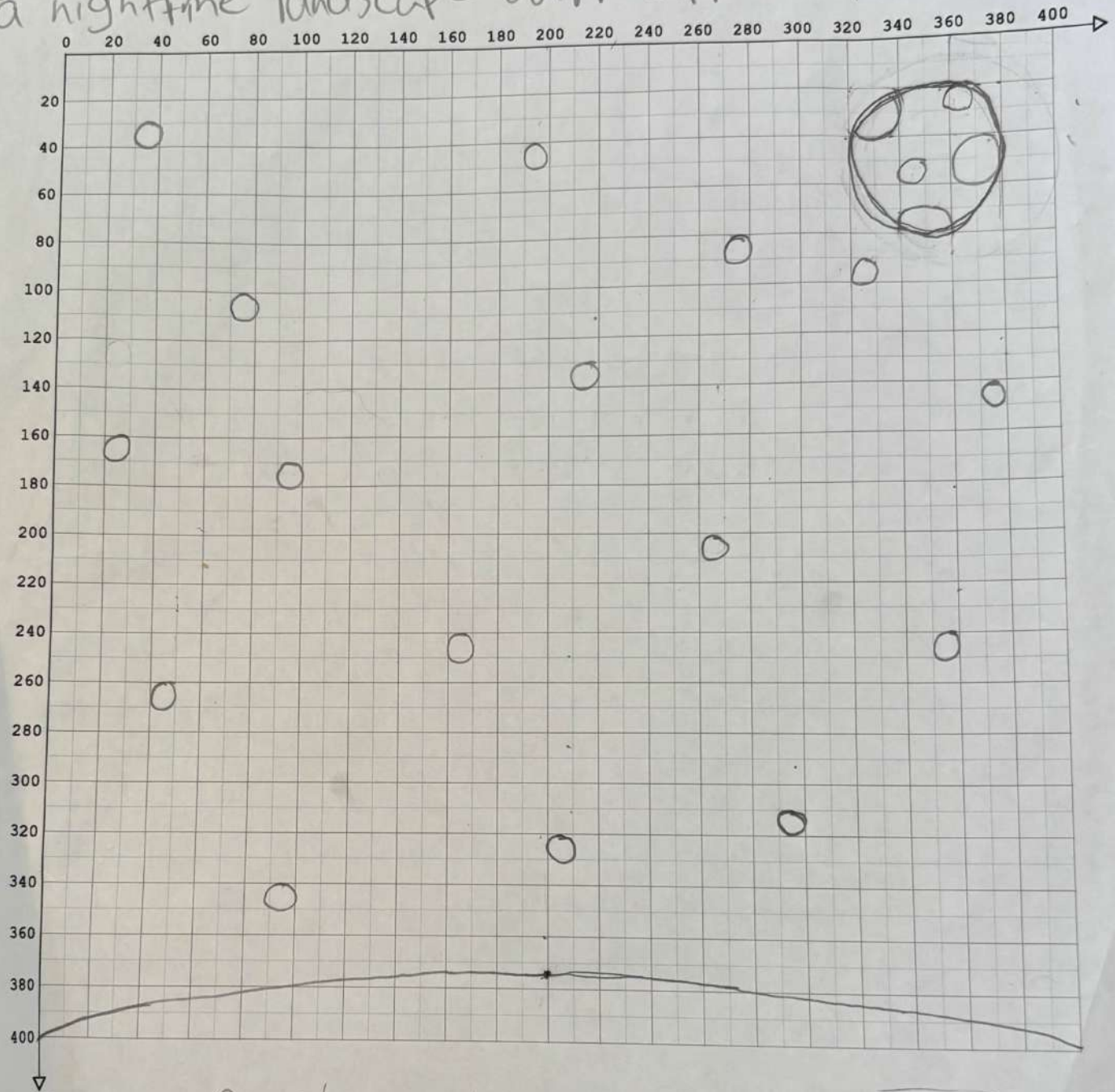
Each will have a black outline of a size of 1

Their are 17 stars. I think I'll be able to create a function for the stars. Then possibly add a counter for each time one is pressed. Then when the counter hits 17, clear the screen and display the new screen.

Pixel Paper - 400 x 400
Graph Paper for Screen Coordinates

Final Screen #2:

This is the second screen, once you clicked all the stars this image of a nighttime landscape will appear.



Pixel Paper - 400 x 400
Graph Paper for Screen Coordinates

Some of the stars will be unseeable because of the new drawings on the screen. which is ok because you wont need to press them anymore.