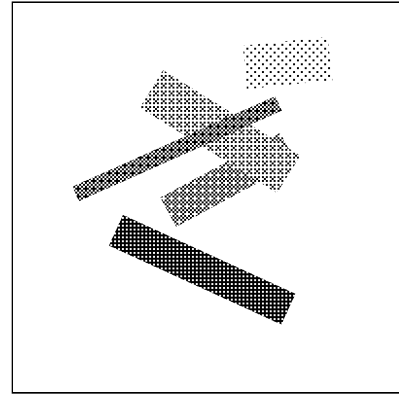


P5.JS ACTIVITY GUIDE

# Make your first generative artwork

In less than 15 lines of code



Adapted, with thanks, from this 2022 thread by Adam genlight (@generativelight)

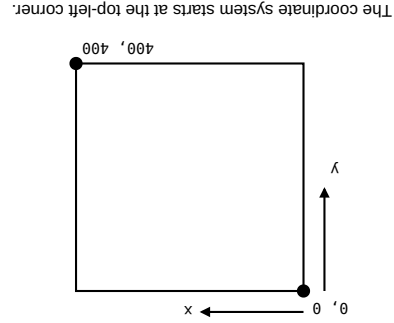
## 0 Open the editor

In a web browser go to <https://editor.p5js.org>

Delete the **draw()** function, leaving just this:

```
function setup() {  
  createCanvas(400, 400);  
}
```

Press the **▶** button. You'll see a grey square:



The coordinate system starts at the top-left corner.

## 1 Prepare the canvas

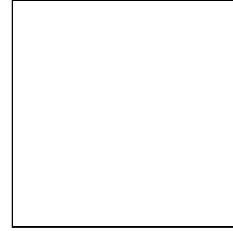
Add this line below **createCanvas()**:

```
background("antiquewhite");
```

Your code should look like this:

```
function setup() {  
  createCanvas(400, 400);  
  background("antiquewhite");  
}
```

Now press the **▶** button again.



Your canvas is ready.

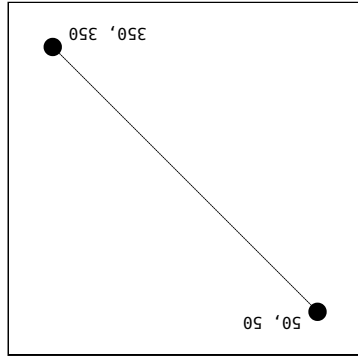
## 2 Draw one line

Next, add the following code just below the

**background()** line:

```
line(50, 50, 350, 350);
```

**line()** is a function. It takes four arguments describing the start and end points of a line.



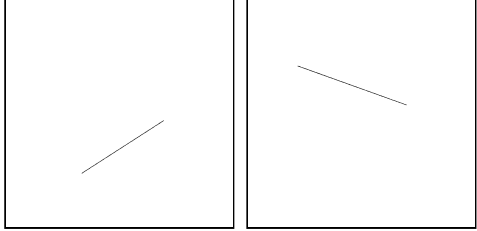
## 3 Leave it to chance

Swap all four numbers for **random()**:

```
line(random(50, 350), random(50, 350),  
    random(50, 350), random(50, 350));
```

**random(50, 350)** returns a different number between 50 and 350 every time it is called.

Keep pressing **▶** and get a different line each time.



Same rules, different results.

### The whole sketch

```
function setup() {  
  createCanvas(400, 400);  
  background("antiquewhite");  
  colorMode(HSL);  
  let countDown = 5;  
  while (countDown > 0) {  
    strokeCap(SQUARE);  
    strokeWeight(25);  
    stroke(random(0, 50), // hue  
           random(0, 100), // saturation  
           random(0, 100)); // lightness  
    line(random(50, 350), random(50, 350),  
         random(50, 350), random(50, 350));  
    countDown = countDown - 1;  
  }  
}
```



scan to run it

### YOUR TURN

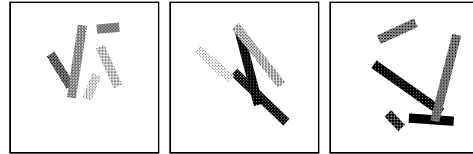
Can you spot the small difference? Try editing the code to make the output look more like the one on the cover.

*Hint: it has to do with the stroke weight.*

## 5 Say it five times

Wrap the four lines from **strokeCap()** to **line()** in a **while()** loop:

```
let countDown = 5;  
while (countDown > 0) {  
  // your four lines go here  
  countDown = countDown - 1;  
}
```



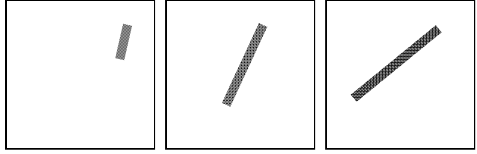
### YOUR TURN

Change the **countDown** number to make **10** lines, or **25**, or **200**! Use whole numbers only.

## 4 Give it a body

Then add these lines immediately above the **line()**:

```
colorMode(HSL);  
strokeCap(SQUARE);  
strokeWeight(25);  
stroke(random(0, 50), // hue  
       random(0, 100), // saturation  
       random(0, 100)); // lightness
```



### YOUR TURN

Go to the p5.js reference and look up **strokeCap()** and **strokeWeight()**. Try different values for each.

printed & folded by \_\_\_\_\_

Solution: use **strokeWeight(10, 50)**;