P5 Assignment - Draw-O-Matic

Credit: Structured Programming 1

Some help code is pasted at the very bottom of this doc.

In this project, you are to demonstrate that you can apply as many of our concepts as you can.

Basic Functionality - Worth 60%

Create a new P5.js file called ***Assign4\_DrawOMatic*** and save it immediately***.***

Set up a large canvas window with a background color of your choice.

For now, the draw() function will be empty (but it is still needed).

Whenever the mouse is pressed, it should draw a small circle or rectangle

* Choose a 20 or 30 pixel wide circle or rectangle to start and then adjust if you feel another size is better.
* Choose a color that contrasts well with the background
* noStroke() is an optional addition
* You might want to use mouseDragged() rather than mousePressed()

Add a title to your program that appears on the screen.

Professionalism of Visuals - Worth 20%

* Add instructions for your program
* Improve the look of your text with boxes behind the text (in the draw() function) so that there is a protected area that can not be drawn over. (This means that drawings can not go over any of the rectangles).
* Add at least one font to your program
* Use the spacebar to clear the screen - Hint for our IF statement: *key === “ “*

Size Changes - Next 10%

Size of drawing

* Add a variable that controls the size of circle/rectangle.
* Then use keys and the KeyPressed function to alter the size of the variable
* Add to your instructions

Color Changes - Final 10%

* Add a way to change the color of your drawing. This harder than it sounds, but you only need to add the option to switch colors in any way. Having it automatically switch colors does NOT count.
* Add to your instructions

Done Early?

First finish up all other assignments (including Pythagoras).

Then there is a Part 2 of this Assignment for those of you up for the challenge. Scroll down to the next page for details

Draw-O-Matic Part 2 - Rogue Eraser

Note that these challenges are NOT for marks. Advanced students should be able to figure them out (they get successively more challenging) and the skills you learn will help you be more creative (and therefore have more fun) on future activities.

Challenge 1 - Add an Eraser

* Think about what it would take to erase, then add a new key that triggers the eraser instead of drawing.

Challenge 2 - Eraser Gone Rogue

* You no longer control the eraser.
* It is now a small square that starts near the top of your screen and move across, erasing as it goes. When it gets to the end of the screen, it jumps back to the other edge (like it is wrapping the screen), moves down by its height and continues so that eventually, left unchecked, it would erase the whole screen.

Challenge 3 - Eraser Gone Rogue V2

* When the eraser jumps down, it goes back across the screen in the opposite direction. Repeating at each screen edge.

Challenge 4 - Accidental Eraser

* The eraser only appears if someone hits the E key.

Challenge 5 - Eraser Eraser

* You can stop or delete the eraser when you right click on it.

**Help Code to get you started**

function setup() {

createCanvas(400, 400);

background(0);

fill(255,255,0);

textSize(28);

}//end setup

function draw() {

}//end draw

function mouseDragged(){

text("Draw here", mouseX, mouseY); //This line needs to be replaced as you are NOT to draw text.

}//end mouseDragged

function keyPressed(){

if (key === " "){

}

}//end keyPressed