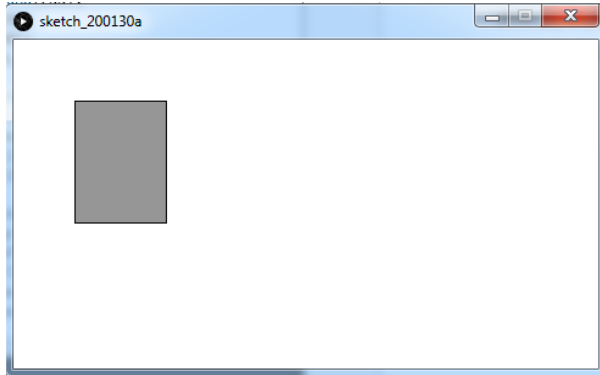


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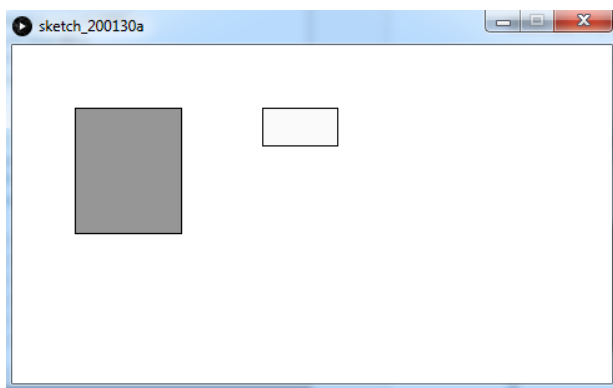
Section: 1 Fundamental

Task 1-1 Strike Fill



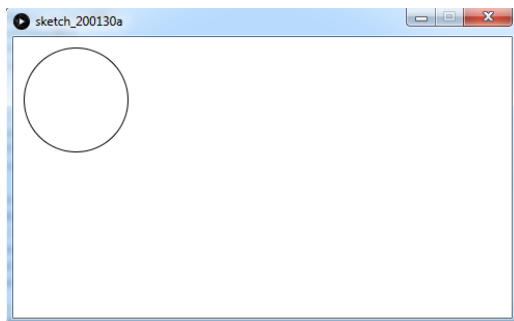
// It's the rectangle that have shape 50, 50 with width and height of 75,100

1-1-1: Please create another rectangle shape on 200, 50 with width and height of 60, 30



//It's is the rectangle that have shape

Task1-2 No fill

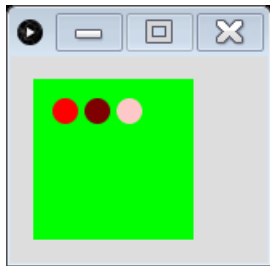


//It's the circle that have only an outline

Task1-3 Using RGB Color

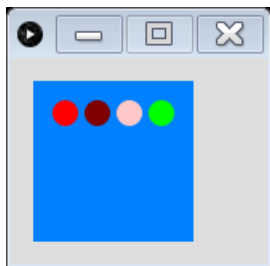


1-3-1 Please change the background color into RGB format



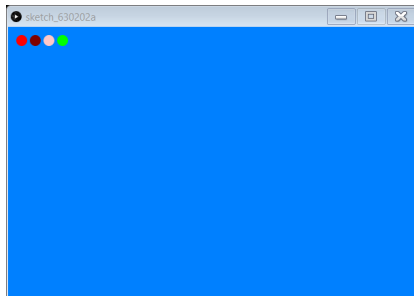
//So, I have to change the background data to set it to RGB

1-3-2 Please create another pure green ellipse next to the rightmost pale red shape



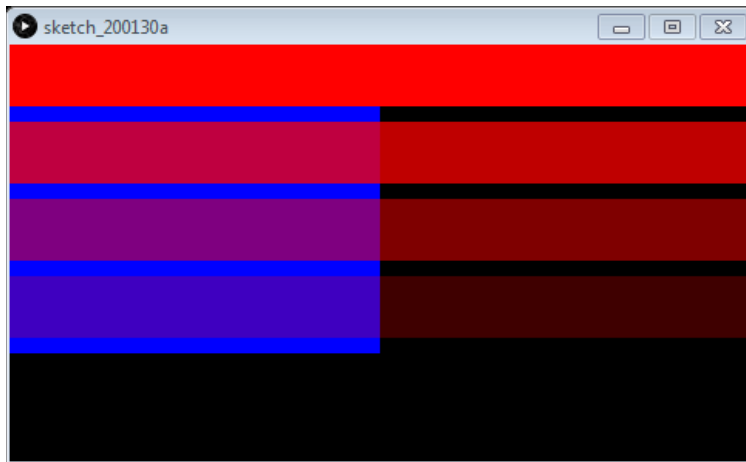
//So, I need to create another ellipse and set the size to be (80, 20, 16, 16);

1-3-3 Please change draw size to width of 600 and height of 400



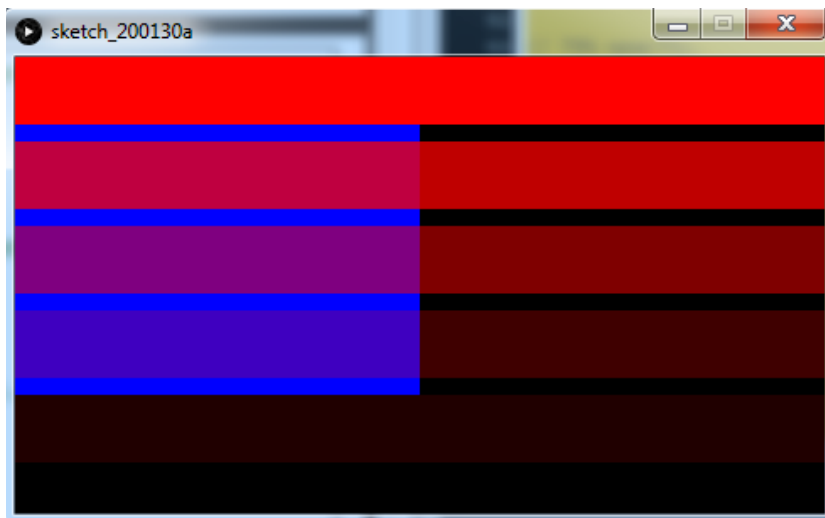
//I just have to the size to be width of 600 and height of 400

Task1-4 Using Color with Alpha



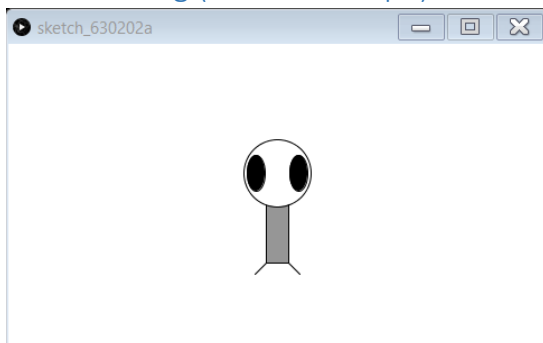
//It represent the red line with the following opacity 100, 75, 55, 25 %.

1-4-1 Please create another rectangle next to the 25% opacity having a red color of 10% opacity



//In this task I have to create another line that having a red color of 10% opacity at the bottom

Task1-5 Zoog (Monster Shape)

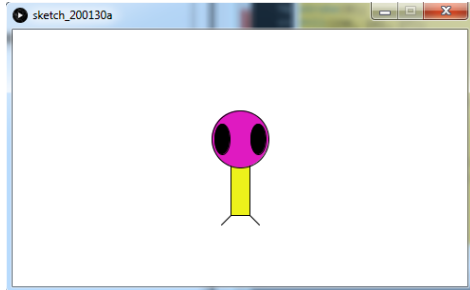


// The Zoog Moster shape

1-5-1 What is a parameter CENTER implied in ellipseMode() and rectMode()

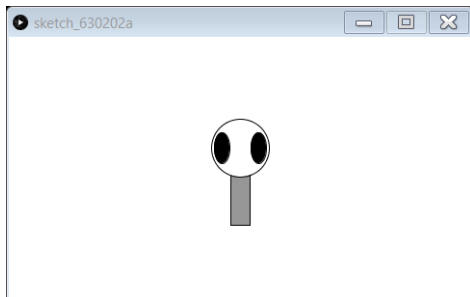
// It's the function that set the result to be in the center point

1-5-2 Please add color to head and body of the monster shape



//My litter Monster with the pink head and yellow body.

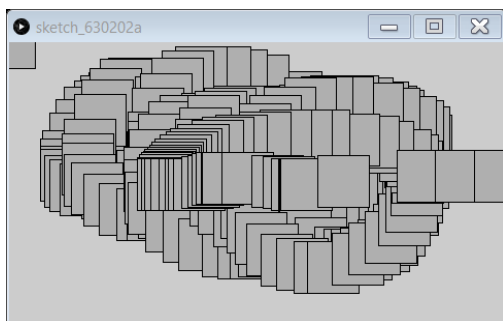
Task2-1 Setup and Draw for dynamic sketch



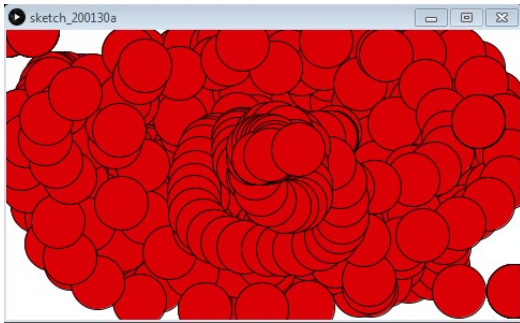
2-1-1 How many time the application is triggering 'Setup ()' and 'Draw ()'?

// As I read in the slide is said draw() loops continuously until you close the sketch window.

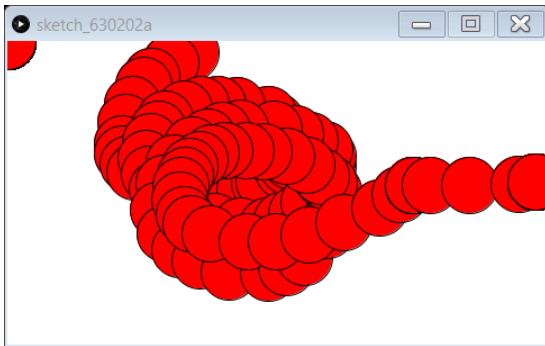
Task 2-2 MouseX and MouseY



2-2-1 Draw red ellipse instead of rectangle



2-2-2 move 'background (255)' into setup () under size () instead



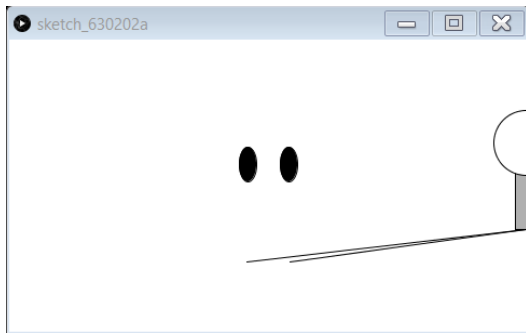
2-2-3 from 2-2-2, what cause the result and why putting the background () in draw () can solve the issue?

// to clear the display every time they do

Task2-3 Zoog Mouse



2-3-1 Draw legs dynamically using mouse input similar to head and body



//So I need to create the mouseX,mouseY in the line

Task2-4 Continuous line

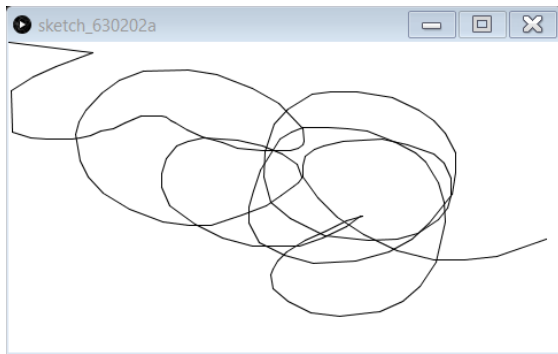


2-4-1 Change change stroke color to (204, 102, 0)

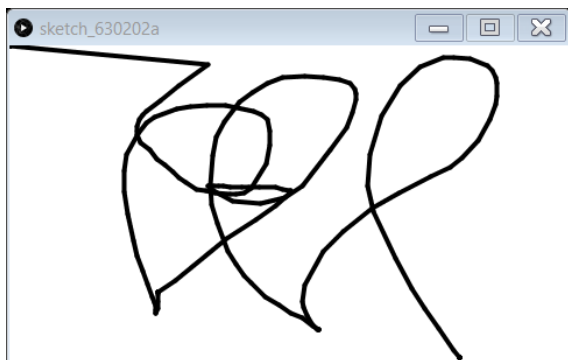


//Just change the stroke color

2-4-2 Use `strokeWeight(int)` to change stroke weight into 1, 4, and 10 respectively



`//StrokeWeight(1)`

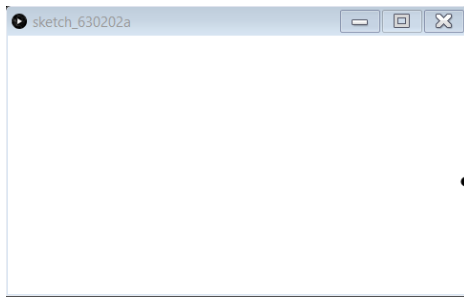


`//StrokeWeight(4)`



`//StrokeWeight(10)`

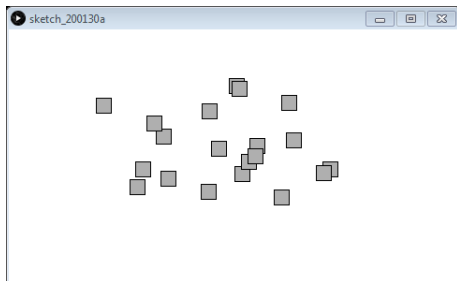
2-4-3 Move background(255) to draw()



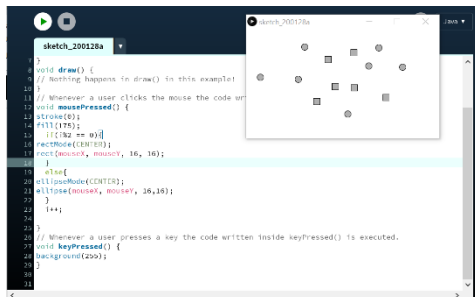
2-4-4 Why 2-4-3 is not working for drawing a line application? and what is your suggestion to solve the issue?

//It not working for the reason of It don't know where the setup is

Task2-5 Mouse Key Events

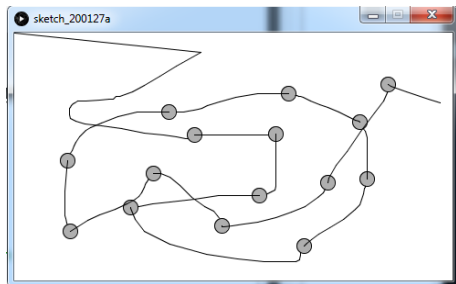


2-5-1 Modify the source to switch between drawing rectangle and ellipse up on mousepressed using keypressed as a control trigger



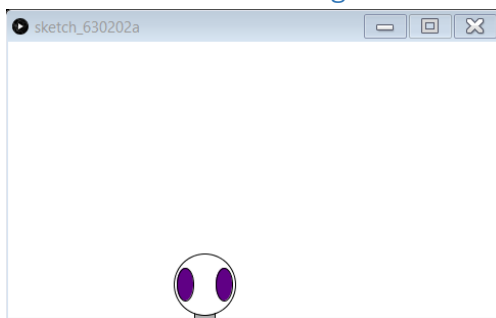
//Swapping from circle to square and square to circle

2-5-2 Implementing a draw continuous line from task 2-4 with the draw reset upon key pressed using task 2-5 knowledge

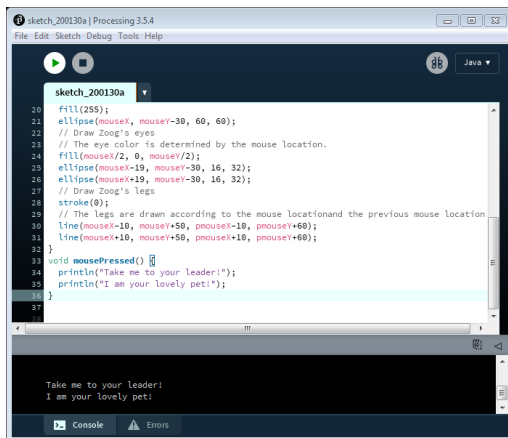


//Just add line(pmouseX, pmouseY, mouseX, mouseY); in raw()

Task2-6 Interactive Zoog

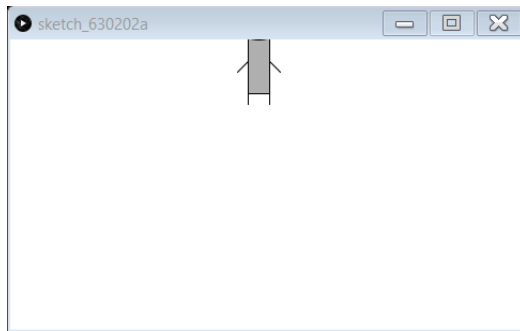


2-6-1 Add another line to the console “I am your lovely pet!”

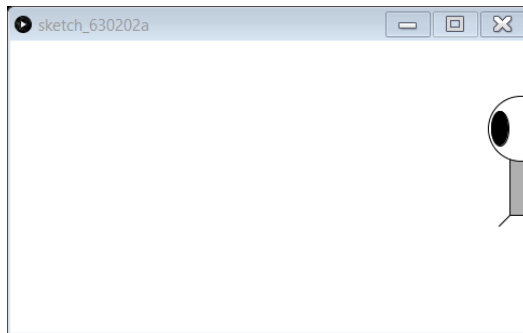


//Just add another println("I am your lovely pet!");

2-6-2 Create a dynamic hand for Zoog using similar line drawing to legs



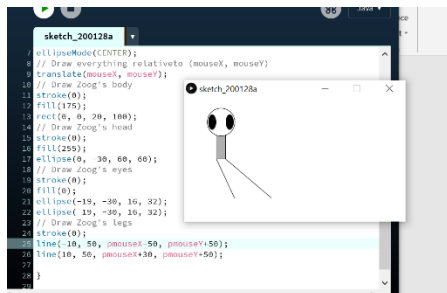
Task2-7 Translation Zoog



2-7-1 What is different between task 2-7 from task 2-6?

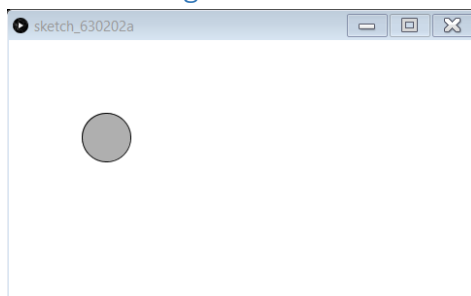
//The previous mouse was telling that where are the legs and arm

2-7-2 Add dynamic legs from 2-6

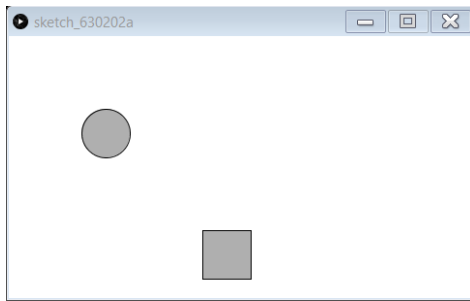


//Adding the dynamic leg

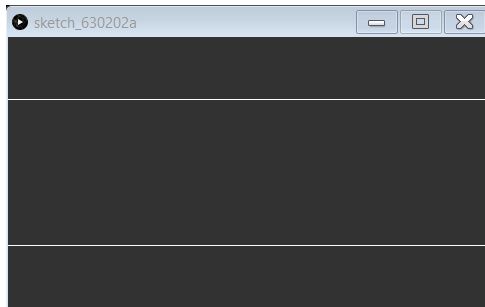
Task3-1 Using variable



3-1-1 Create another set of variables to draw rectangle



Task3-2 Using system variable



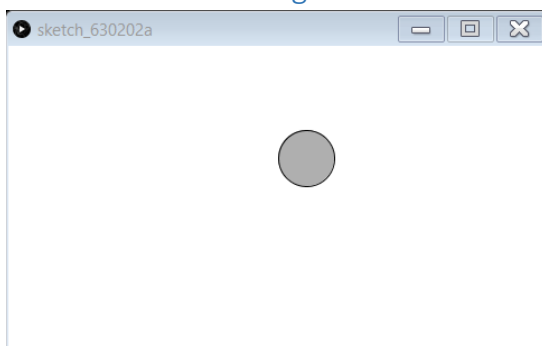
3-2-1 What is width and height system variable?

// It's a variable that define by the systems not the user

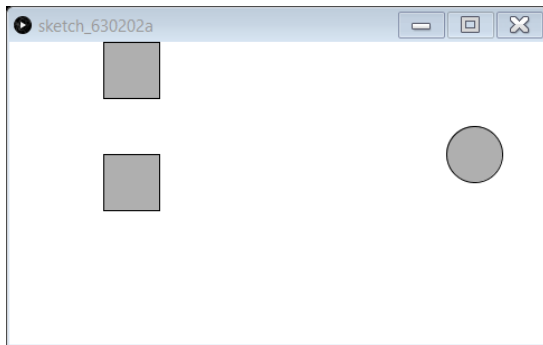
3-2-2 What is key variable and how it can be of use in an interactive drawing?

// mouseX and mouseY

Task3-3 Incrementing variable



3-3-1 Create 2 more shapes using an increment technique in their drawing parameters floating in opposite direction of the original circle

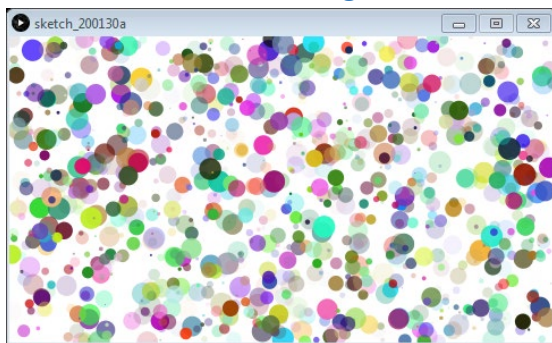


//So, I have to set the assignment operation to decrement the value

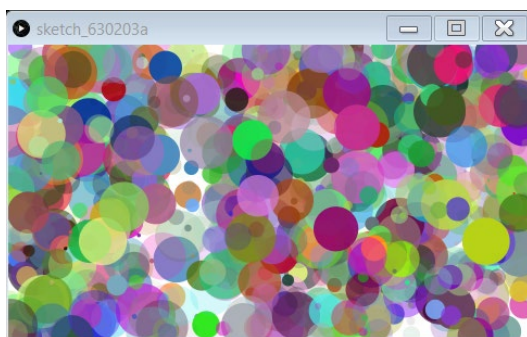
3-3-2 Make 2nd new shape moving faster than the 1st new shape by 2.5 times

//I just need to multiple 1 by 2.5

Task3-4 Random Painting

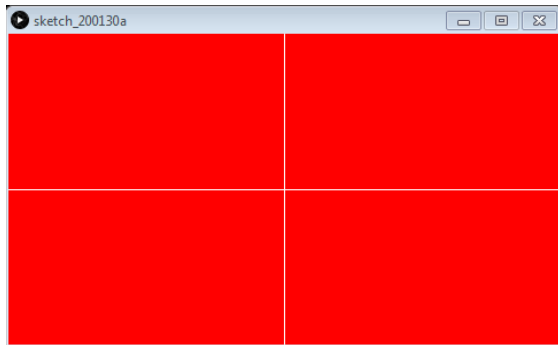


3-4-1 Change the random range of ellipse to be uneven for both diameters



//So I have to move the diameters

Task3-5 Conditional Quadrants



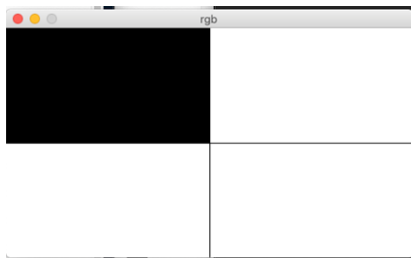
3-5-1 What is mousePressed variable?

```
//It's RGB
```

What is constrain function? and why we need them

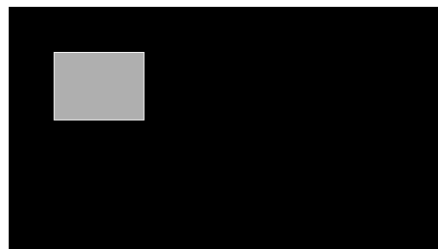
```
//Because we need to set the range of color
```

3-5-3 Paint the colors of the quadrants's area based on mouse current position instead of changing the background of whole drawing – please consult the screen shot



```
// Once the position of mouse is in the box it will change the color
```

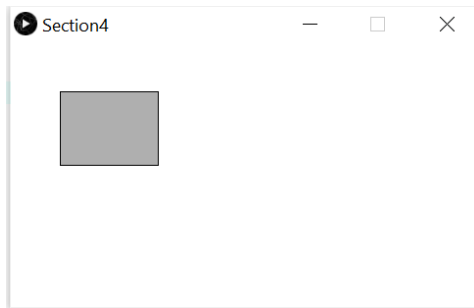
Task3-6 Hold buttons



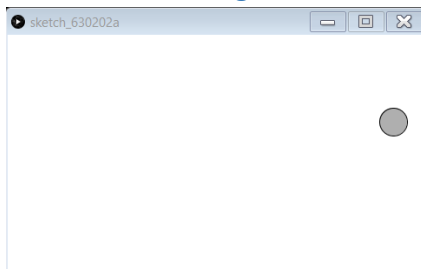
3-6-1 Why do we need to AND with mousePressed?

```
// Because we want to change the color once we press the mouse in the box
```

3-6-2 Modify the code to trigger the background color upon mouse click instead of holding



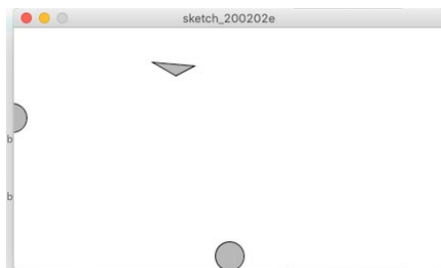
Task3-7 Bouncing Ball



3-7-1 Create another ball bouncing vertically

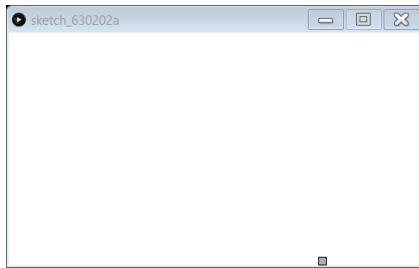


3-7-2 Upon mousePressed create a random triangle size and starting position bouncing horizontally

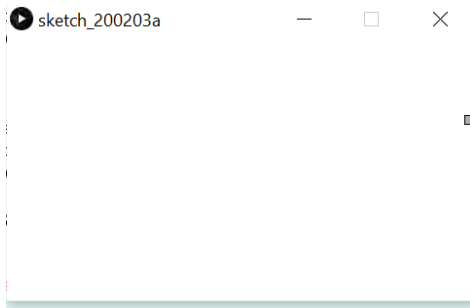


// So I have to create another a random triangle size with the horizontal bouncing

Task3-8 Finite States : Path along edges

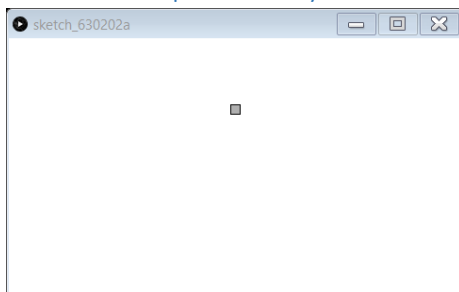


3-8-1 On mouse pressed – Reverse the direction of the path



// I have to change the ways of the ball to opposite way

Task3-9 Simple Gravity

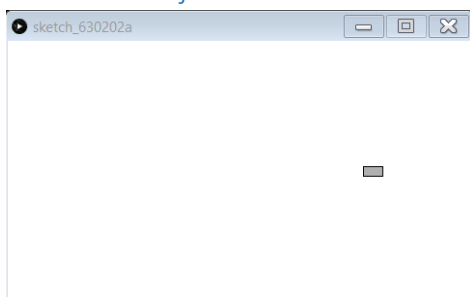


//The ball move up and down

3-9-1 Explain what is happen when speed is multiplied by minus value in conditional if?

//The square speed will be going slower of each time

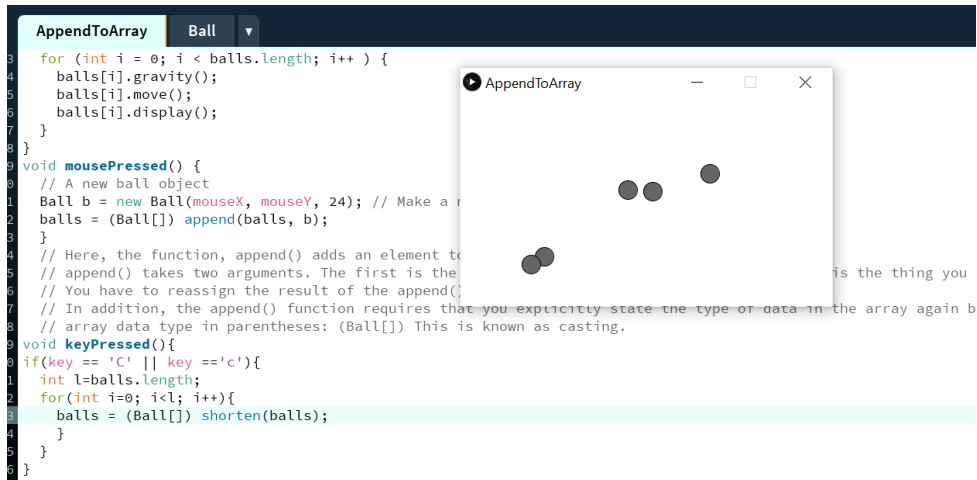
Task3-10 Objects



3-10-1 Instantiate a new car upon position of mousePressed

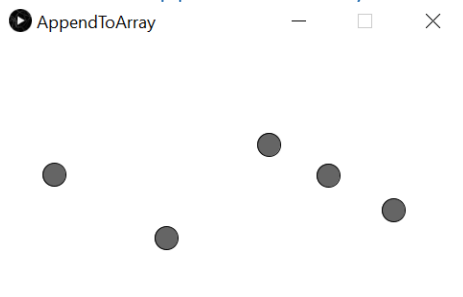
// It make all of the ball gone

3-11-2 if keyPressed, randomly initialize the array of cars then call move() on each of them in each update draw()



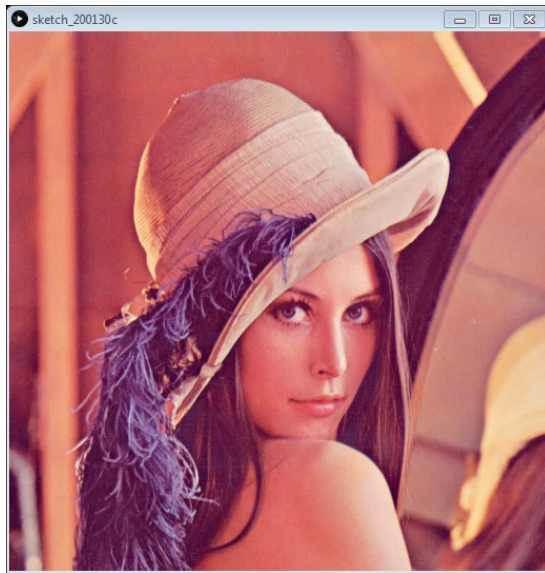
//Shorten will decrease the number of the ball

Task3-11 Append to Array



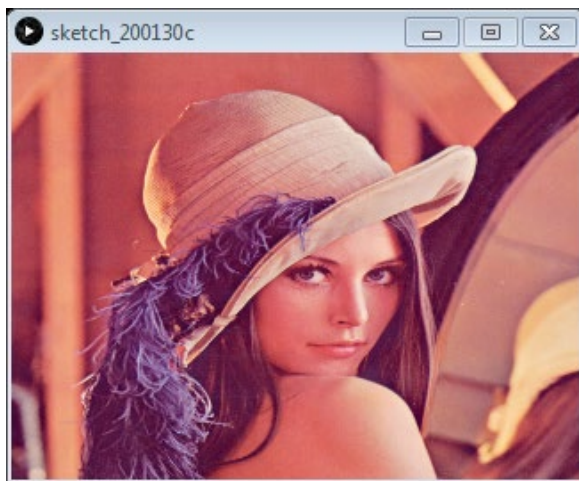
// So, I using append to add the amount of the ball

Task4-1 Draw Image



// Just load the image

4-1-1 Try change size to be 320,240



4-1-2 Try change size to be 600,600



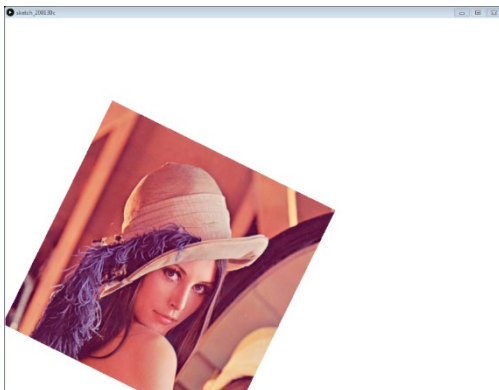
4-1-3 Draw actual image size rather than stretch it to the screen size

//Still don't know

4-1-4 What is happening with this drawing? What is the cause that produce this result?

// when you have big image but the size of the resolution is not enough so it can't support the image

Task4-2 Image Sprite



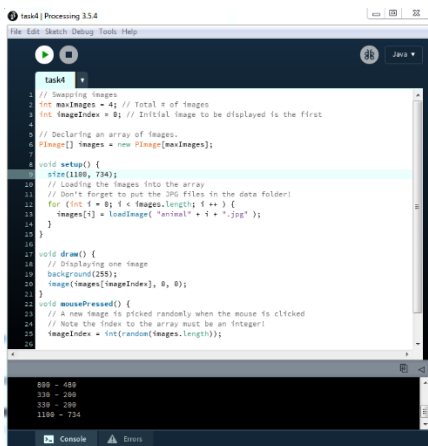
//Rotating the image

Task4-3 Image Array



// It random the Image

4-3-1 When mousePressed , console print the width and height of the current image and the current image index

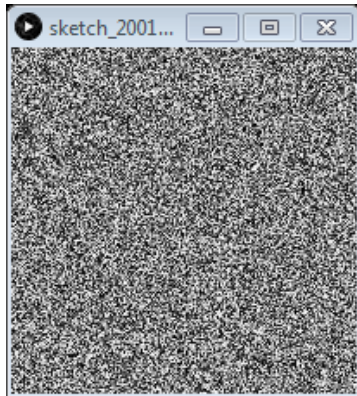


//Once the user click or press mouse the console will represent the size of the image

4-3-2 When keypress using 's' or 'S', make the image switch randomly and go on continuously

//Still don't know

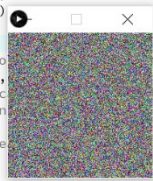
Task4-4 Pixel Array



//It represent the pixels

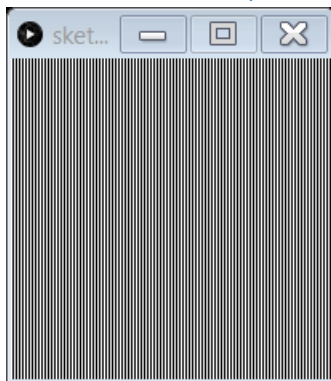
4-4-1 When a random rgb color of pixels instead of grey scale

```
// Setting pixels
size(200, 200);
// Before we deal with pixels
loadPixels();
// Loop through every pixel
for (int i = 0; i < pixels.length; i++) { // We can
  // Pick a random number, 0 to 255
  float rand = random(255);
  float b = random(255);
  float d = random(255);
  // Create a grayscale color from a random number
  color c = color(rand, b, d);
  // Set pixel at that location
  pixels[i] = c; // We can set the color of each element!
}
// When we are finished drawing
updatePixels();
```



//It will random the color from the many color

Task4-5 PixelArray 2D



//It will represent the pixels and show each column with the color of black and white

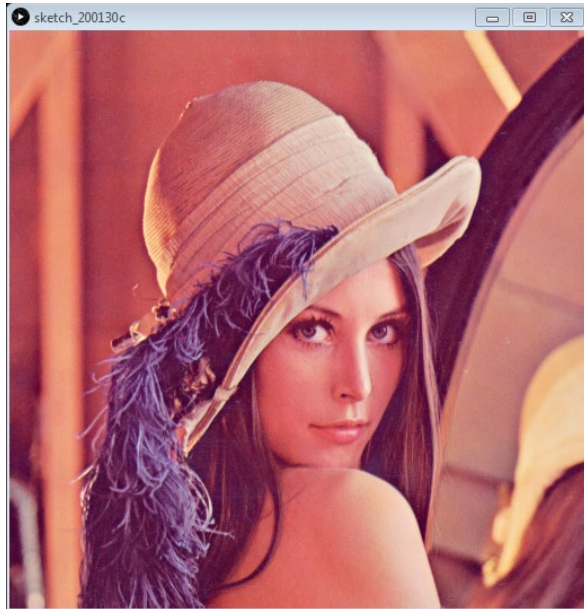
4-5-1 What is the position of x=0, y=0 and what direction are their increasing in processing draw area

// The position will depend on the height and the X

4-5-2 Please explain why the 1D location requires y (pixel on the row) to be multiplied with width? Why don't we also multiply x with height? please explain your logic alongside how to calculate the pixel array position using simple example

//Still don't know

Task 4-6 Pixel array image



4-6-1 What will happen if the screen size is bigger or smaller than the image resolution?

// It will show the blank screen

4-6-2 What is the purpose of updatePixel() at the bottom line

//Still don't know

Task 4-7 Image brightness



//Once user moving the mouse it will adjust the brightness of the image

4-7-1 What will happen if there is no constrain on the calculated final value

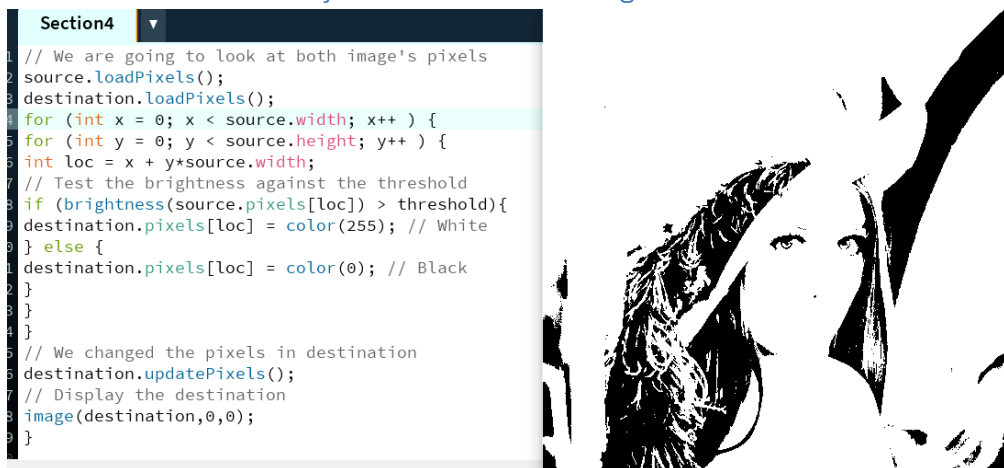
// The color will not change

4-7-2 Is this process a point operation? if yes, please explain your opinion

// Yes, because it's look by the location of the mouse

Task 4-8 Image adjustments explanation – no need for report just read them and try to understand the concept

Task 4-9 Thresholds adjustment on new image



// It control the brightness of the threshold

4-9-1 Change the threshold to 180

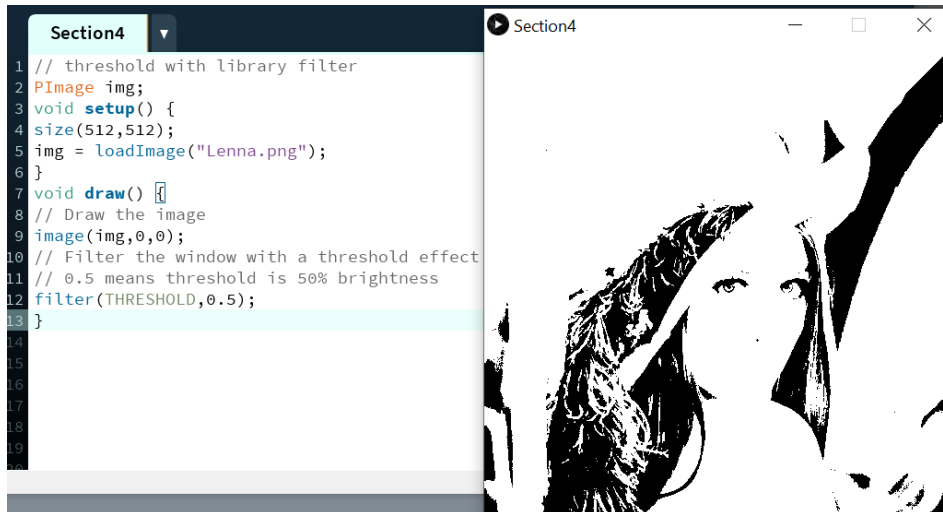


// The image will become more clearer once we decrease the threshold

4-9-2 Why we create 2 Pimage instance?

//Still don't know

Task 4-10 Thresholds adjustment with filter



// The filter function 0.5 can change the brightness of the image

4-10-1 Change filter coefficient to 0.8 and explain why the result is so different from 0.5 what is the indicator in the original image that create this result?

// The image was adjusted to be more brightness to see

Task 4-11 Sharpen with Convolution



// The image will be adjusted once it is in the box

4-12-1 Please give some opinion of what will happen if the kernel is bigger? Will the result get better or worsen? such as $k = 5$, $k = 7$

//Still don't know

4-12-2 Please experiment the following kernel matrixes and explain its result on the final images (continued to next pages)

//Still don't know