

Code

## Universal

Variables  
Operators  
Conditionals  
Loops  
Arrays

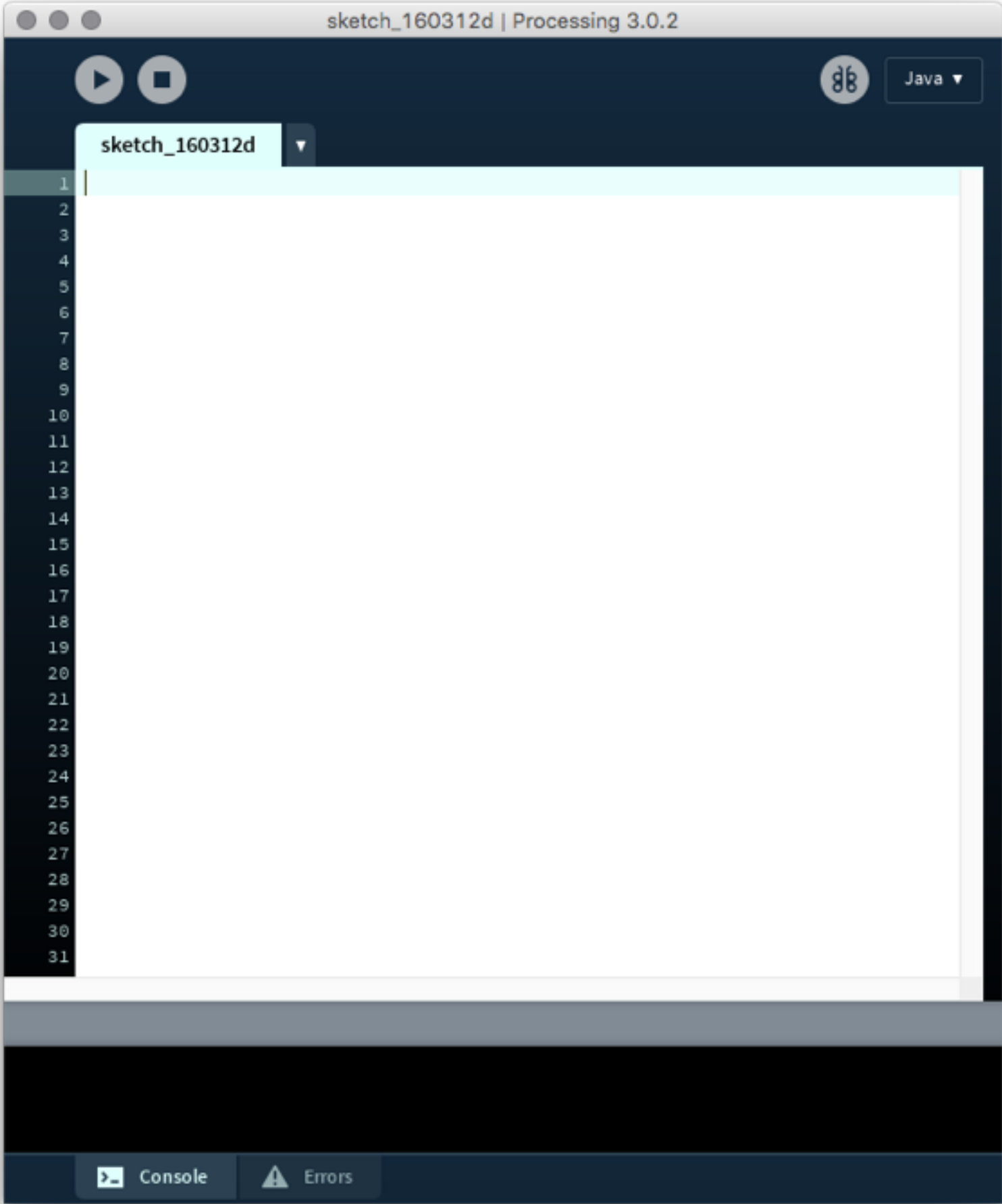
## Processing

2D Shapes  
Transformation  
Animation  
Interaction

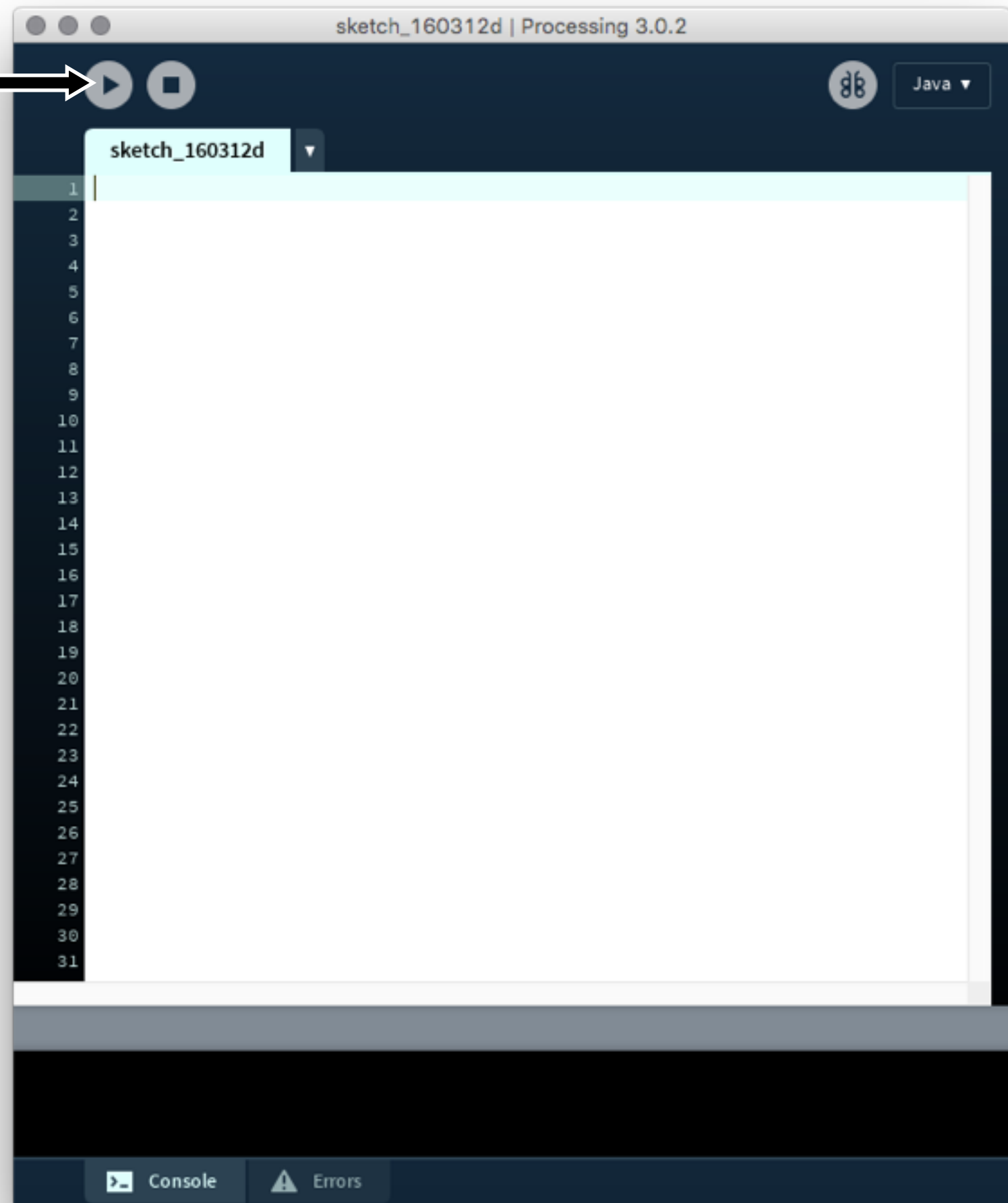
# Sketch folder

Macintosh HD > Users > danielpowers > Documents > Processing

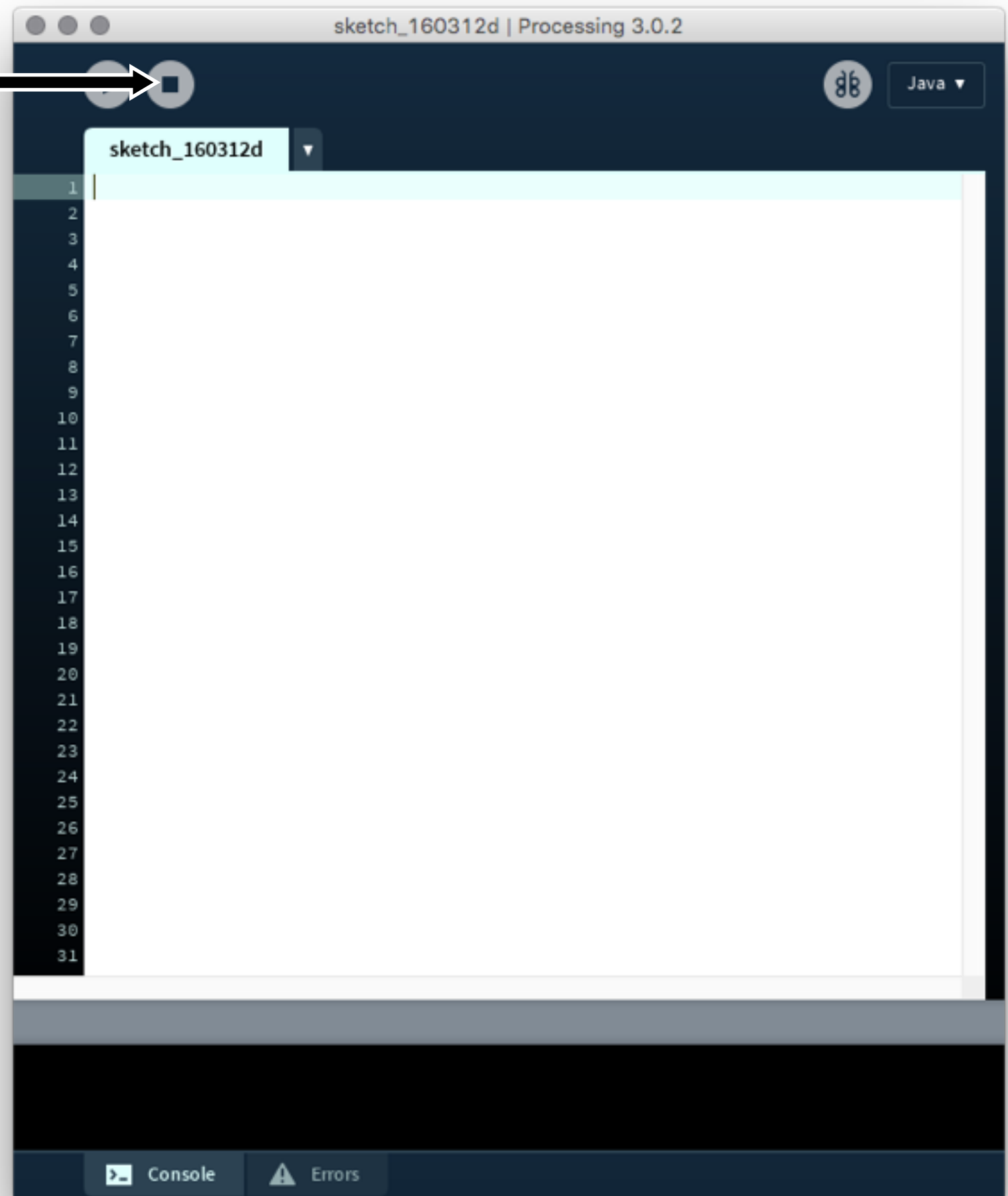
# Processing



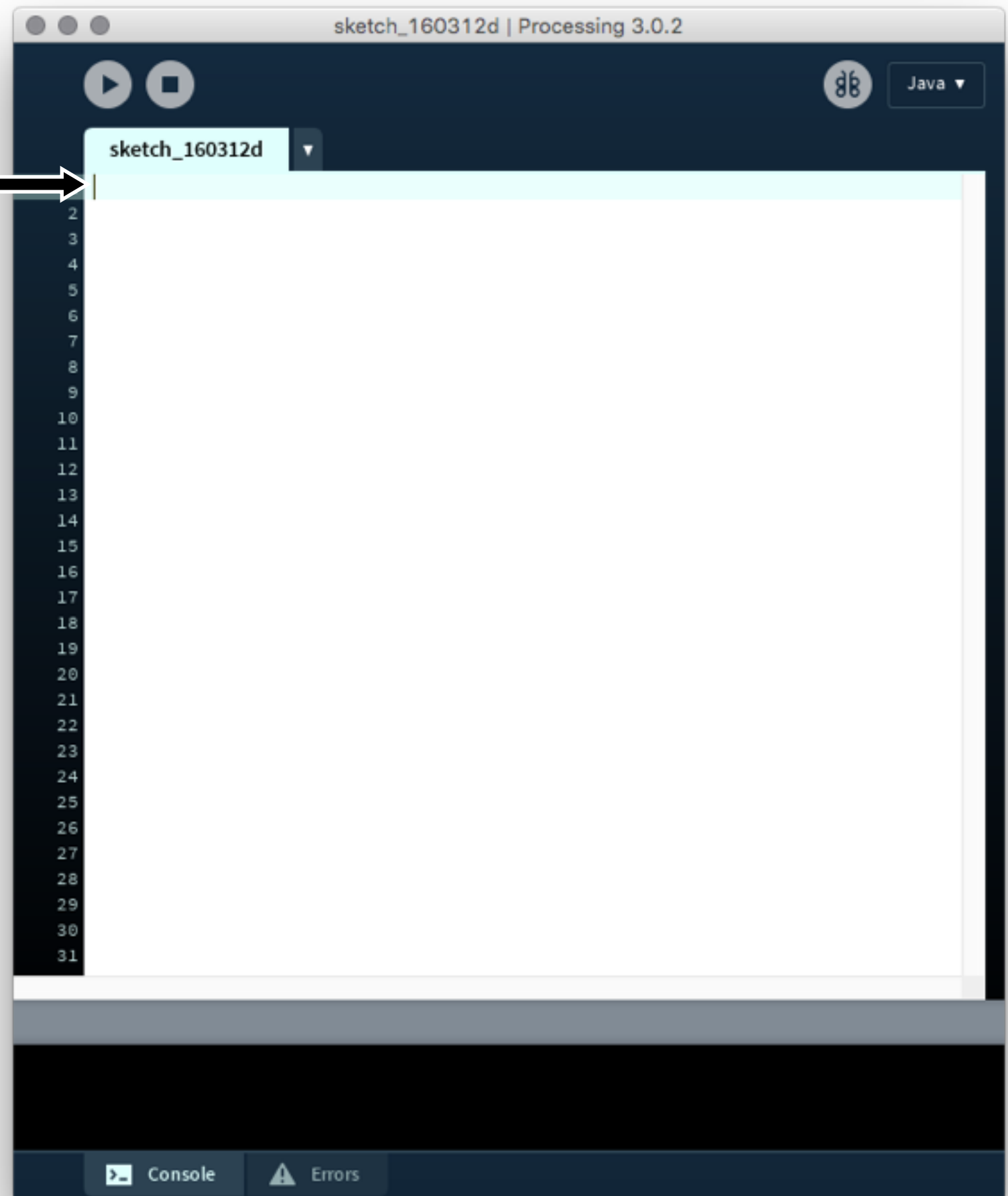
Run your sketch

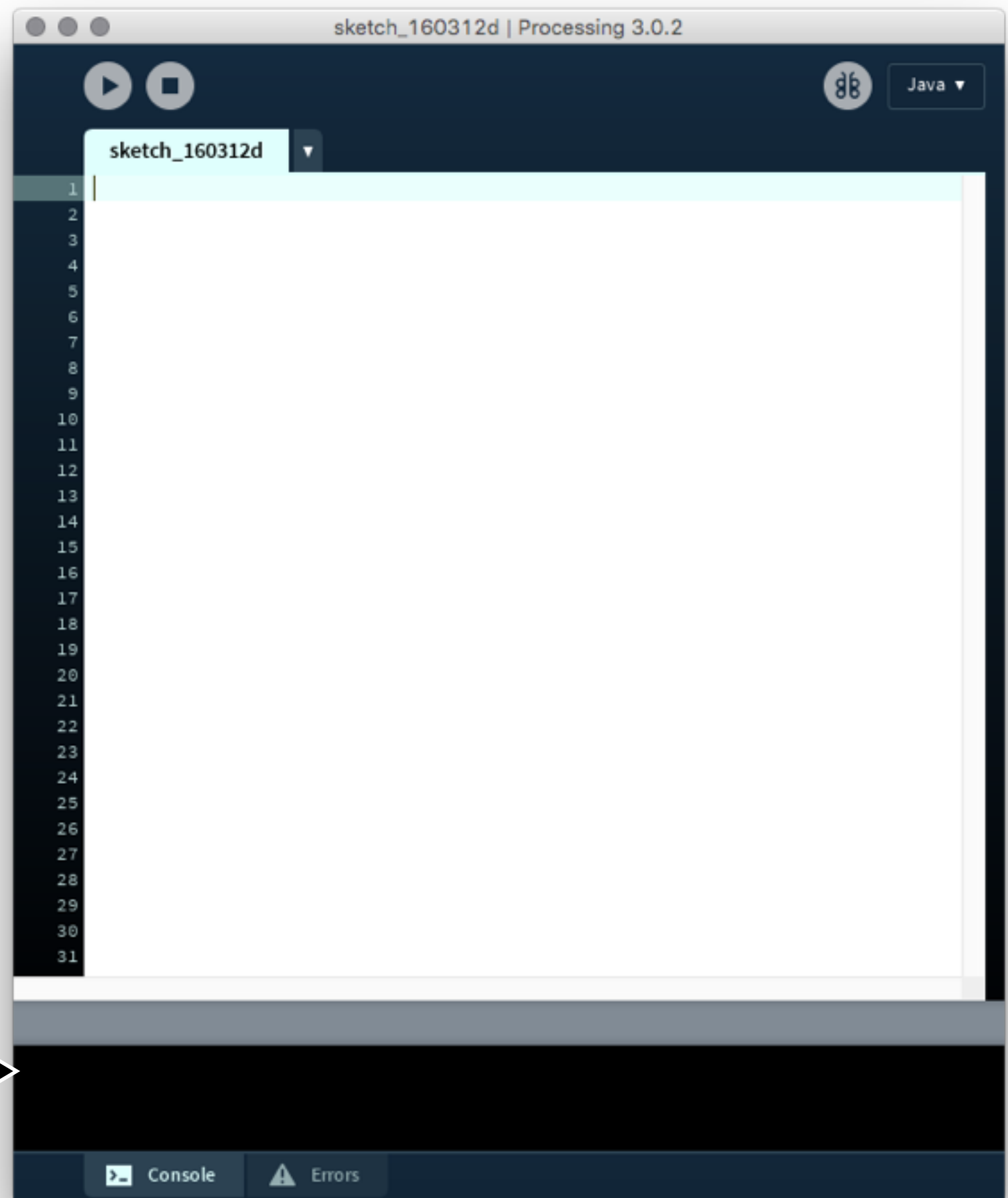


Stop your sketch



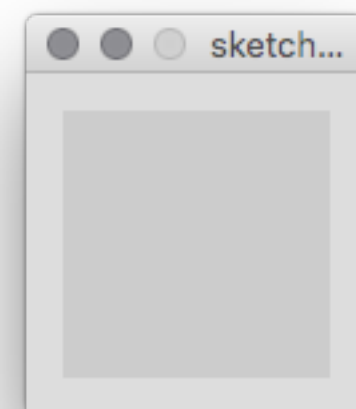
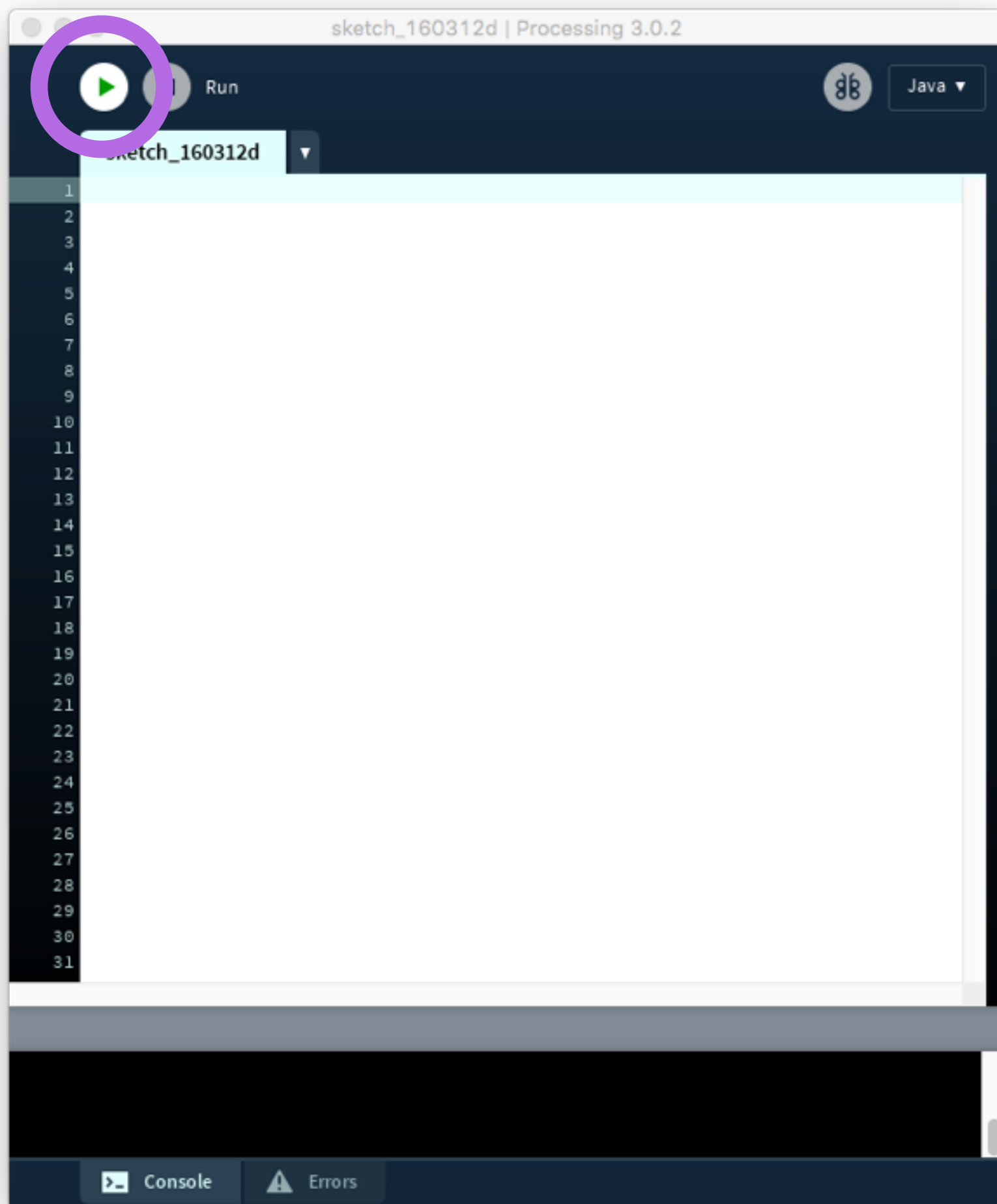
Code →





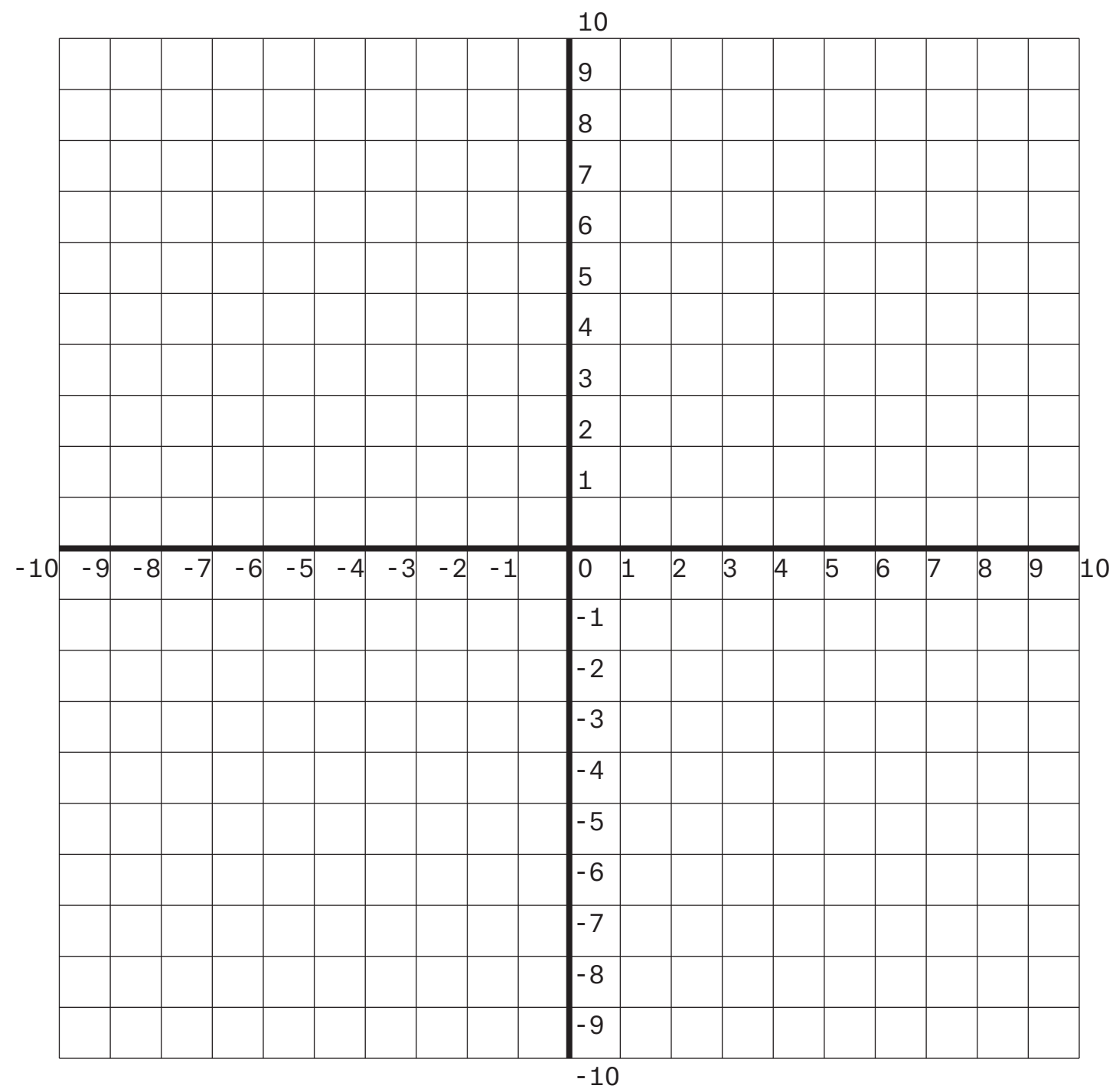
Console →

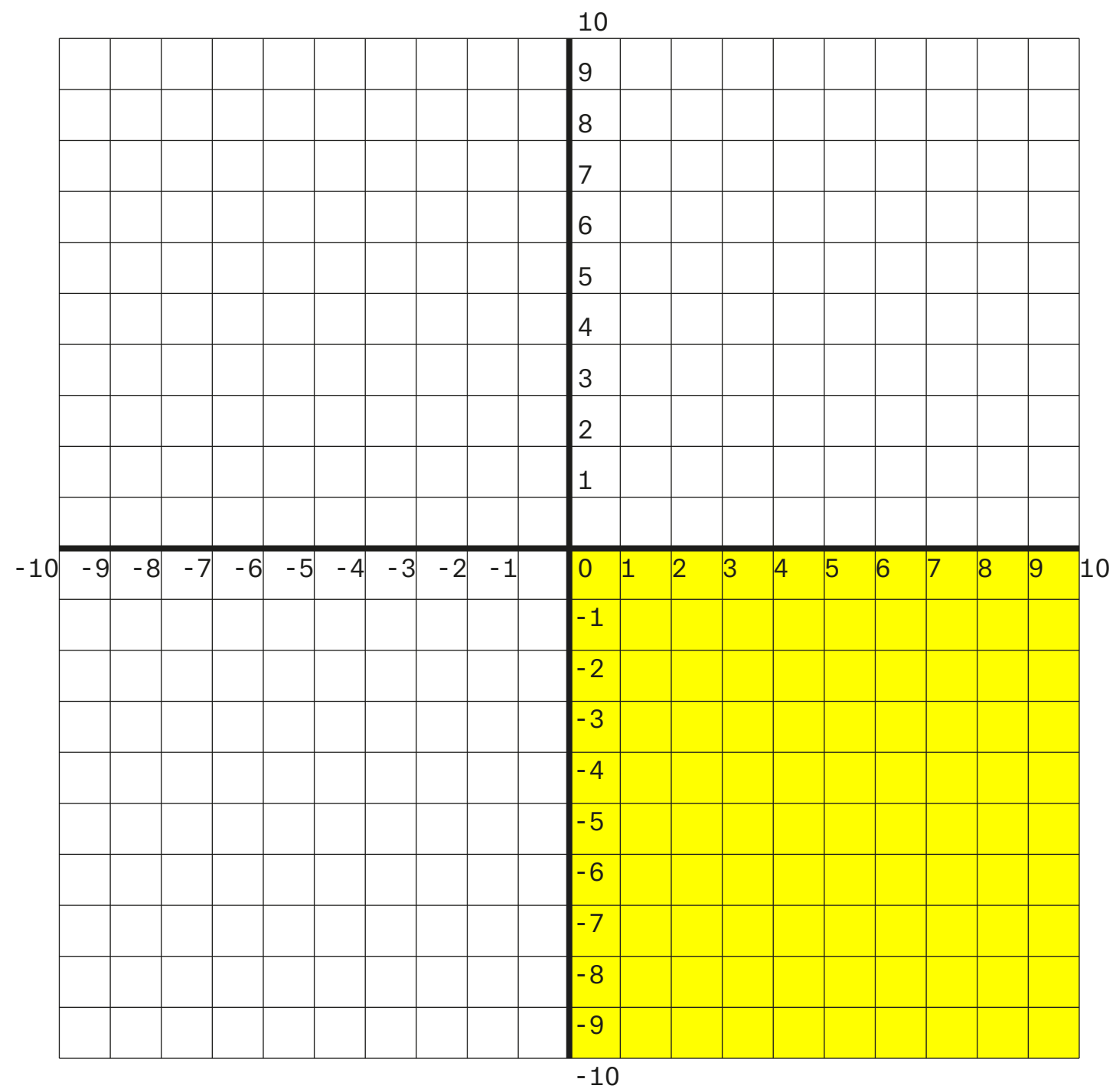




Canvas

Coordinates and shapes









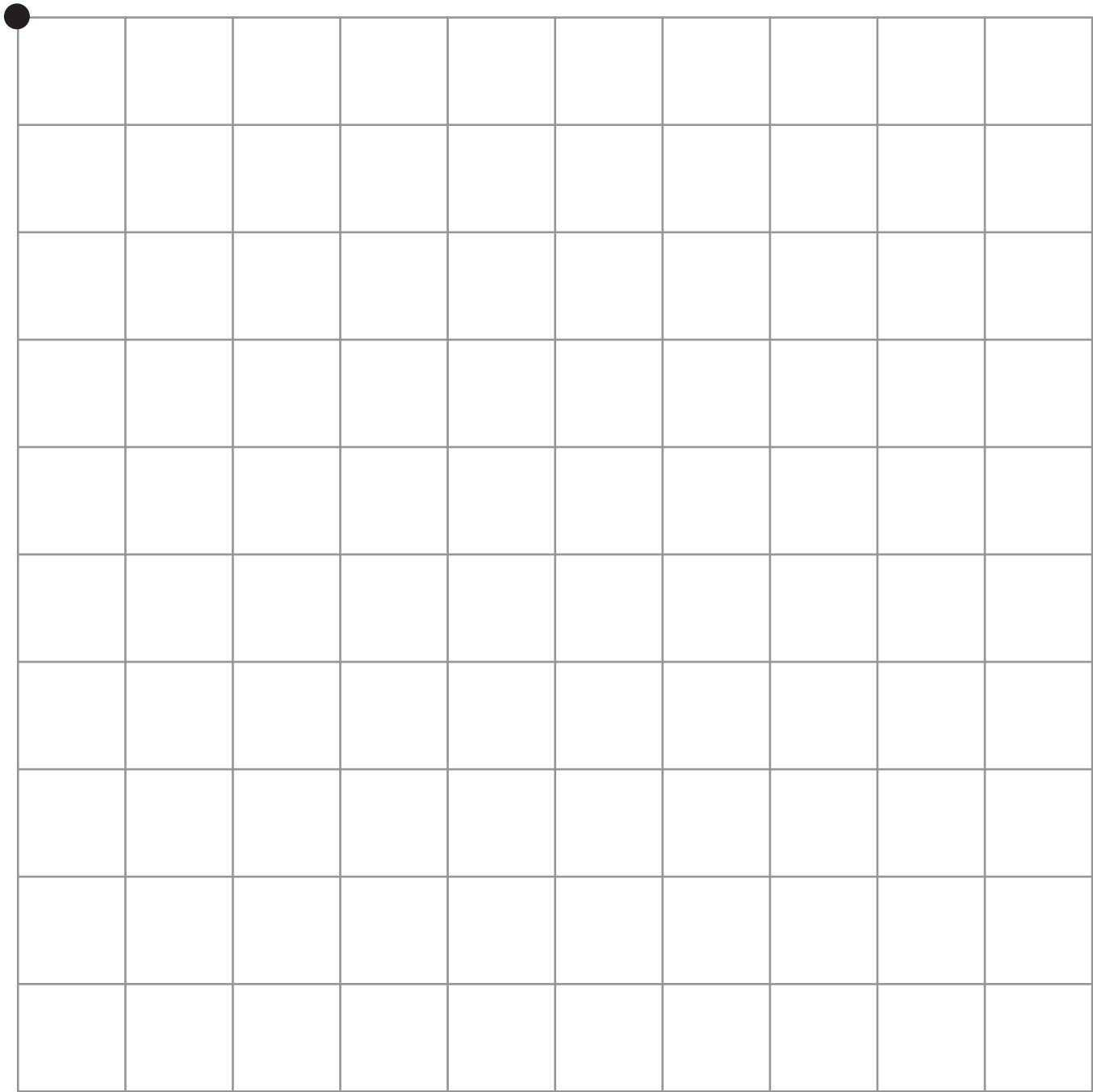
x axis



y axis

X x Y  
100 x 100

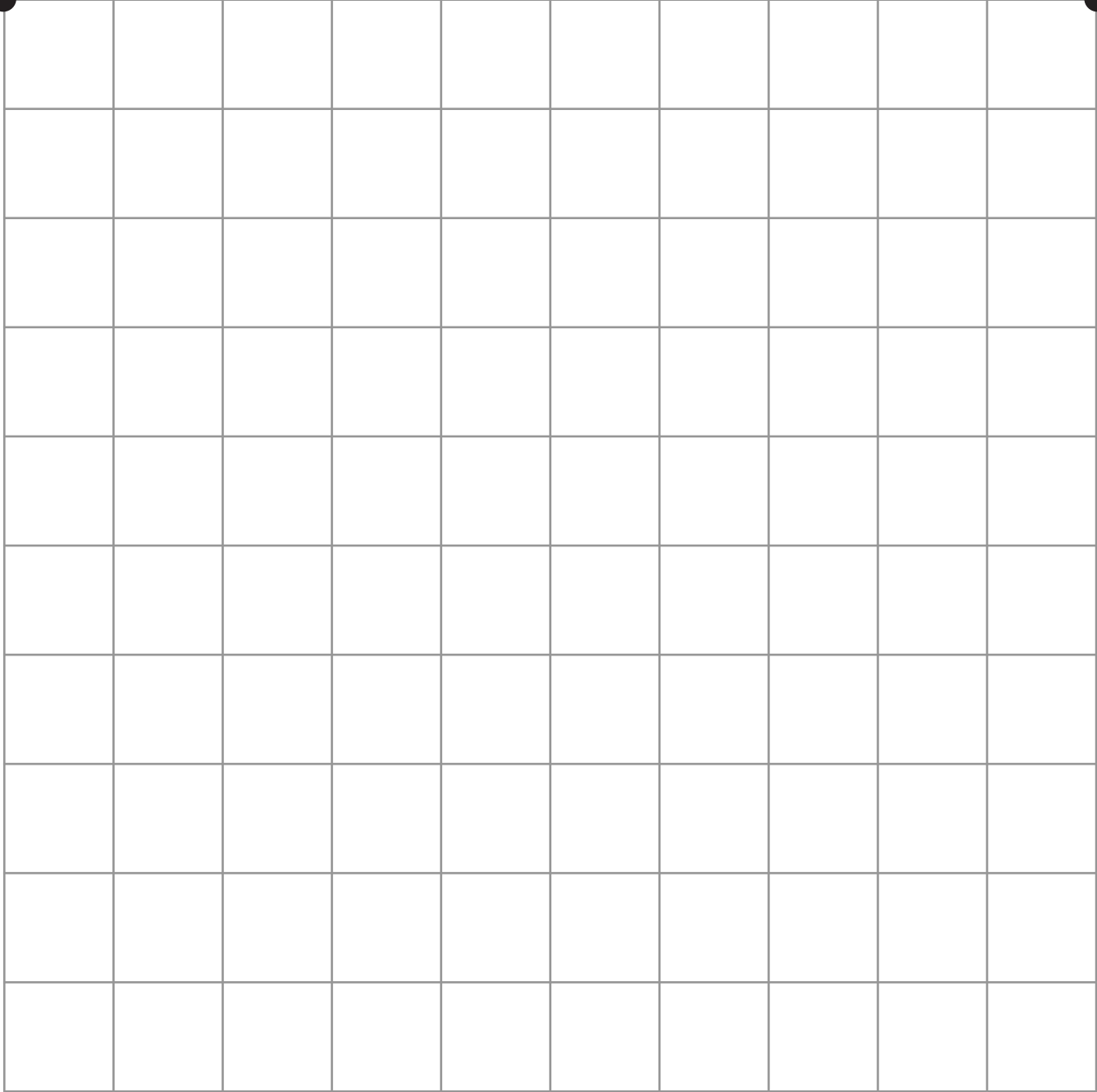
(0,0)

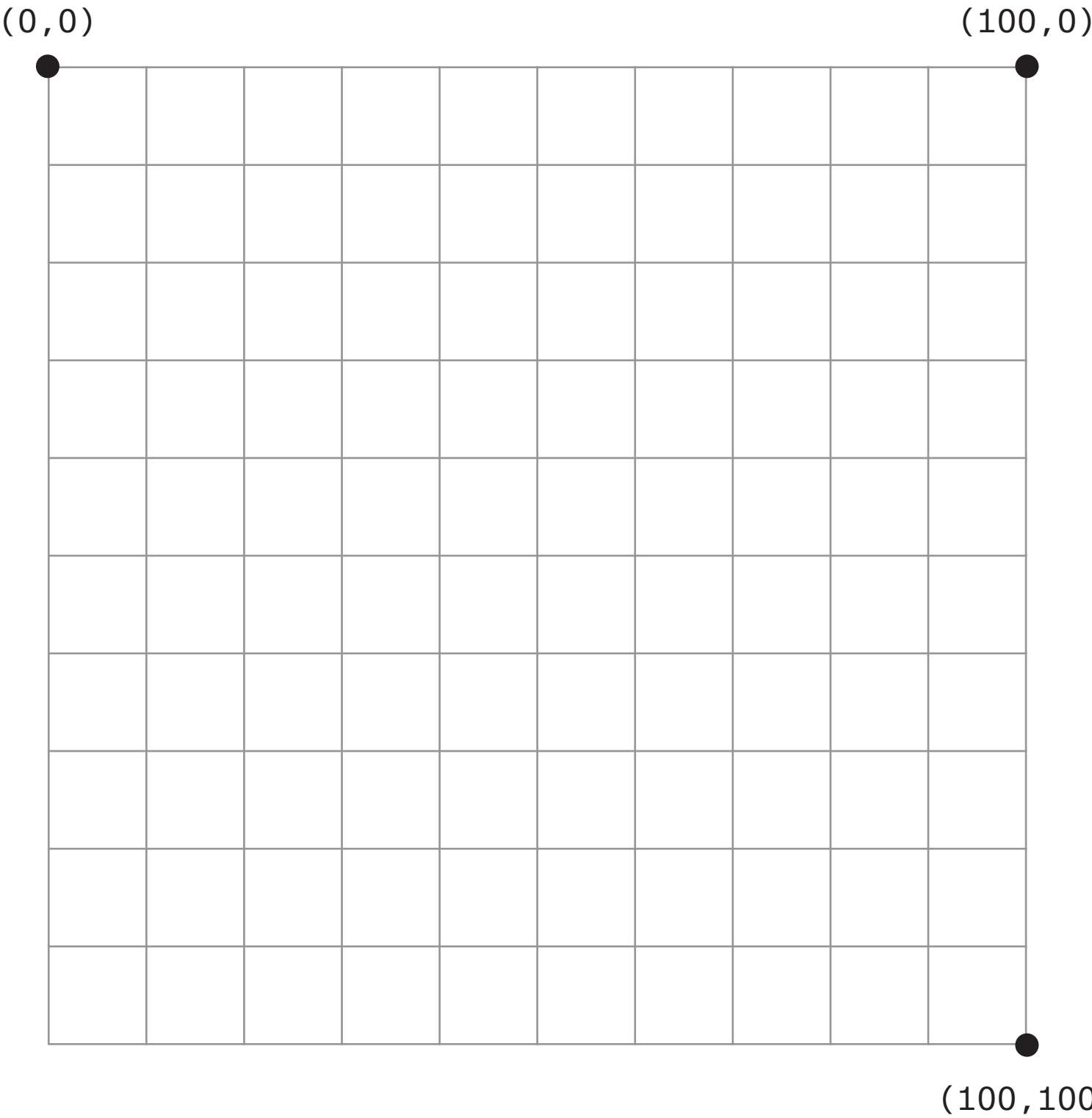




$(0,0)$

$(100,0)$





(0,0)

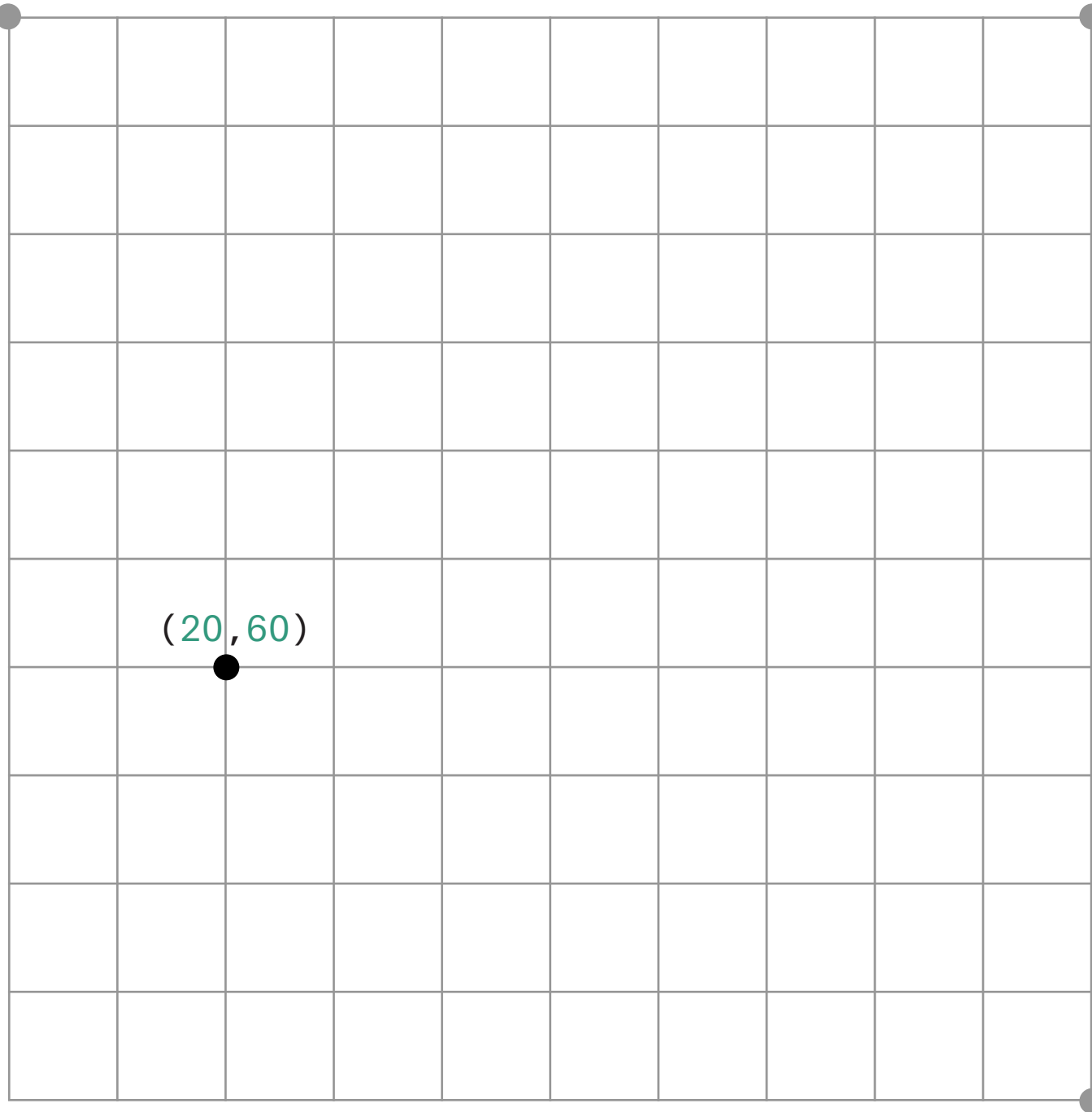
(100,0)

(20,60)

point(x, y);

(100,100)

point(20, 60);



(0,0) (100,0)



(20, 60)

Parameters



point(x, y);



Function

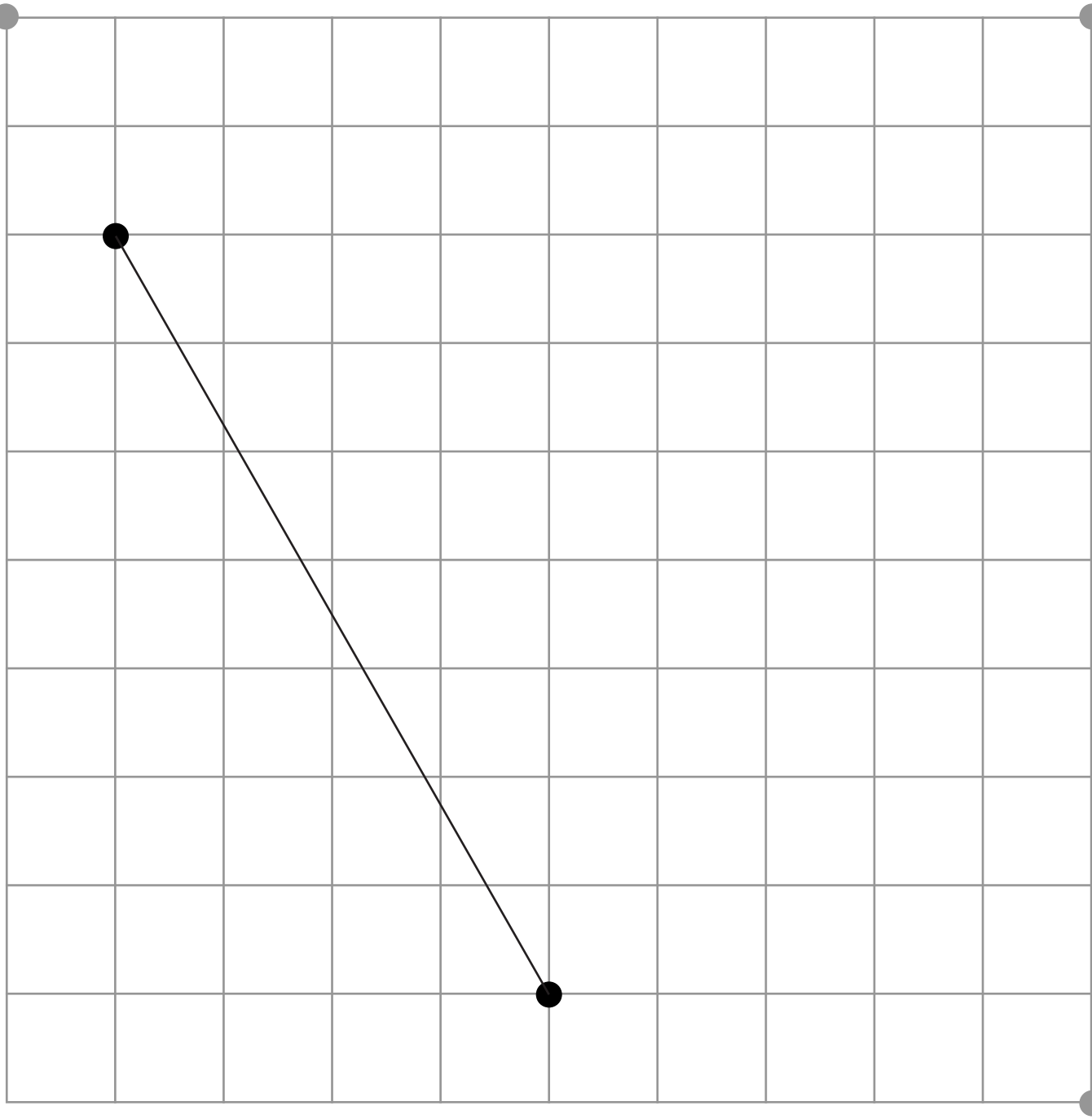
point(20, 60);

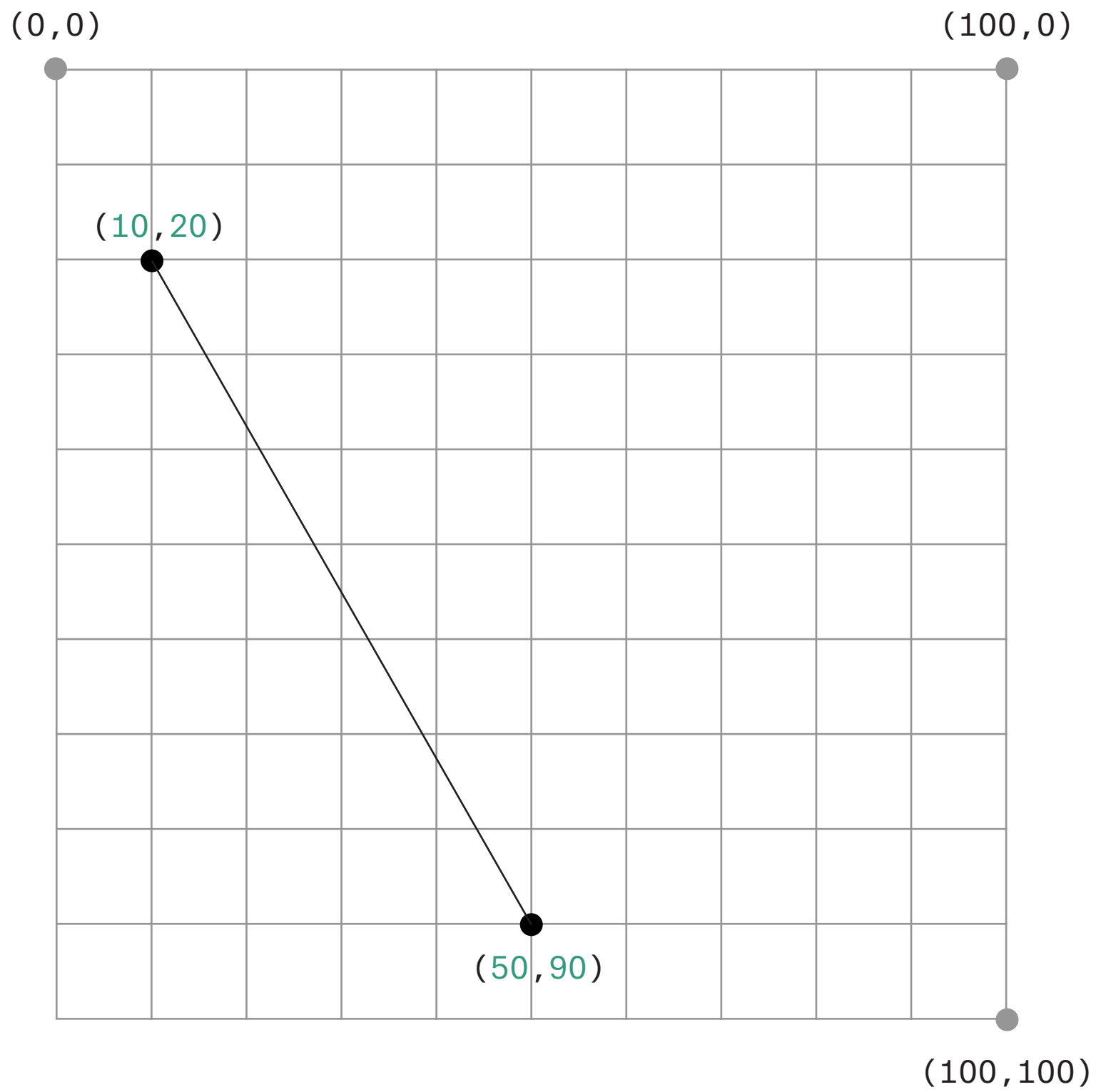
(0,0)

(100,0)

(100,100)

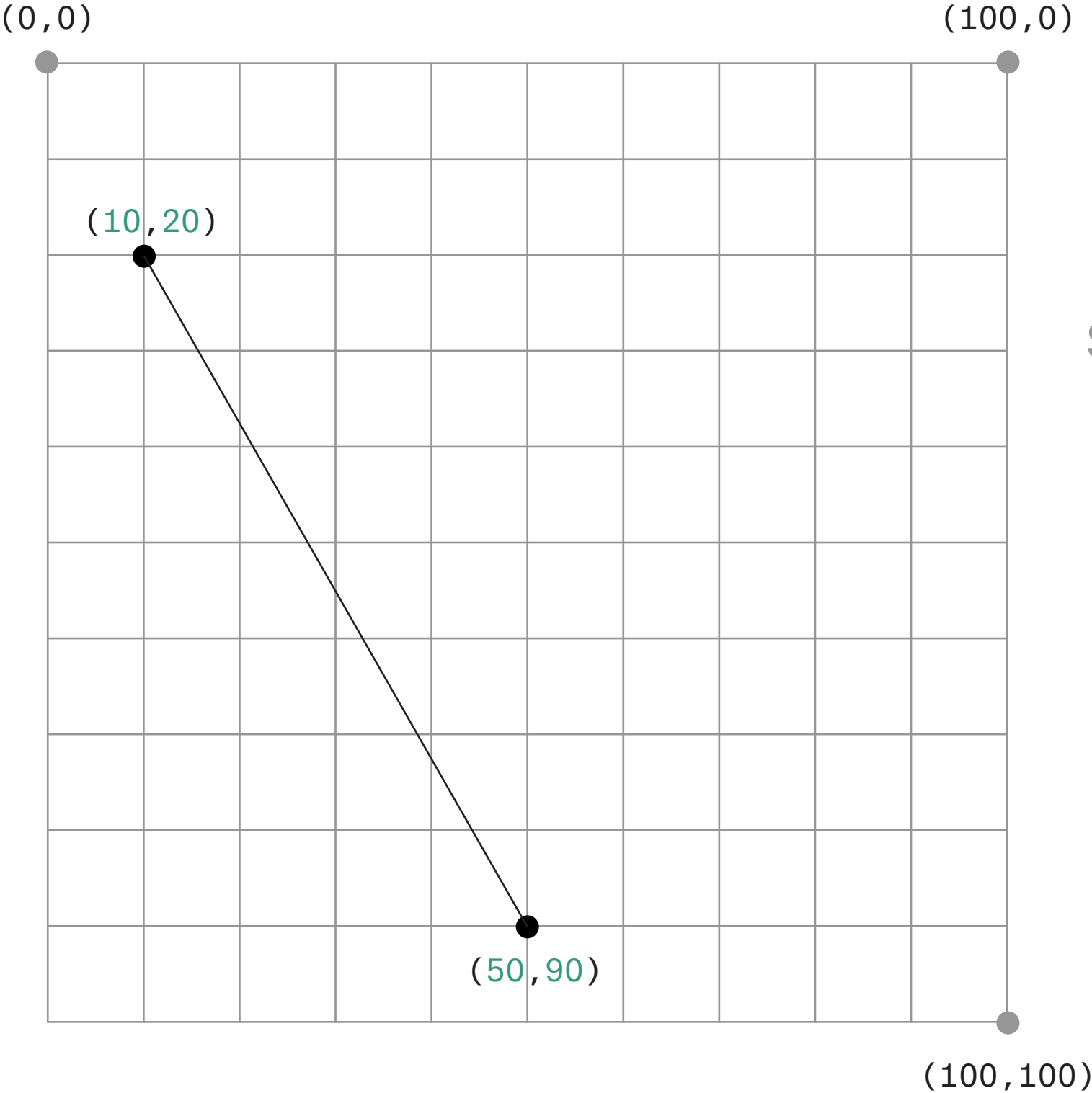
```
line(x, y, x, y);
```





```
line(x, y, x, y);
```

```
line(10, 20, 50, 90);
```



Start Coordinate



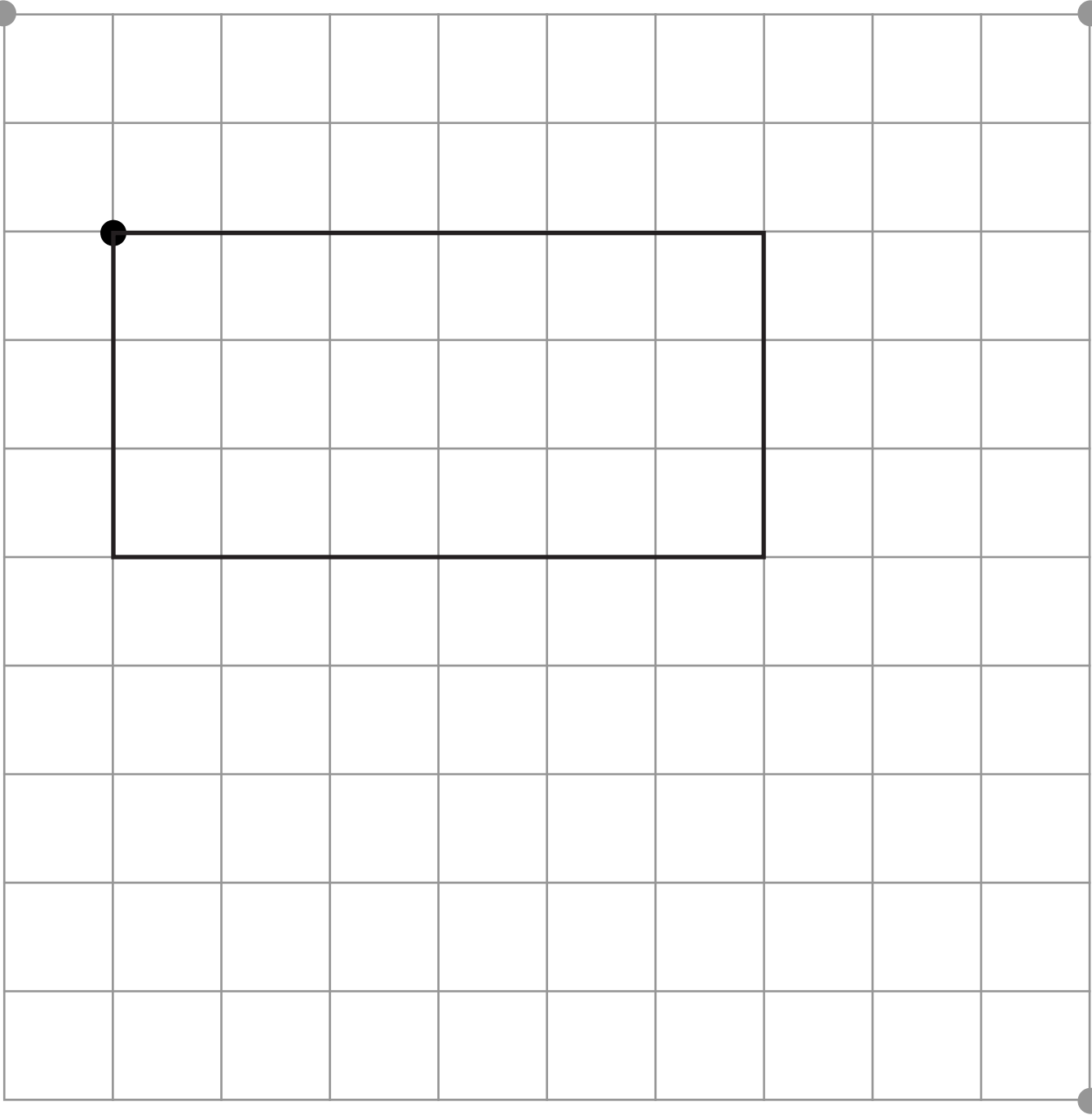
```
line(x, y, x, y);
```



End Coordinate

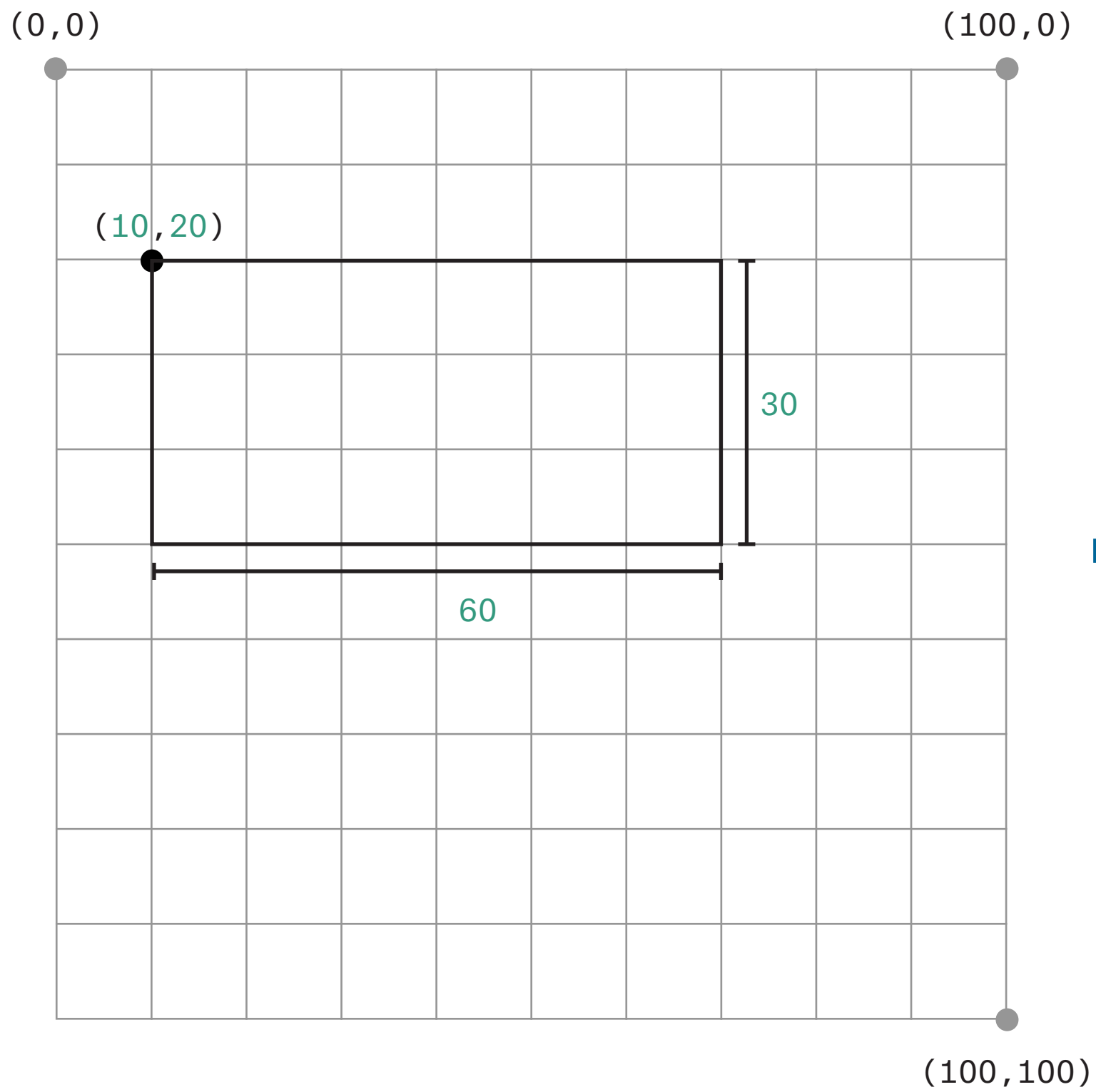
```
line(10, 20, 50, 90);
```

(0,0) (100,0)



```
rect(x, y, width, height);
```





```
rect(x, y, width, height);
```

```
rect(10, 20, 60, 30);
```

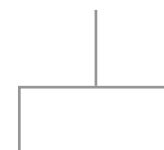
(0,0) (100,0)

(10,20)

30

60

Top left corner

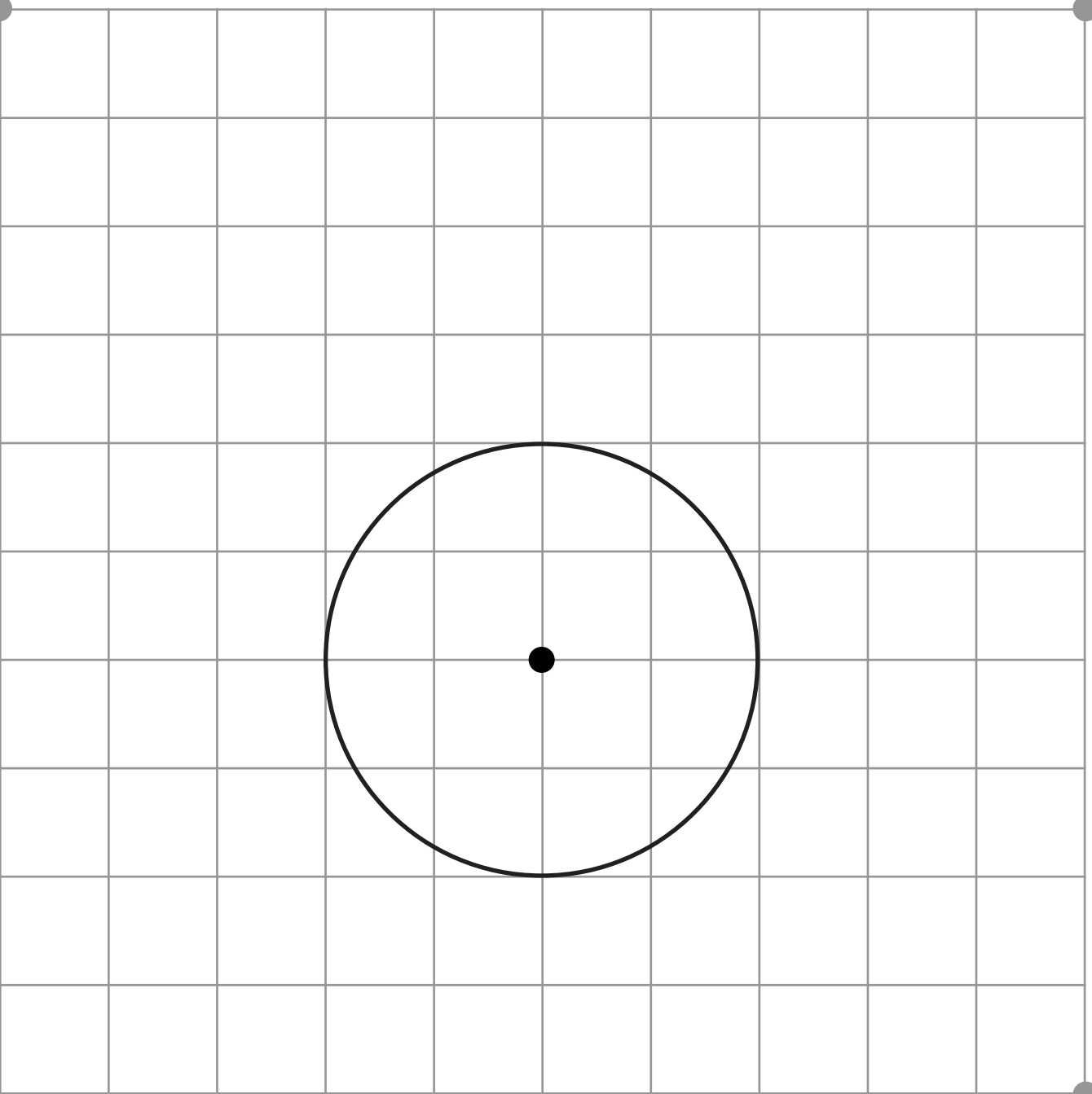


`rect(x, y, width, height);`

`rect(10, 20, 60, 30);`

(100,100)

(0,0) (100,0)



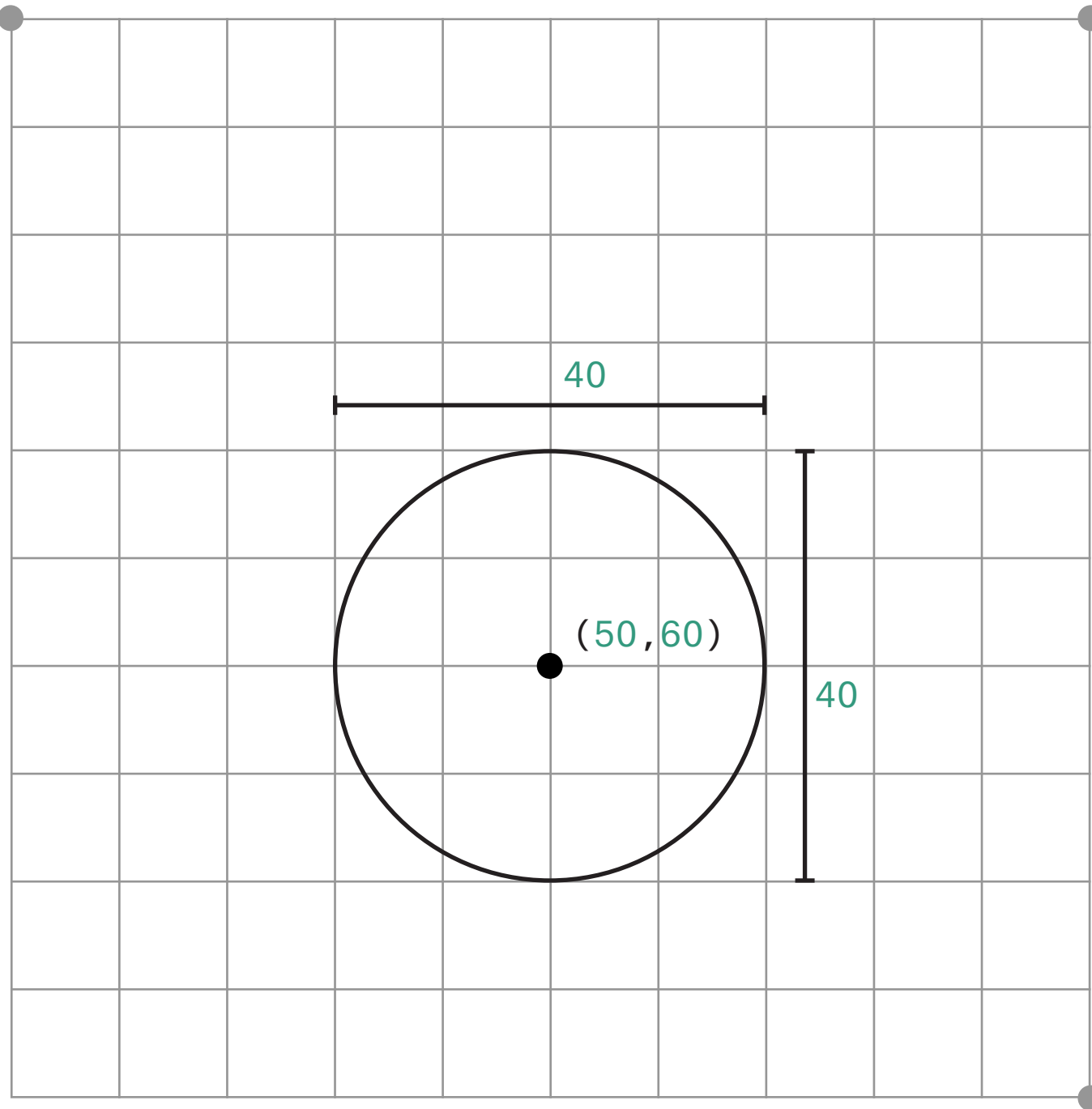
Center



ellipse(x, y, width, height);

(0,0)

(100,0)



40

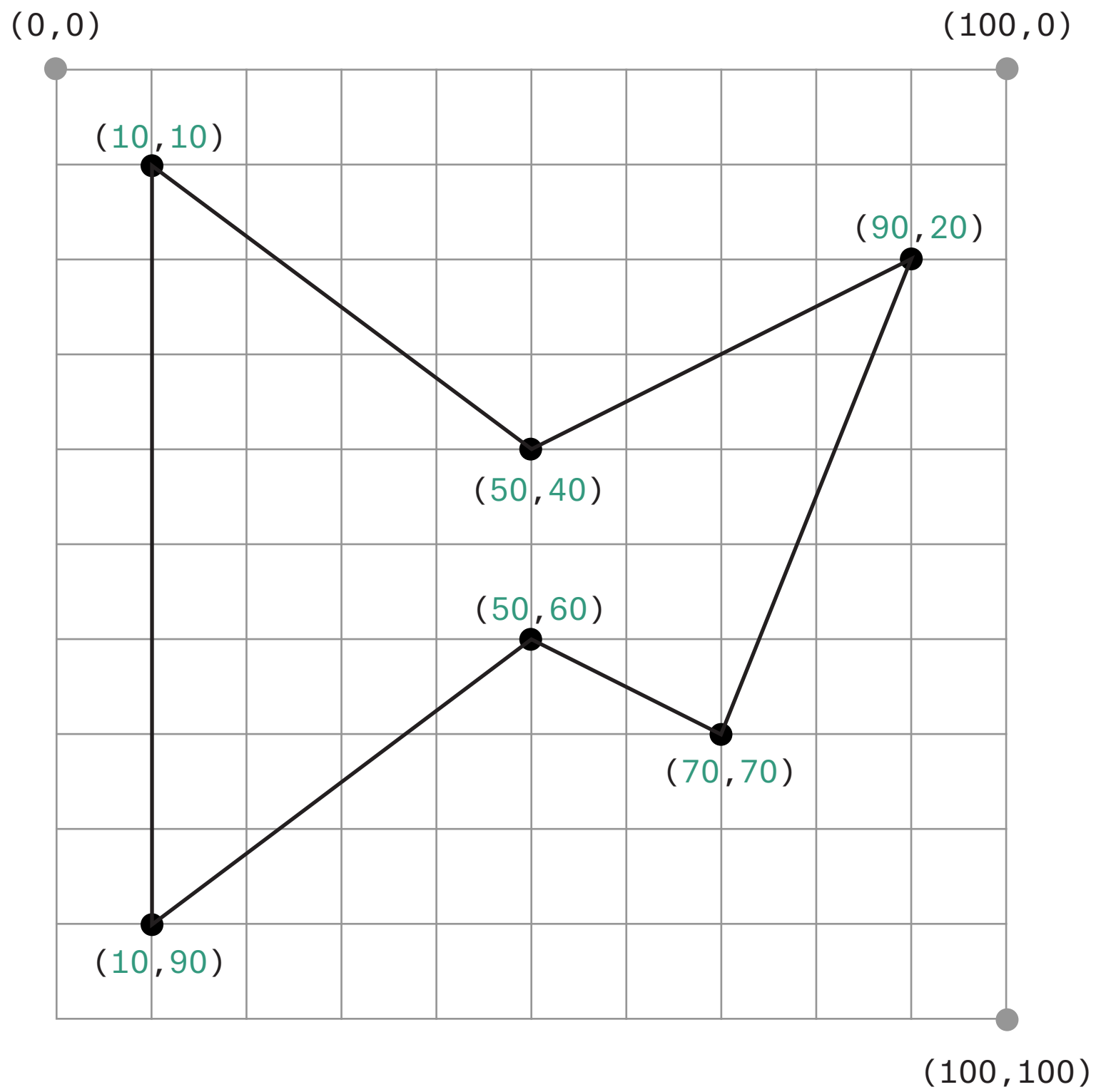
(50, 60)

40

```
ellipse(x, y, width, height);
```

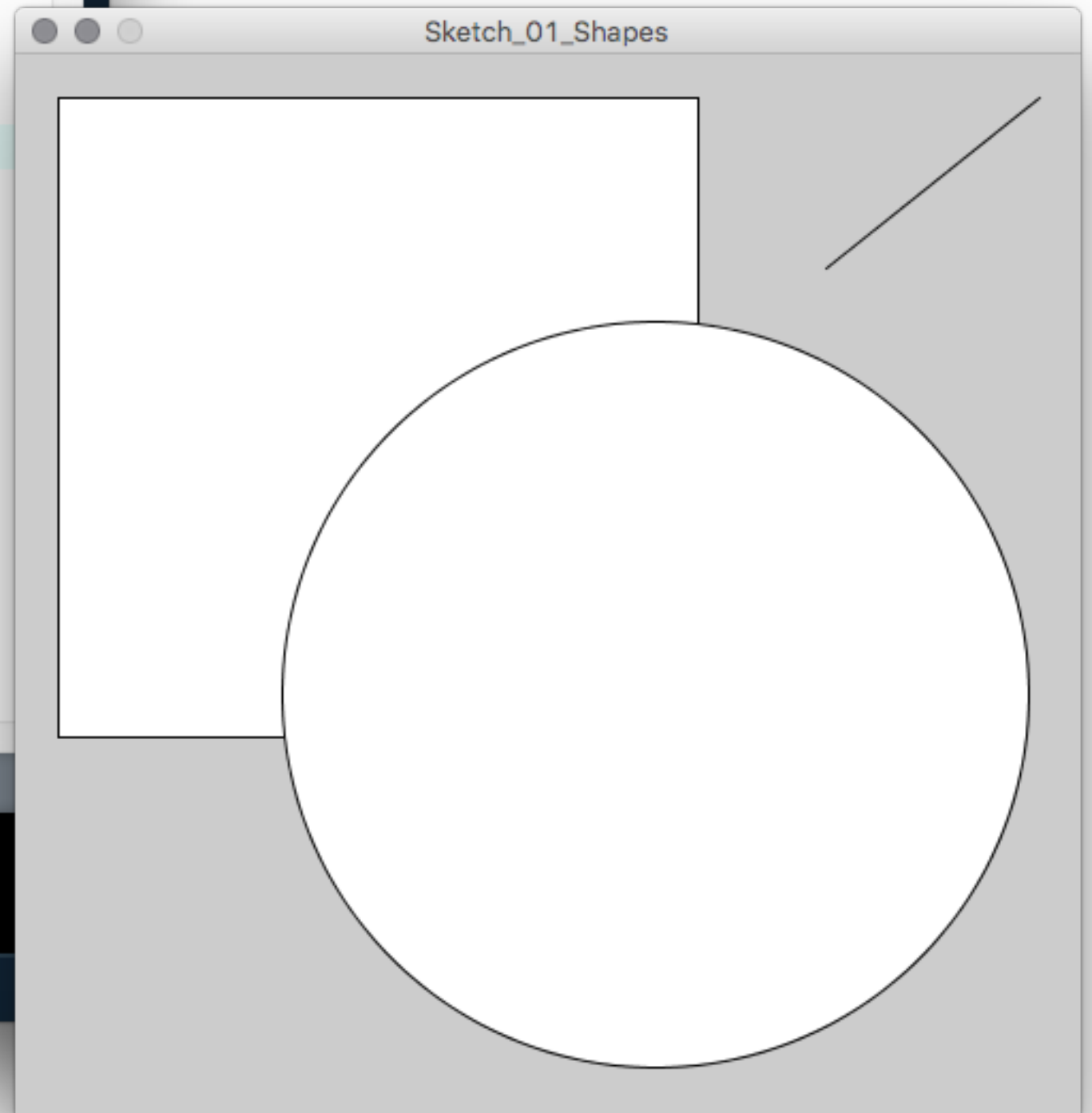
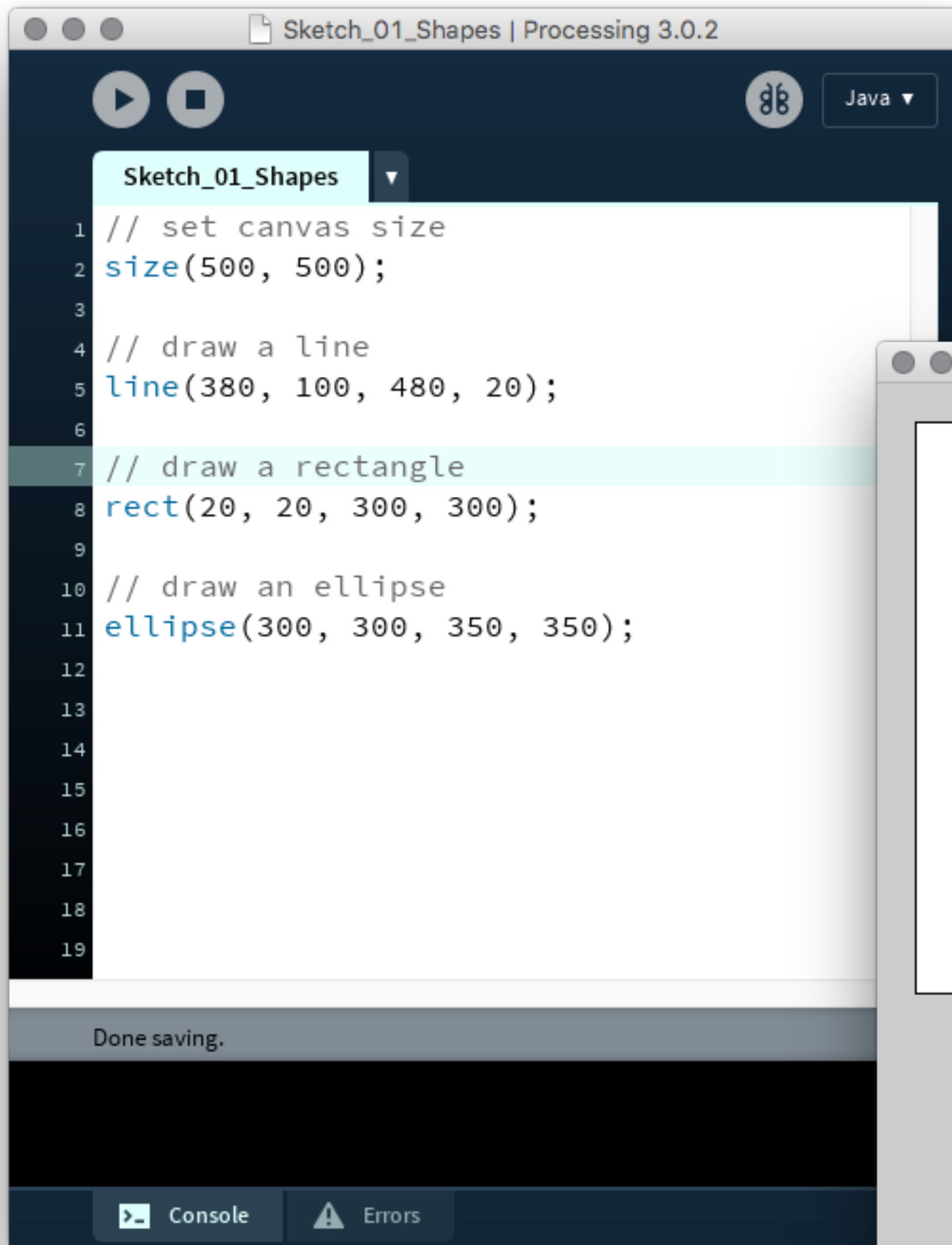
```
ellipse(50, 60, 40, 40);
```

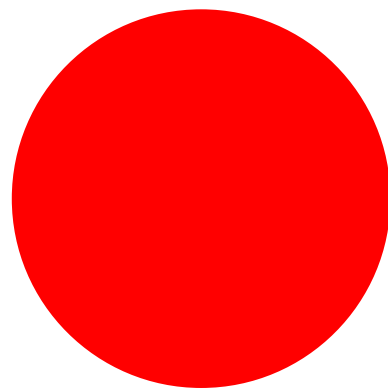
(100,100)



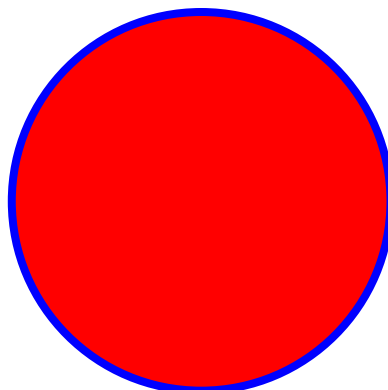
```
beginShape();  
vertex(10, 10);  
vertex(10, 90);  
vertex(50, 60);  
vertex(70, 70);  
vertex(90, 20);  
vertex(50, 40);  
endShape();
```

Color

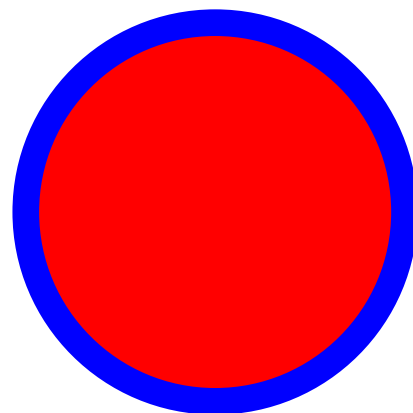




```
fill(255, 0, 0);
```



```
stroke(0, 0, 255);
```



```
strokeWeight(10);
```



`fill(R, G, B);`



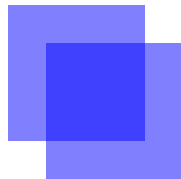
`fill(255, 0, 0);`



`fill(255, 0, 255);`

---

`fill(R, G, B, A);`



`fill(0, 0, 255, 128);`

---

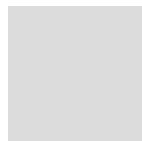
`fill(V);`



`fill(0);`



`fill(128);`



`fill(220);`

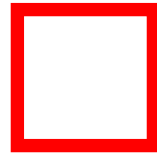
---

`fill(V, A);`

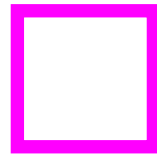


`fill(0, 128);`

stroke(R, G, B);



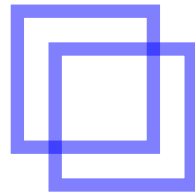
stroke(255, 0, 0);



stroke(255, 0, 255);

---

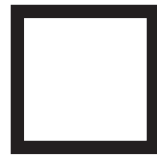
stroke(R, G, B, A);



stroke(0, 0, 255, 128);

---

stroke(V);



stroke(0);



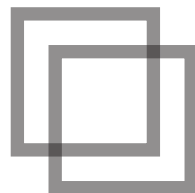
stroke(128);



stroke(220);

---

stroke(V, A);



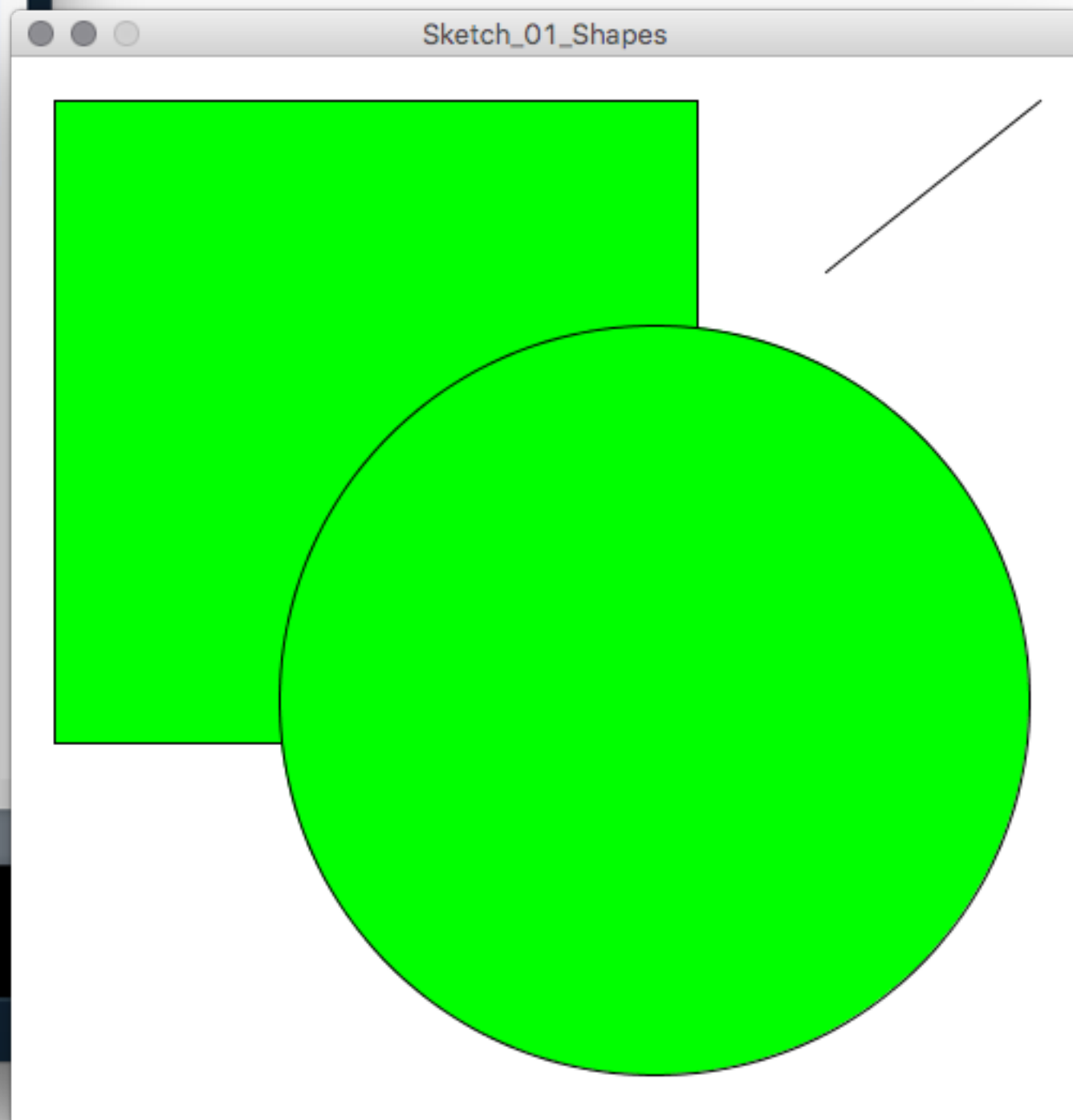
stroke(0, 128);

Sketch\_01\_Shapes | Processing 3.0.2

Sketch\_01\_Shapes

```
1 // set canvas size
2 size(500, 500);
3
4 // set background to white
5 background(255);
6
7 // set the fill color
8 fill(0, 255, 0);
9
10 // draw a line
11 line(380, 100, 480, 20);
12
13 // draw a rectangle
14 rect(20, 20, 300, 300);
15
16 // draw an ellipse
17 ellipse(300, 300, 350, 350);
18
19
20
21
22
```

Console Errors



Sketch\_01\_Shapes | Processing 3.0.2

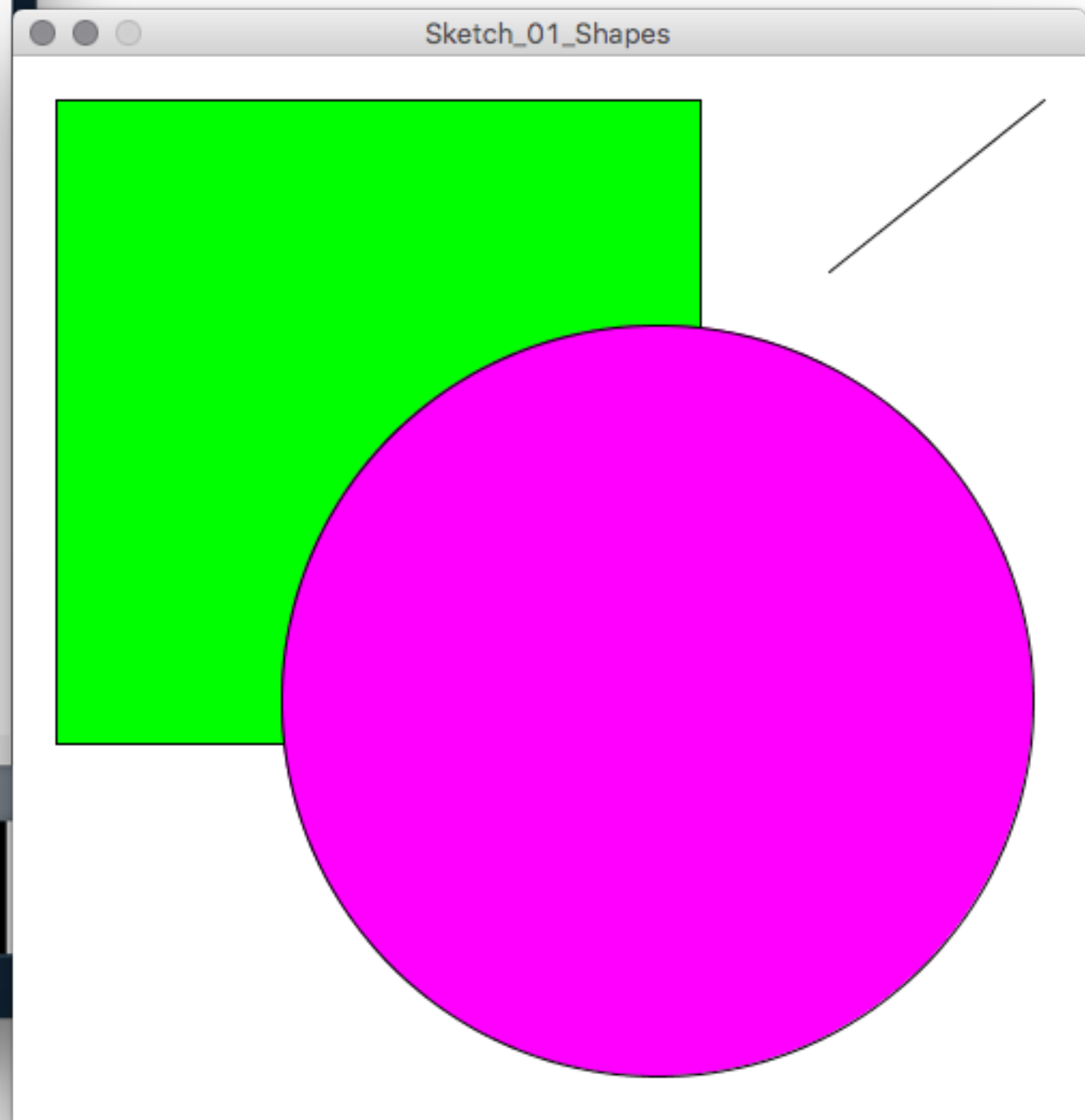
Java ▾

Sketch\_01\_Shapes ▾

```
1 // set canvas size
2 size(500, 500);
3
4 // set background to white
5 background(255);
6
7 // set the fill color
8 fill(0, 255, 0);
9
10 // draw a line
11 line(380, 100, 480, 20);
12
13 // draw a rectangle
14 rect(20, 20, 300, 300);
15
16 // set the fill color again
17 fill(255, 0, 255);
18
19 // draw an ellipse
20 ellipse(300, 300, 350, 350);
21
22
```

Console

Errors

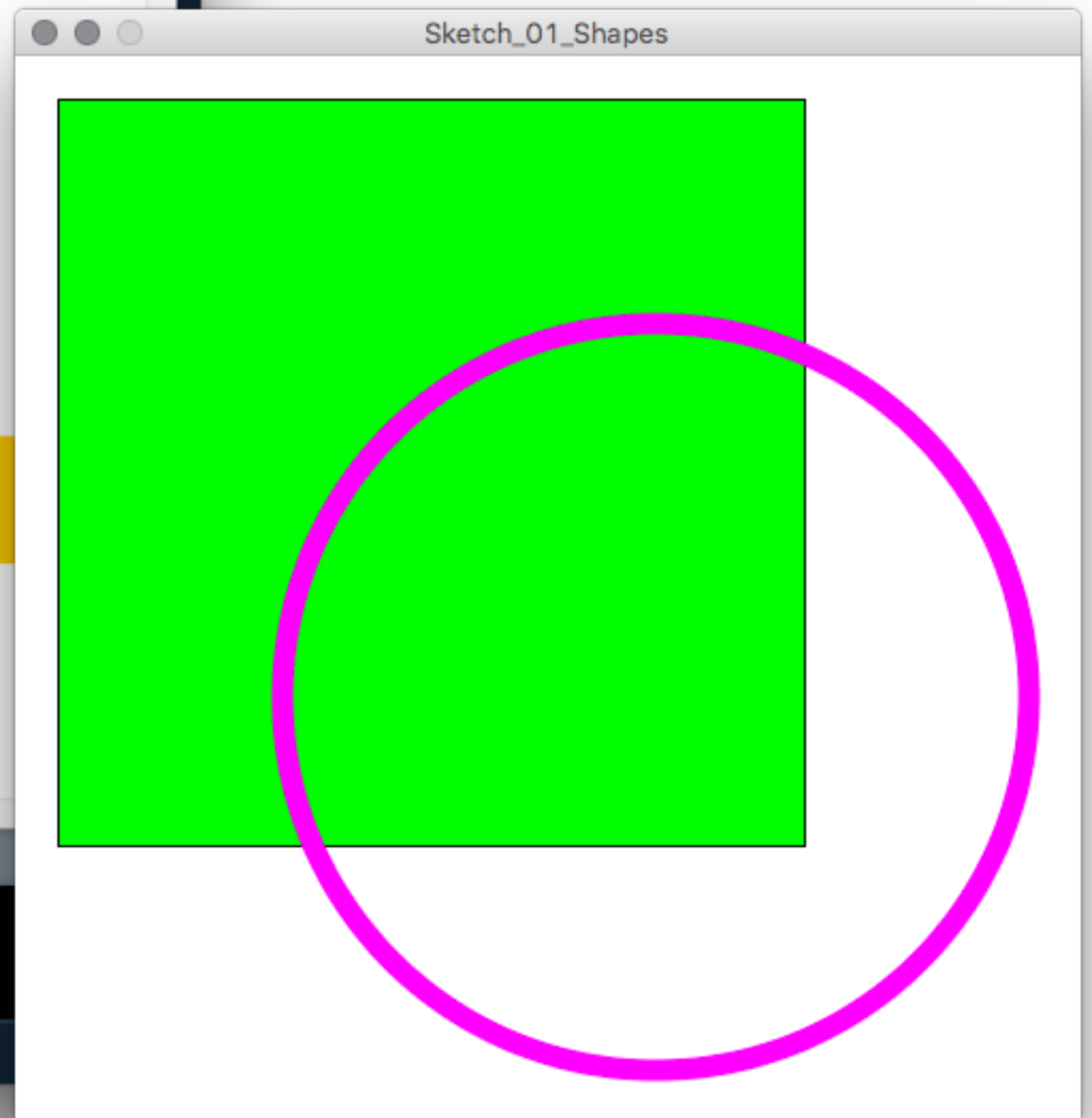


Sketch\_01\_Shapes | Processing 3.0.2

Sketch\_01\_Shapes

```
1 // set canvas size
2 size(500, 500);
3
4 // set background to white
5 background(255);
6
7 // set the fill color
8 fill(0, 255, 0);
9
10 // draw a rectangle
11 rect(20, 20, 350, 350);
12
13 // set the fill color again
14 stroke(255, 0, 255);
15 strokeWidth(10);
16 noFill();
17
18 // draw an ellipse
19 ellipse(300, 300, 350, 350);
20
21
```

Console Errors



Random

`random(100);` — 25.482904

|

Maximum

Minimum



`random(50, 100);`



Maximum



62.026527







Java ▾

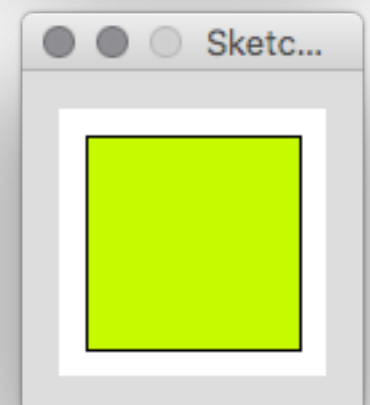
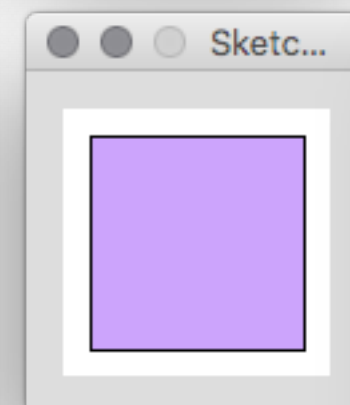
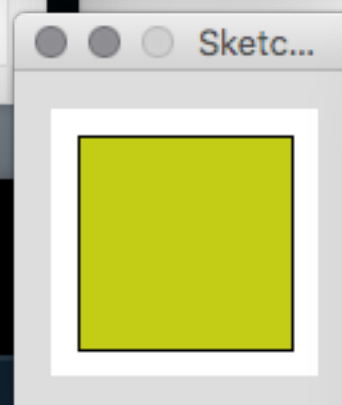
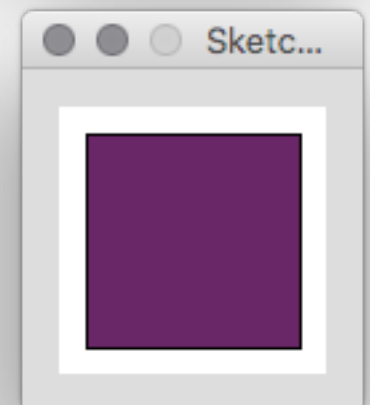
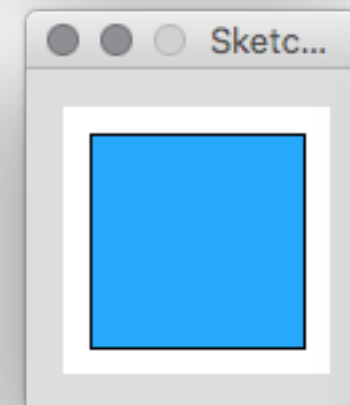
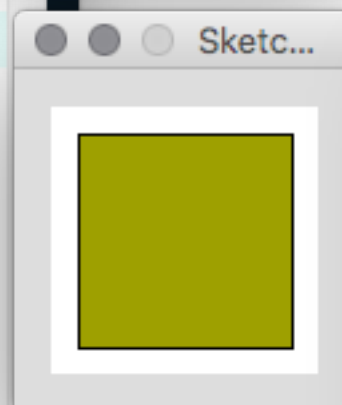
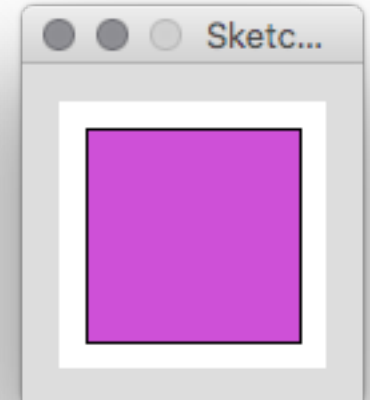
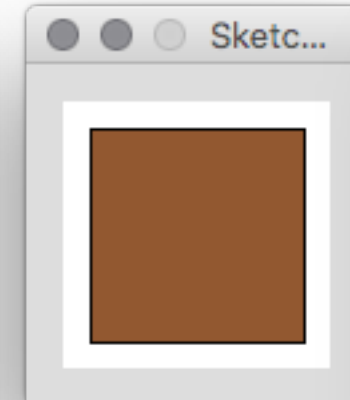
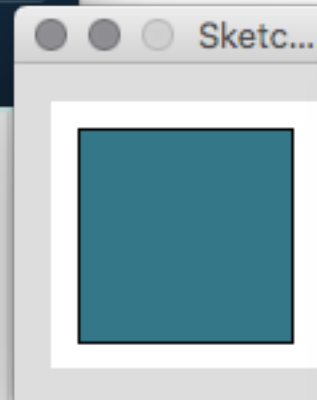
Sketch\_03\_Random ▾

```
1 // set the background color
2 background(255);
3
4 // print a random number to the console
5 println(random(10));
6
7 // set the fill to a random color
8 fill(random(255), random(255), random(255));
9
10 // draw a rectangle
11 rect(10, 10, 80, 80);
12
13
14
15
16
17
```

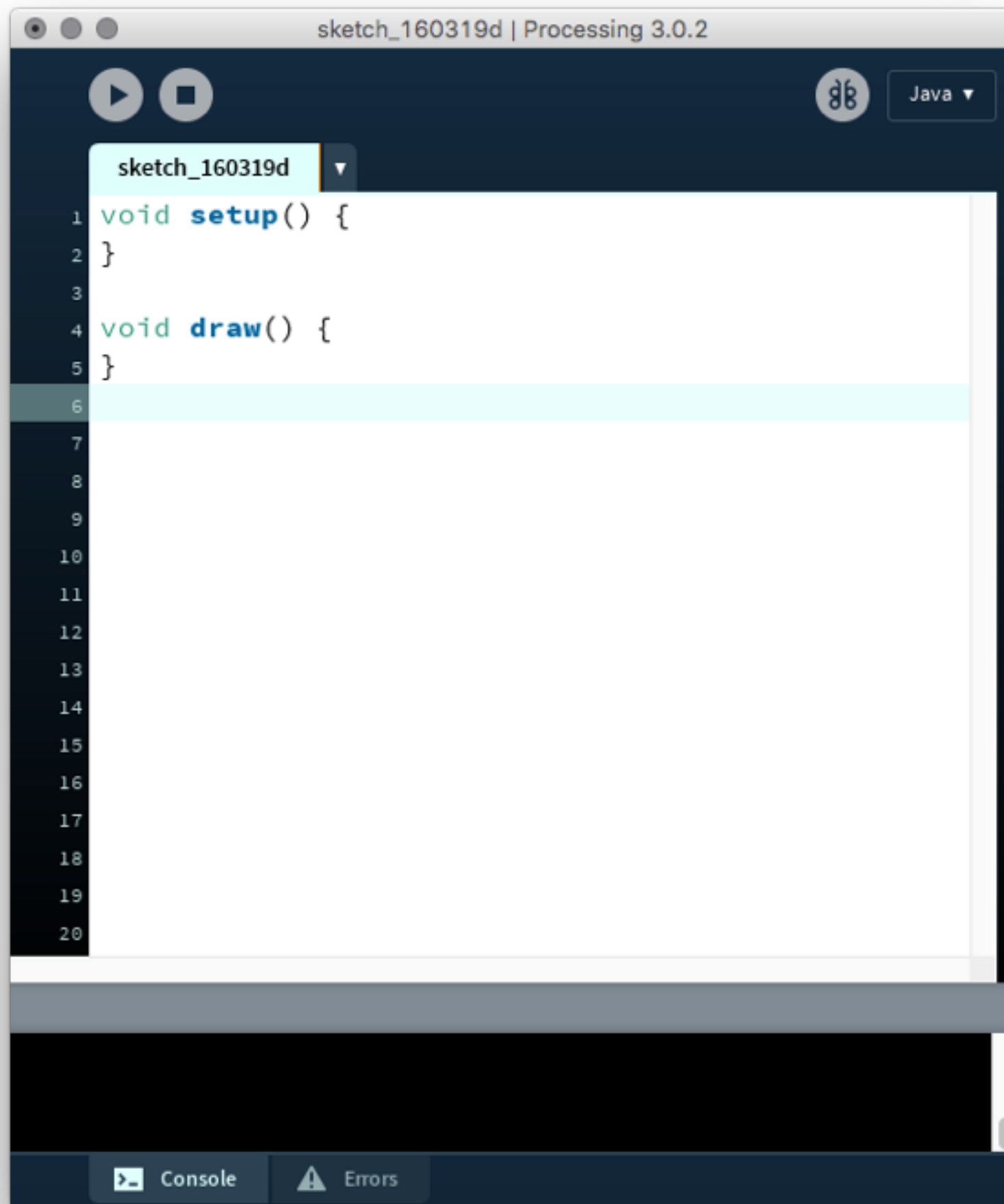
8.749135

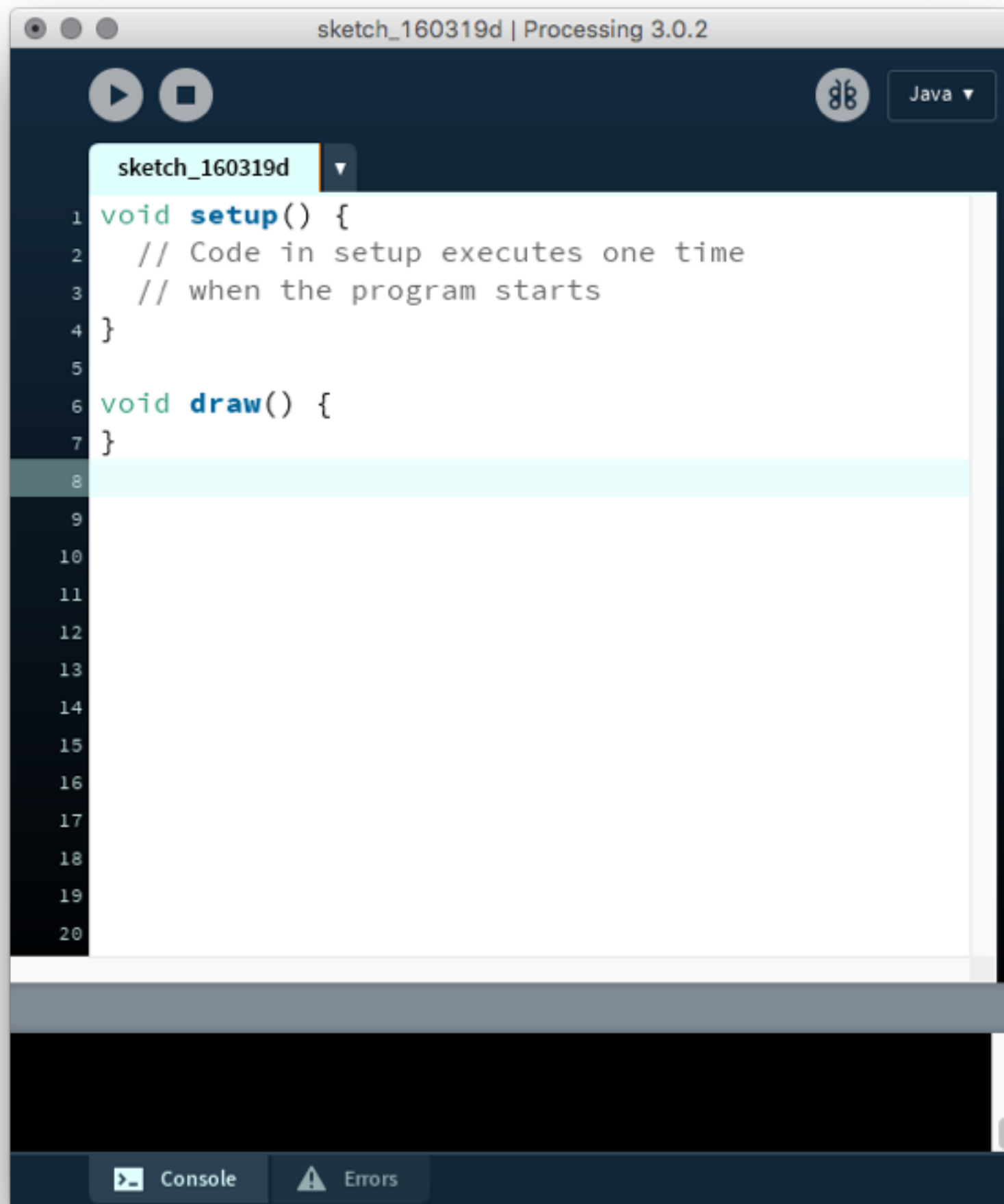
Console

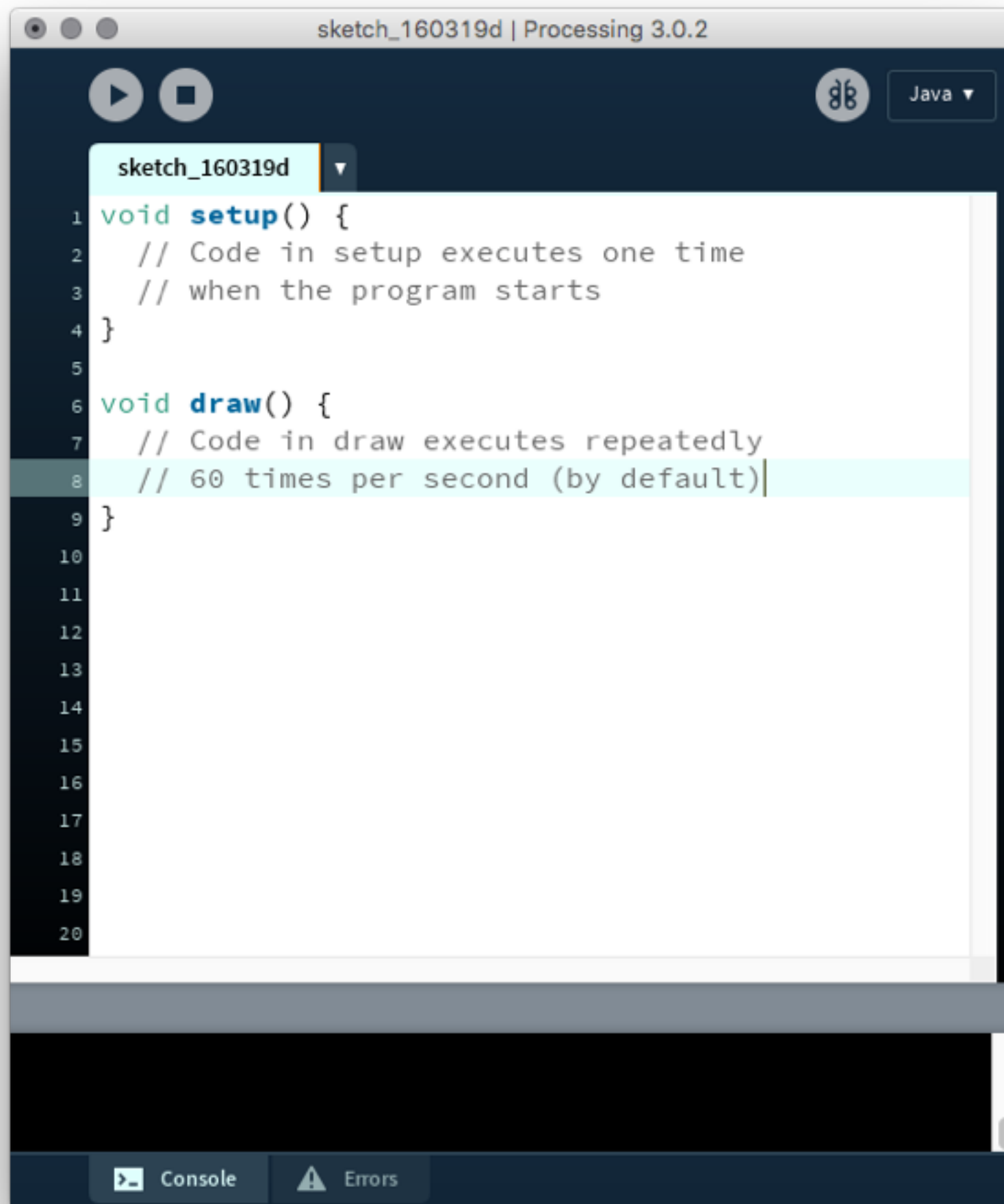
Errors



Setup and Draw





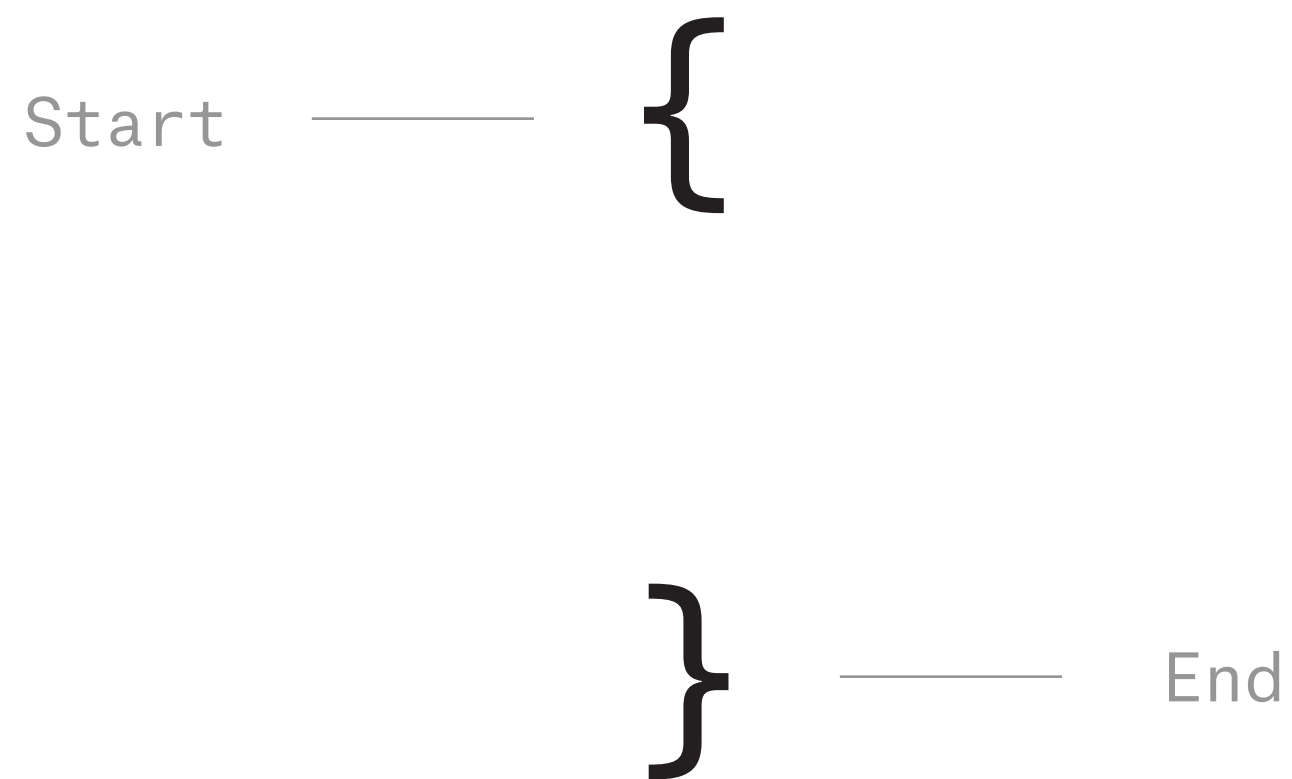


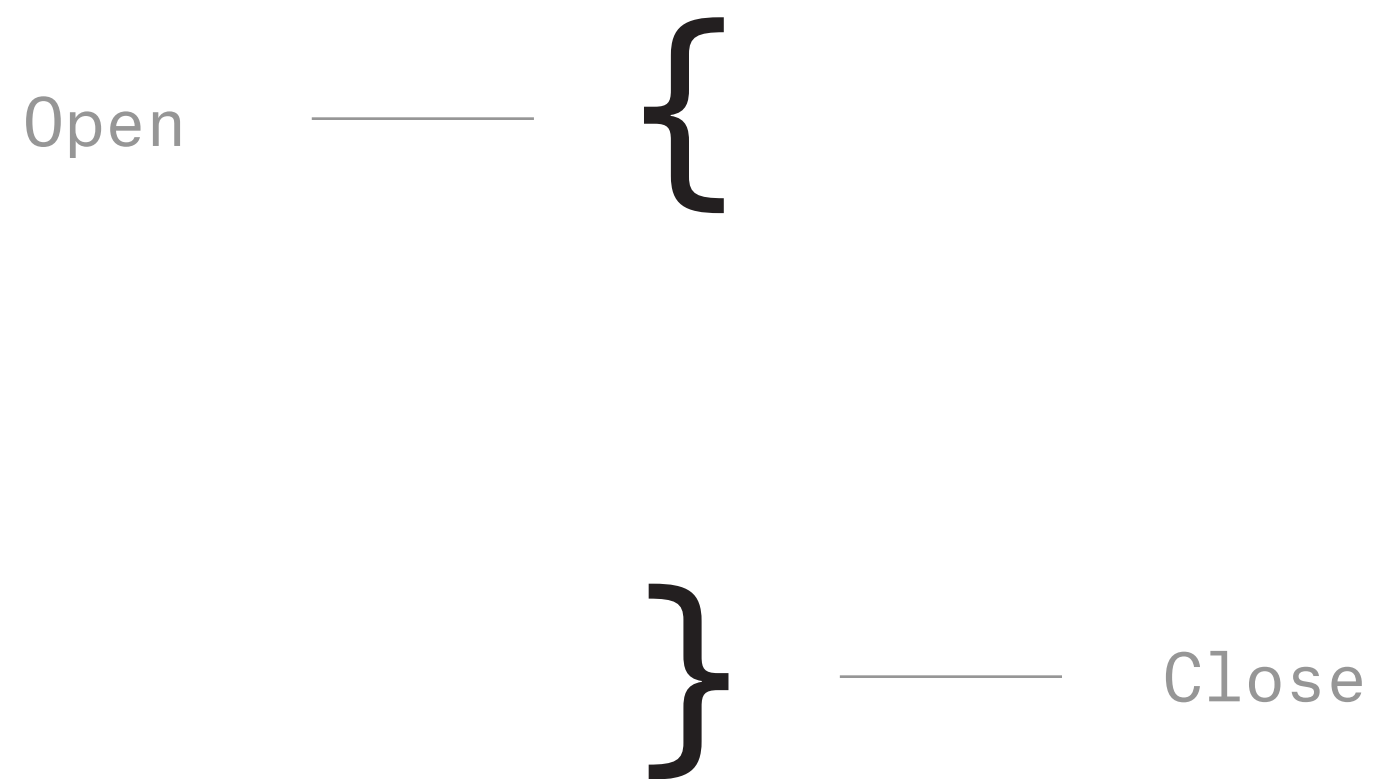
***in*** setup?

***in*** draw?

{ }

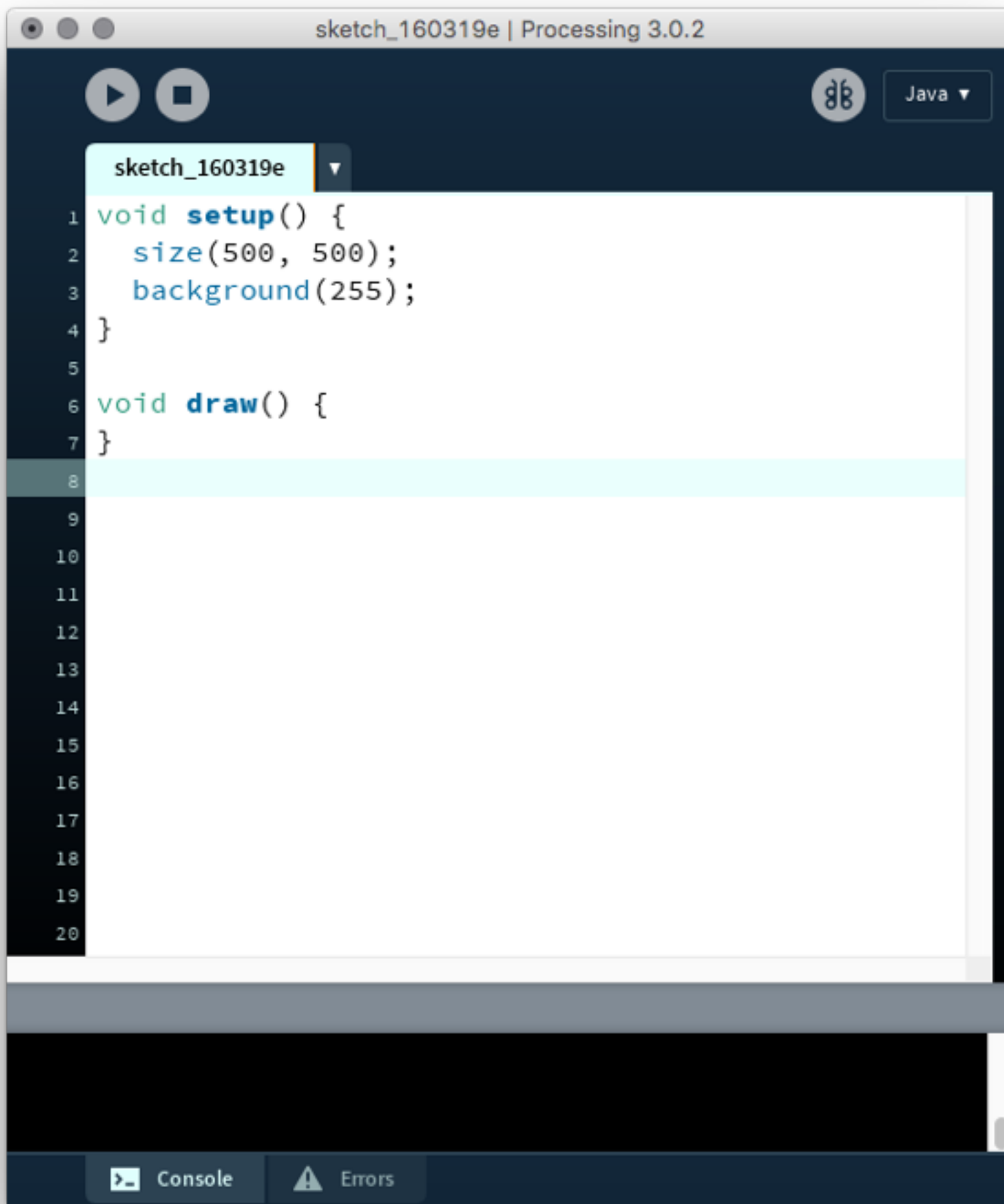


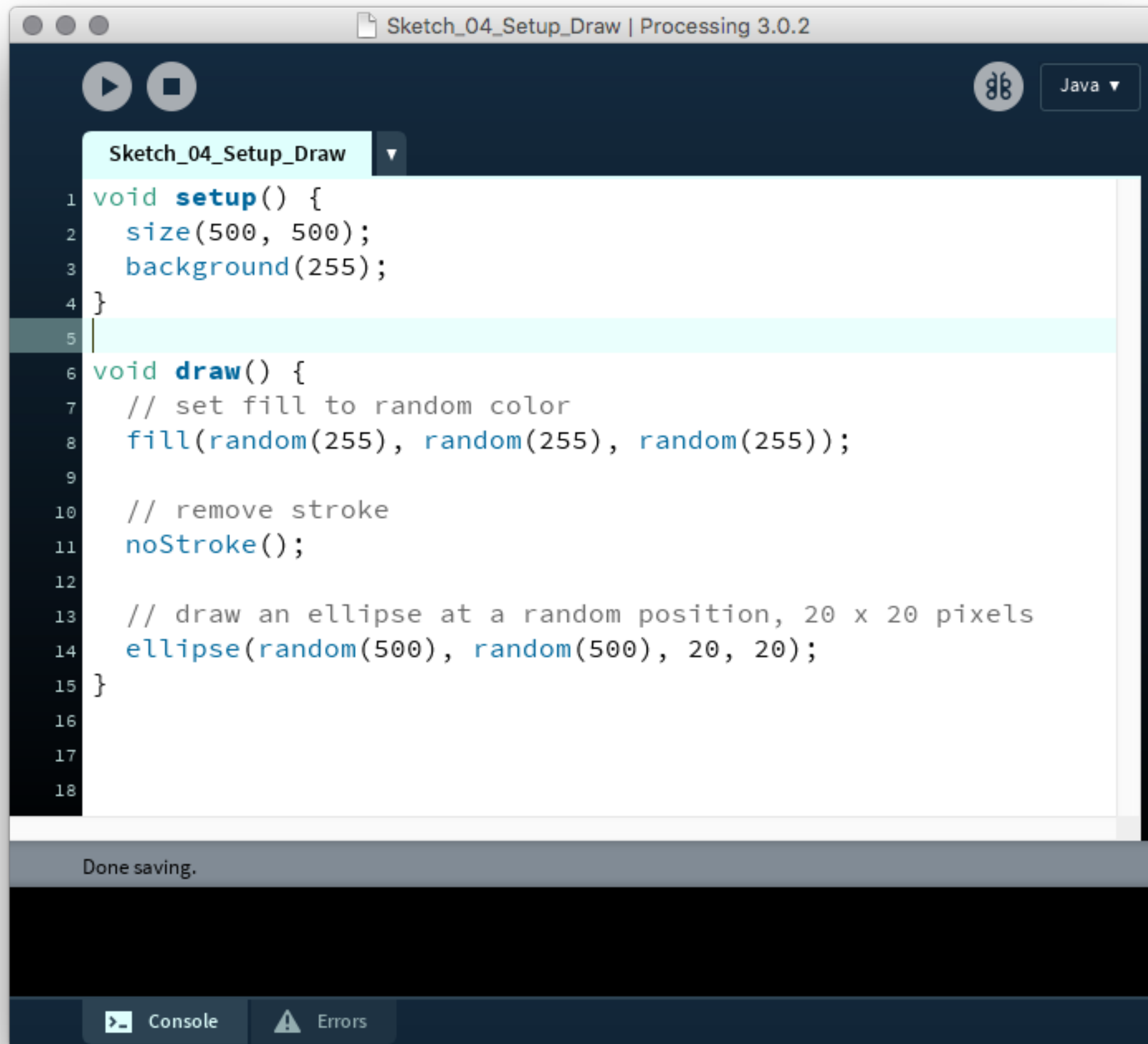


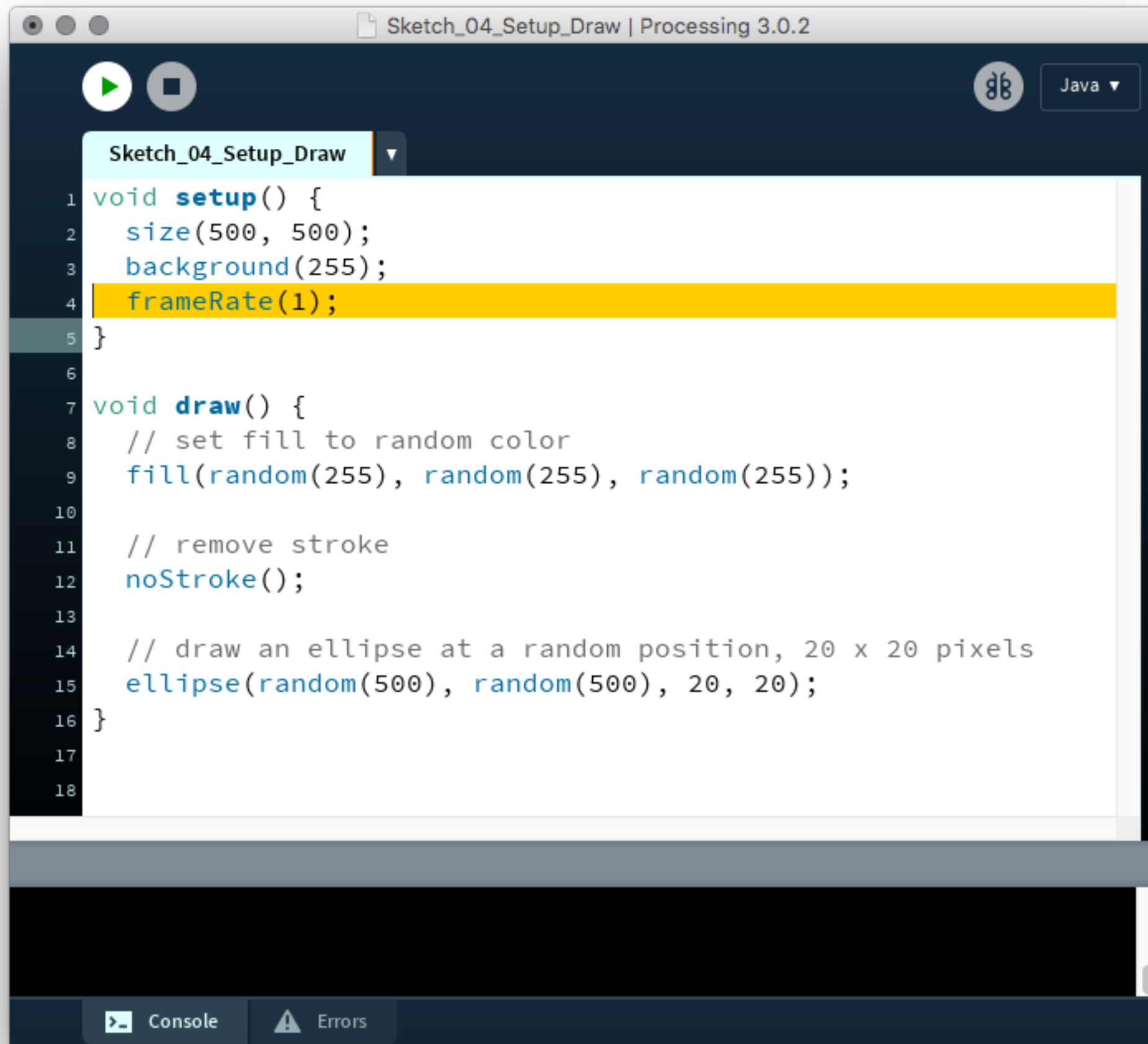


```
void setup() {  
    // in setup  
}
```

```
void draw() {  
    // in draw  
}
```









Java ▾

Sketch\_04\_Setup\_Draw ▾

```
1 void setup() {
2   size(500, 500);
3   background(255);
4 }
5
6 void draw() {
7   // set fill to random
8   fill(random(255), random(255), random(255));
9
10  // remove stroke
11  noStroke();
12
13  // draw an ellipse at a random position, 20 x 20 pixels
14  ellipse(random(500), random(500), random(20), random(20));
15 }
16
17
18
```

Done saving.

Console

Errors



Java ▾

Sketch\_04\_Setup\_Draw ▾

```
1 void setup() {
2   size(500, 500);
3   background(255);
4 }
5
6 void draw() {
7   // set fill to random color
8   fill(random(255), random(255), random(255));
9
10  // remove stroke
11  noStroke();
12
13  // draw an ellipse at a random position, 20 x 20 pixels
14  ellipse(random(500), random(500), random(20), random(20));
15 }
16
17
18
```

Console

Errors