

Code

Universal

Variables
Operators
Conditionals
Loops
Arrays

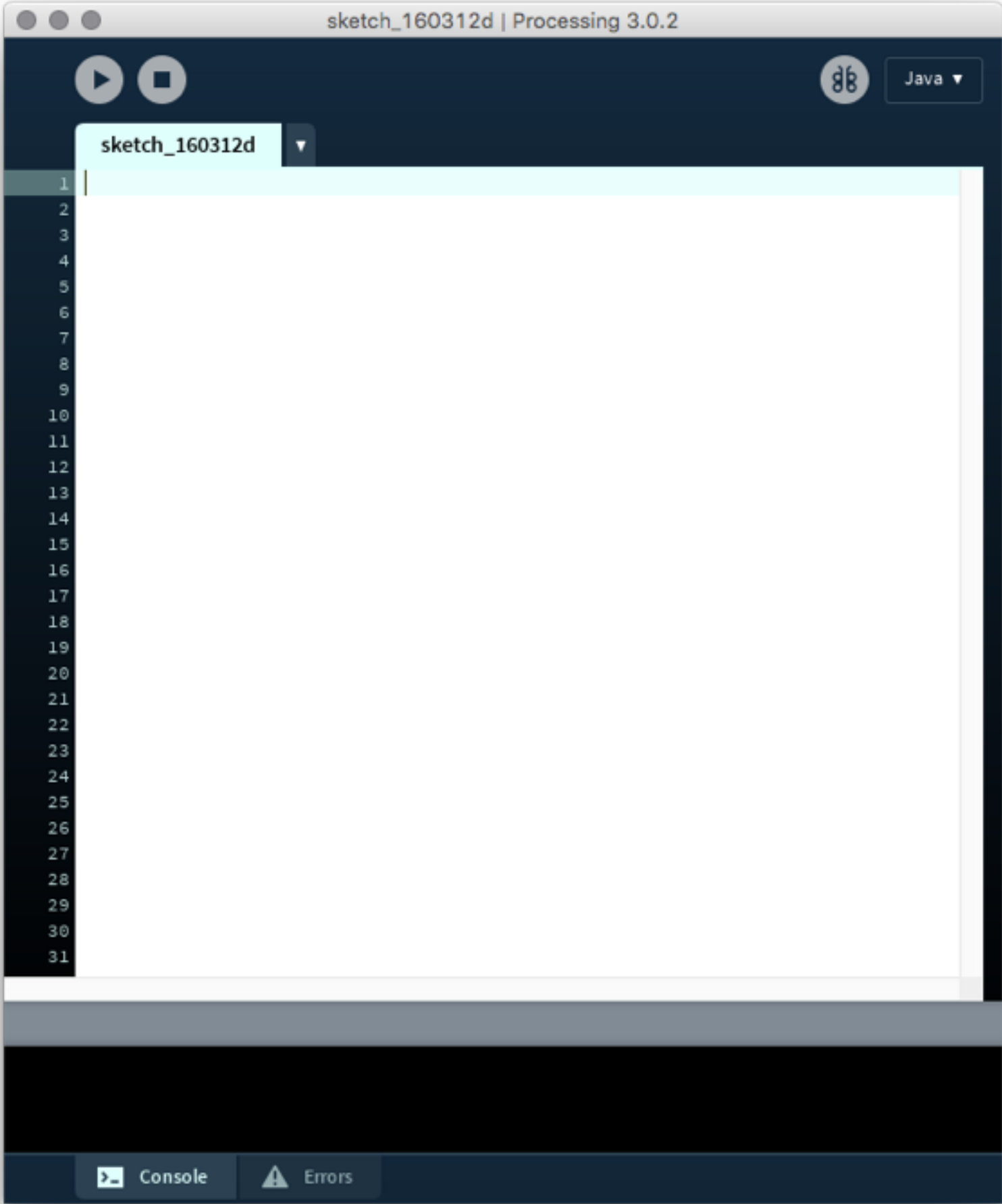
Processing

2D Shapes
Transformation
Animation
Interaction

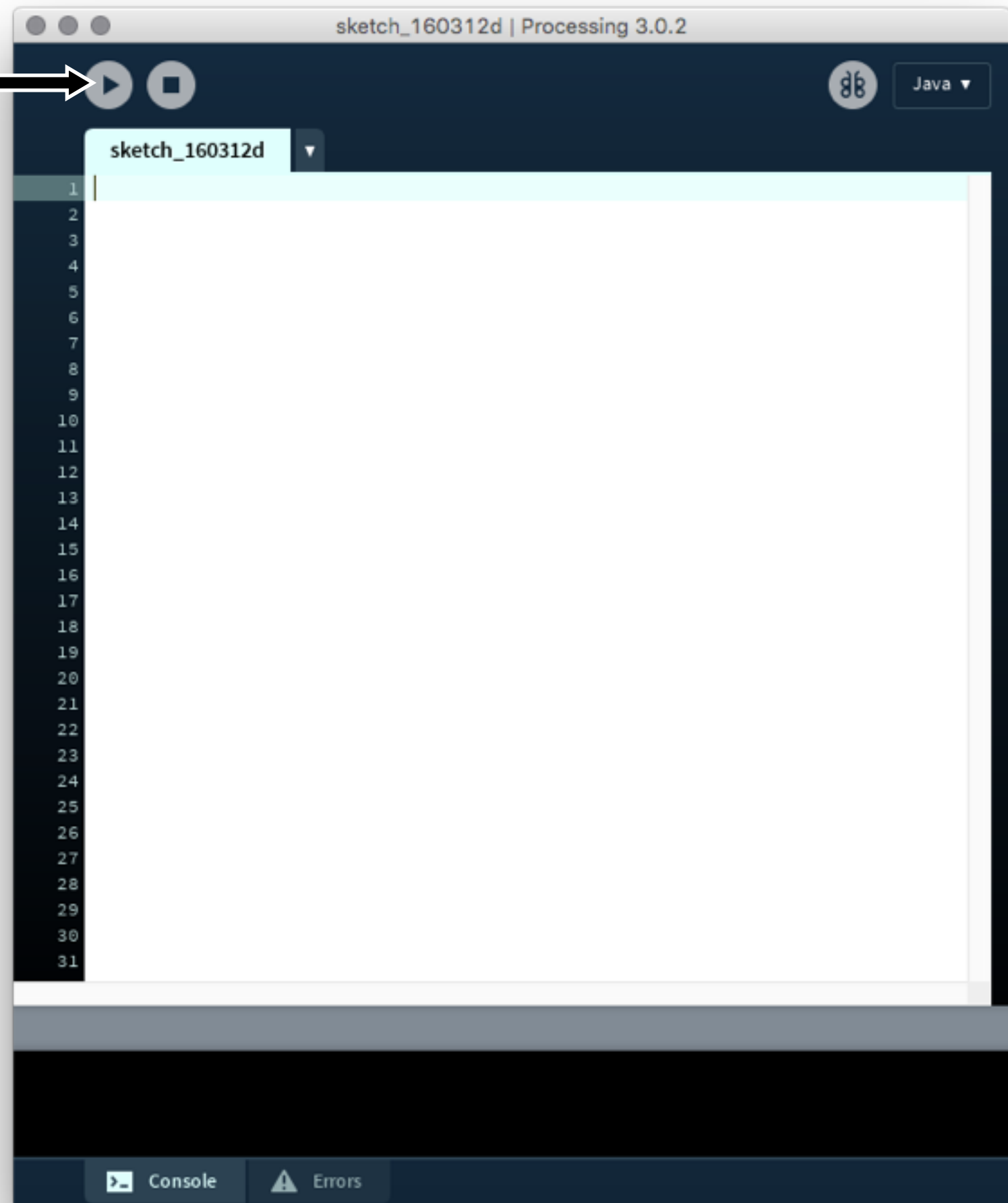
Sketch folder

Macintosh HD > Users > danielpowers > Documents > Processing

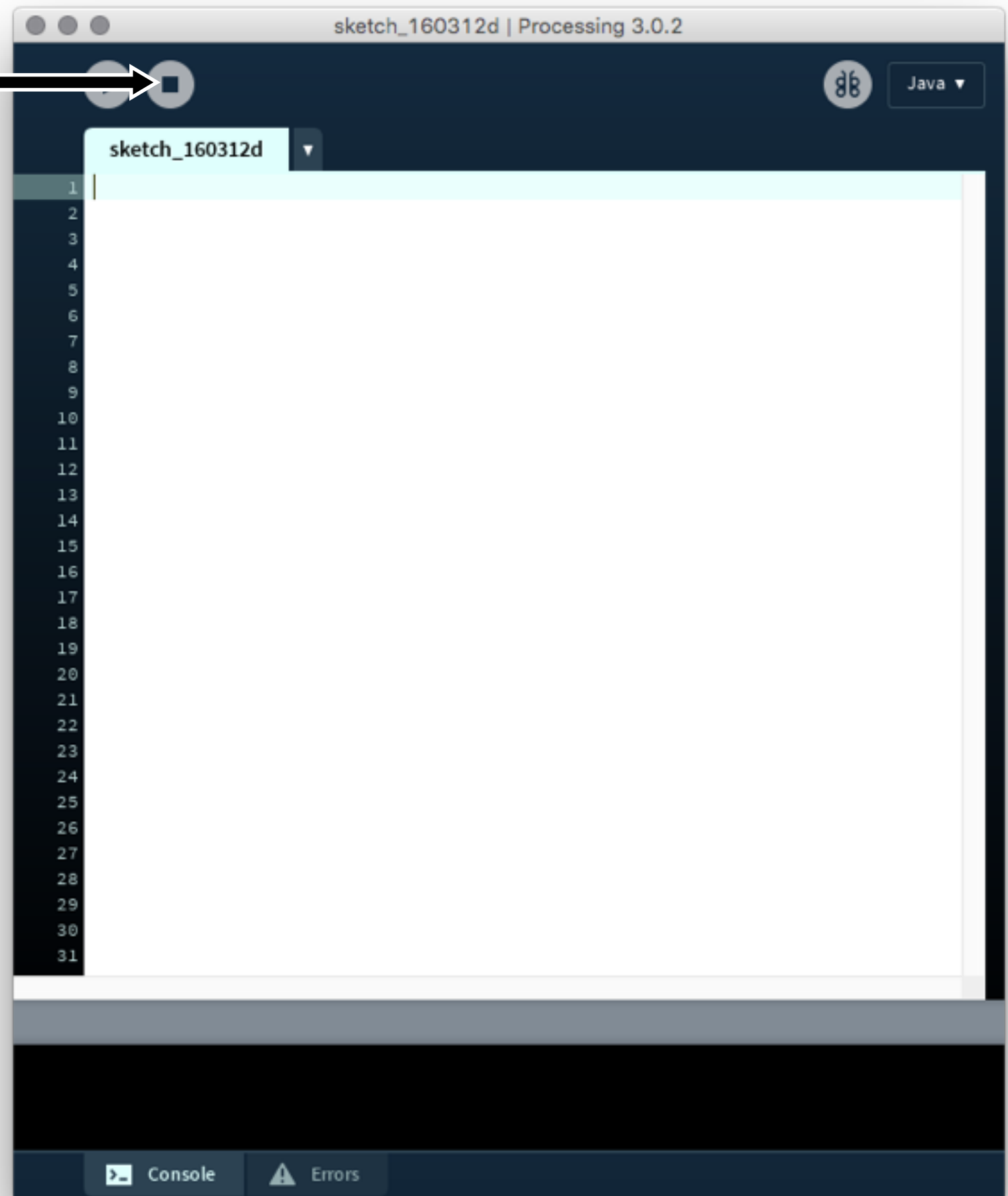
Processing



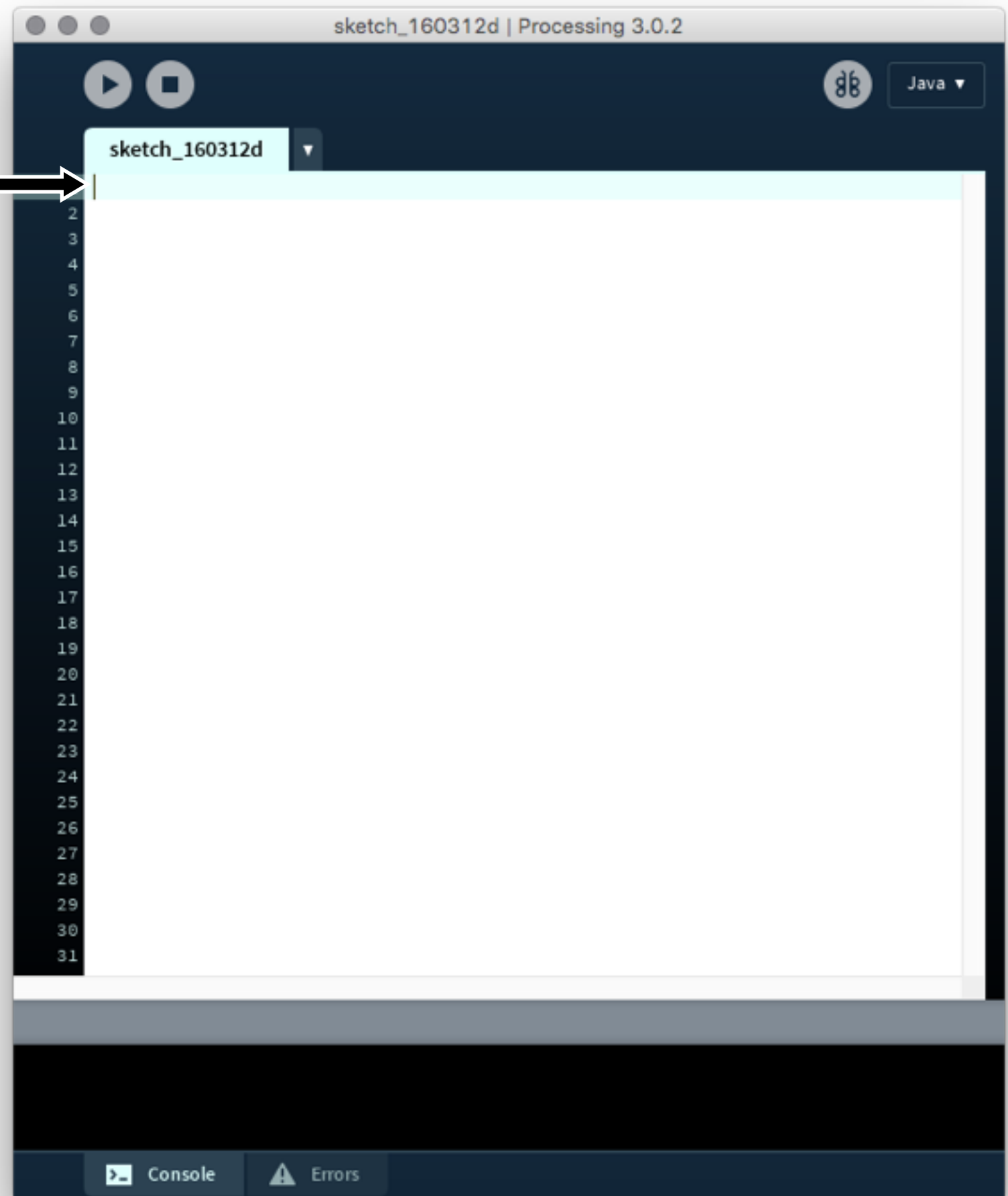
Run your sketch

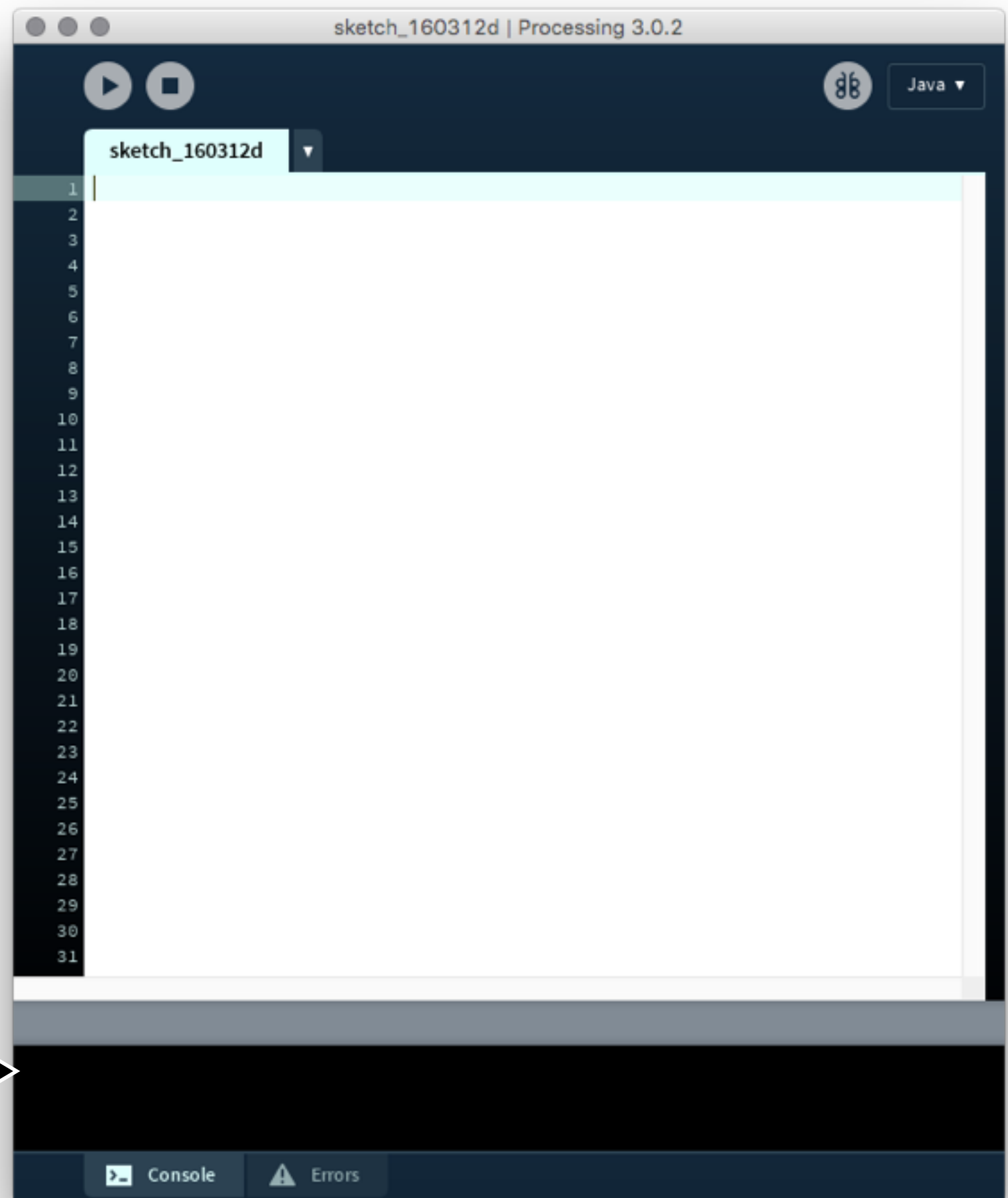


Stop your sketch

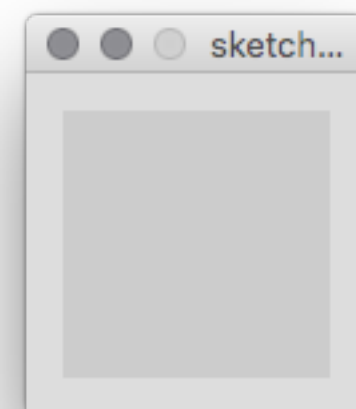
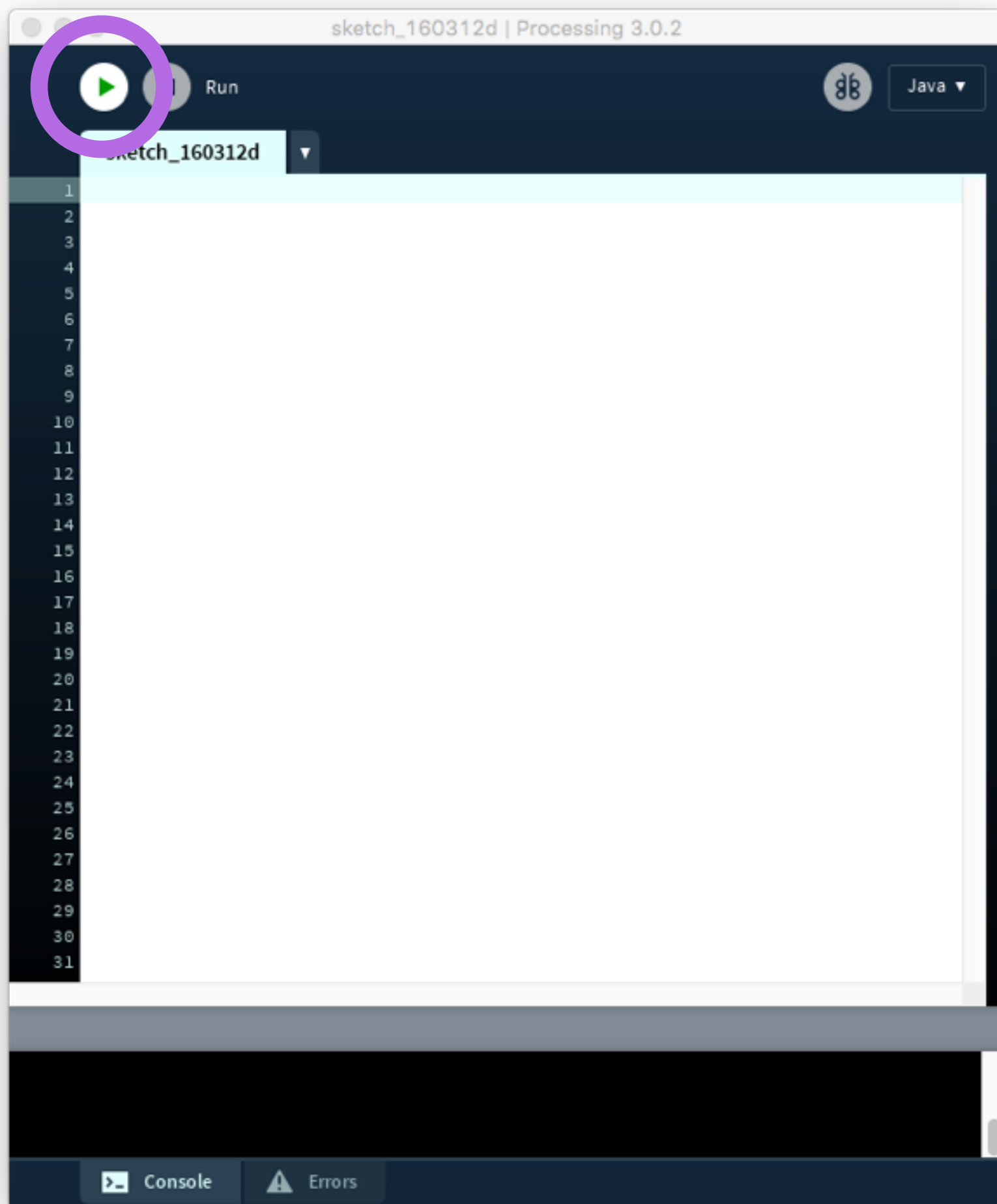


Code



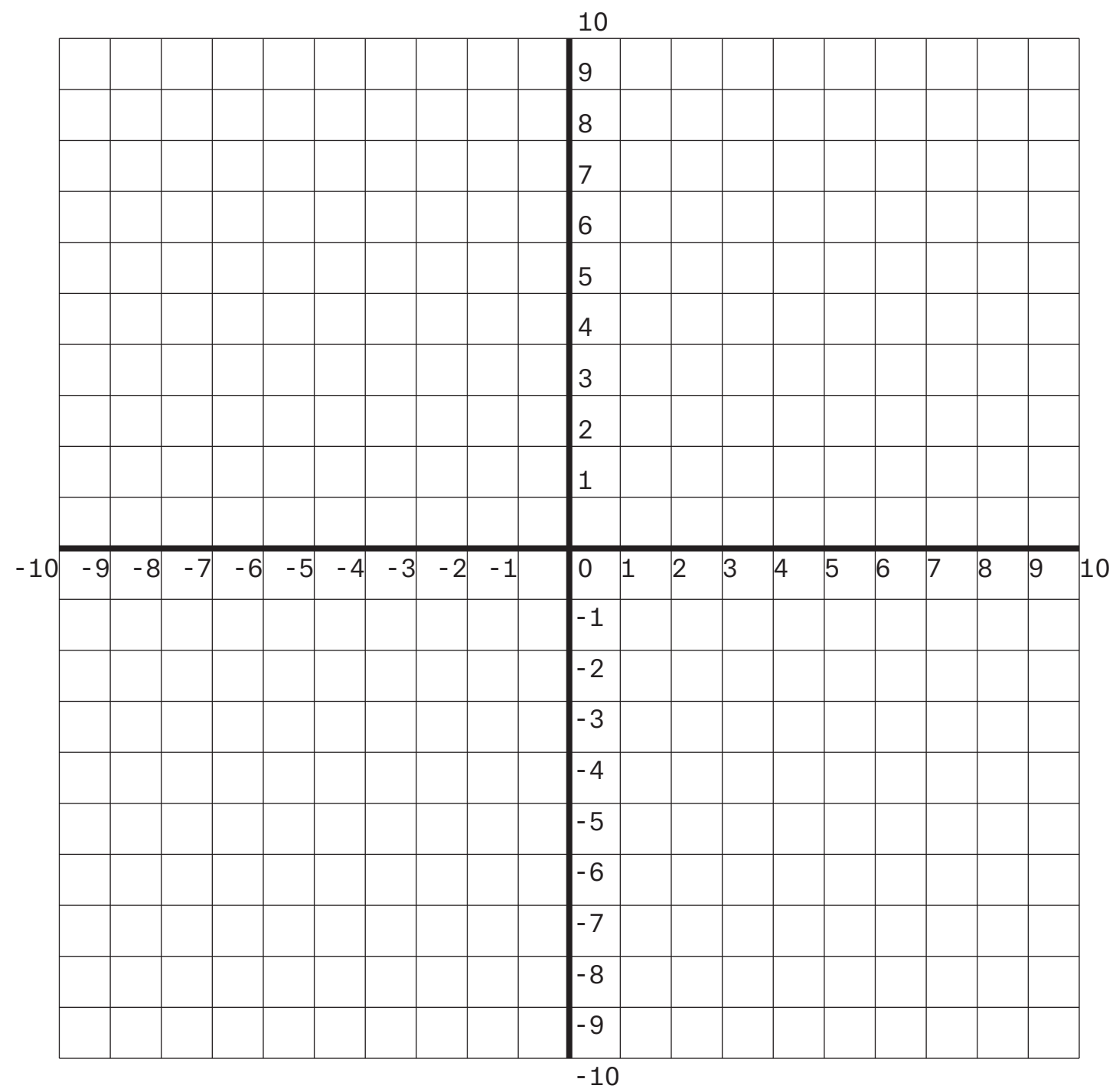


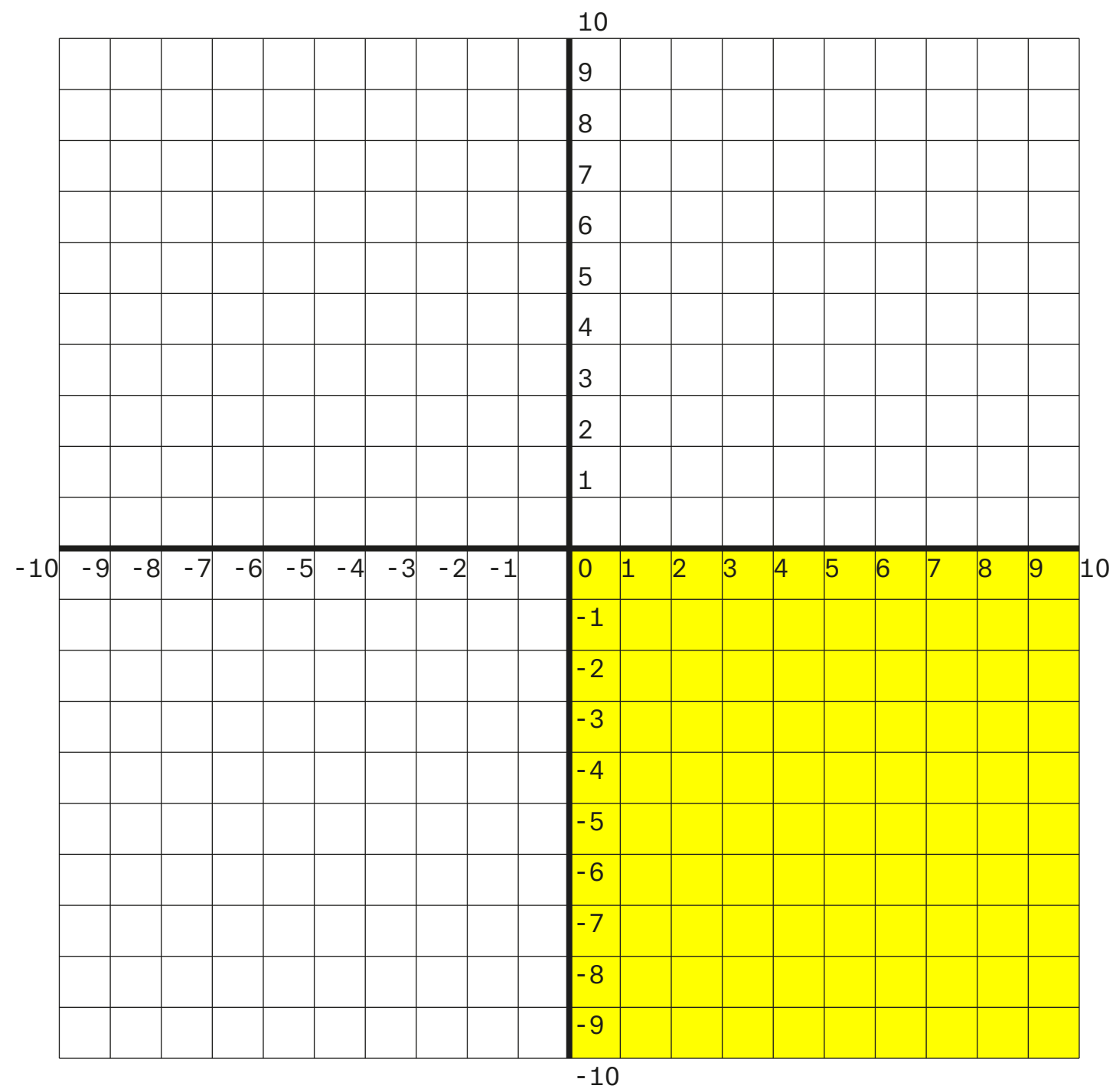
Console →



Canvas

Coordinates and shapes





[illegible]

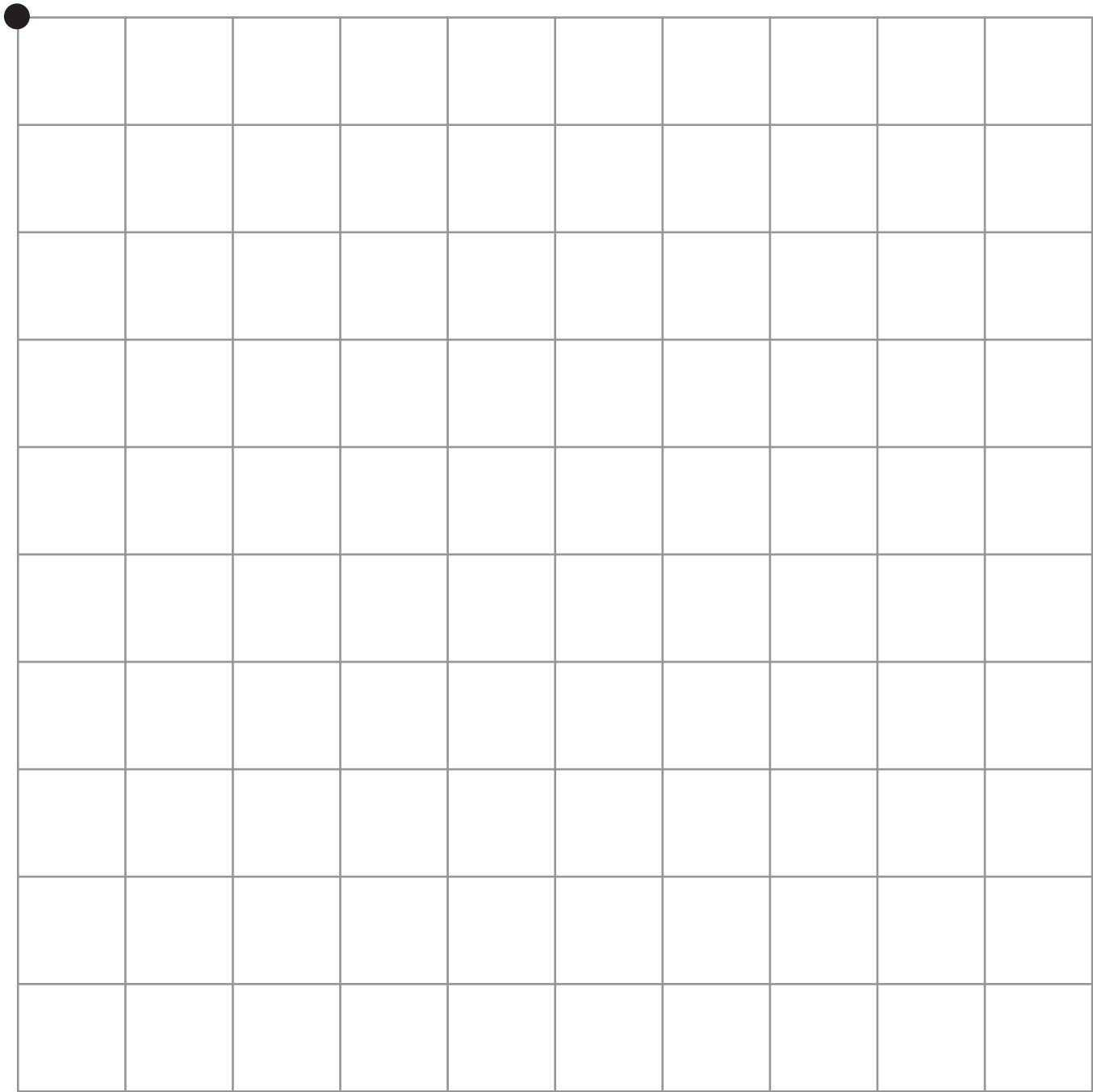
x axis



y axis

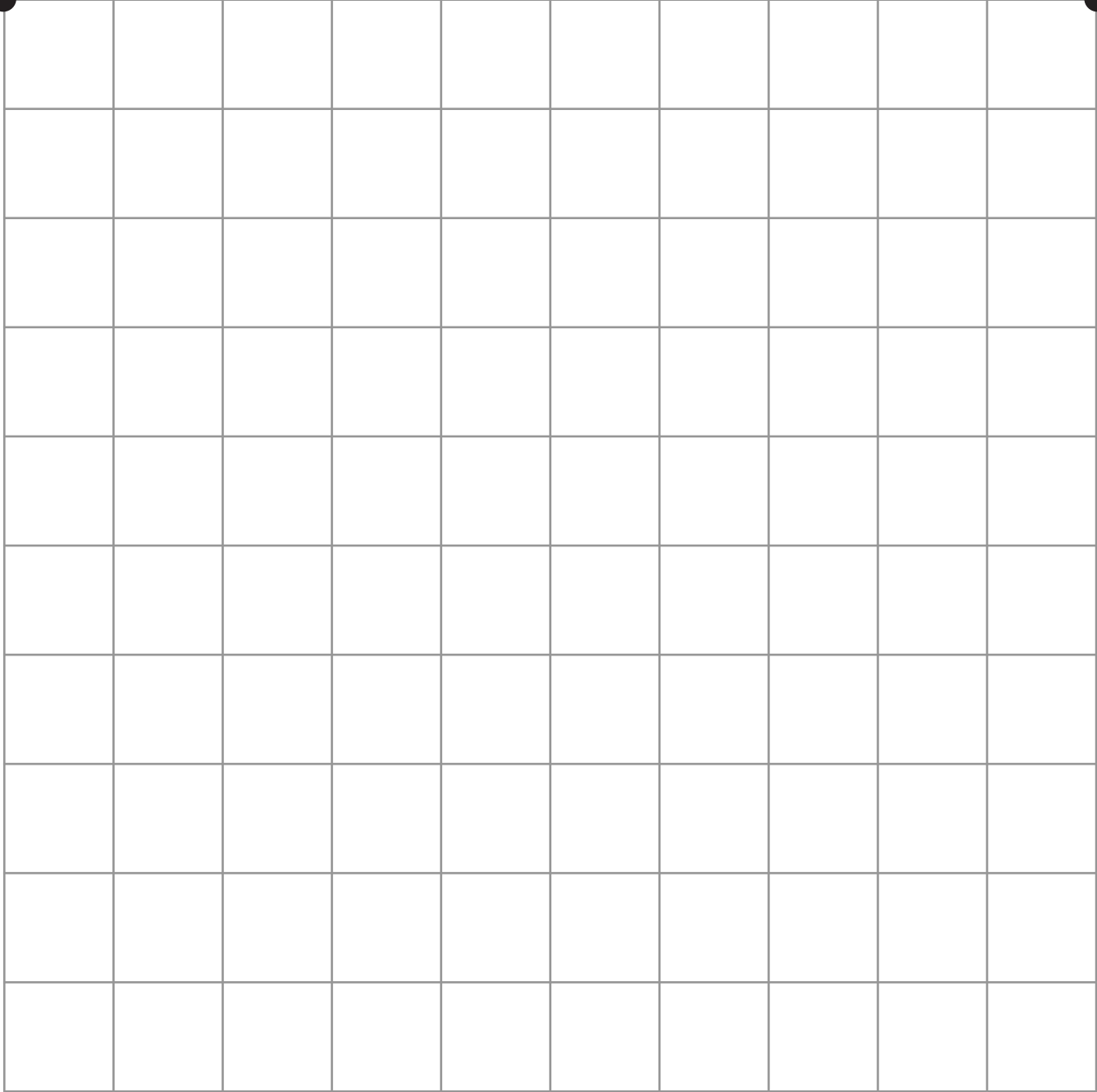
X x Y
100 x 100

(0,0)

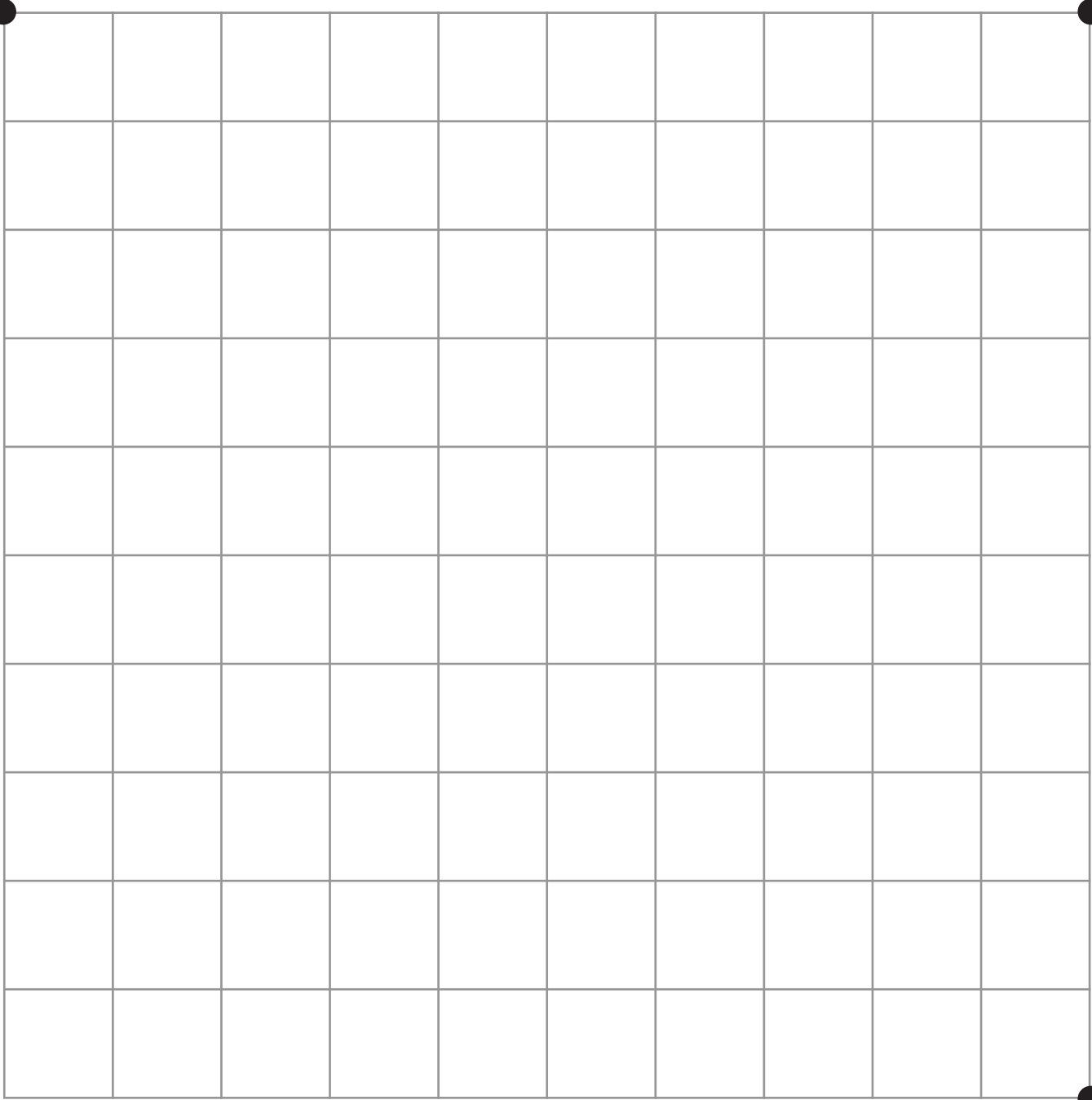


$(0,0)$

$(100,0)$



$(0,0)$ $(100,0)$



$(100,100)$

(0,0)

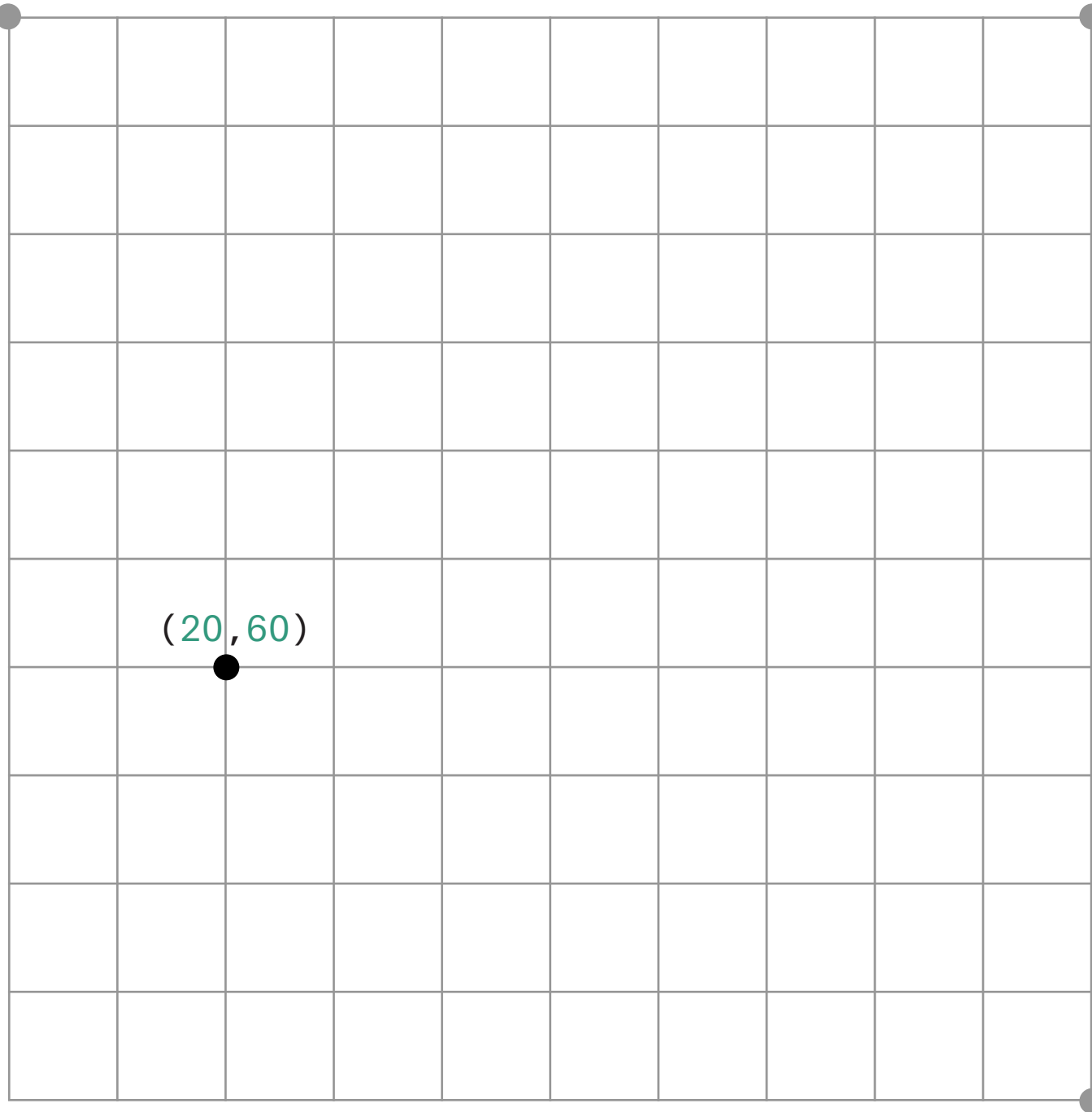
(100,0)

(20,60)

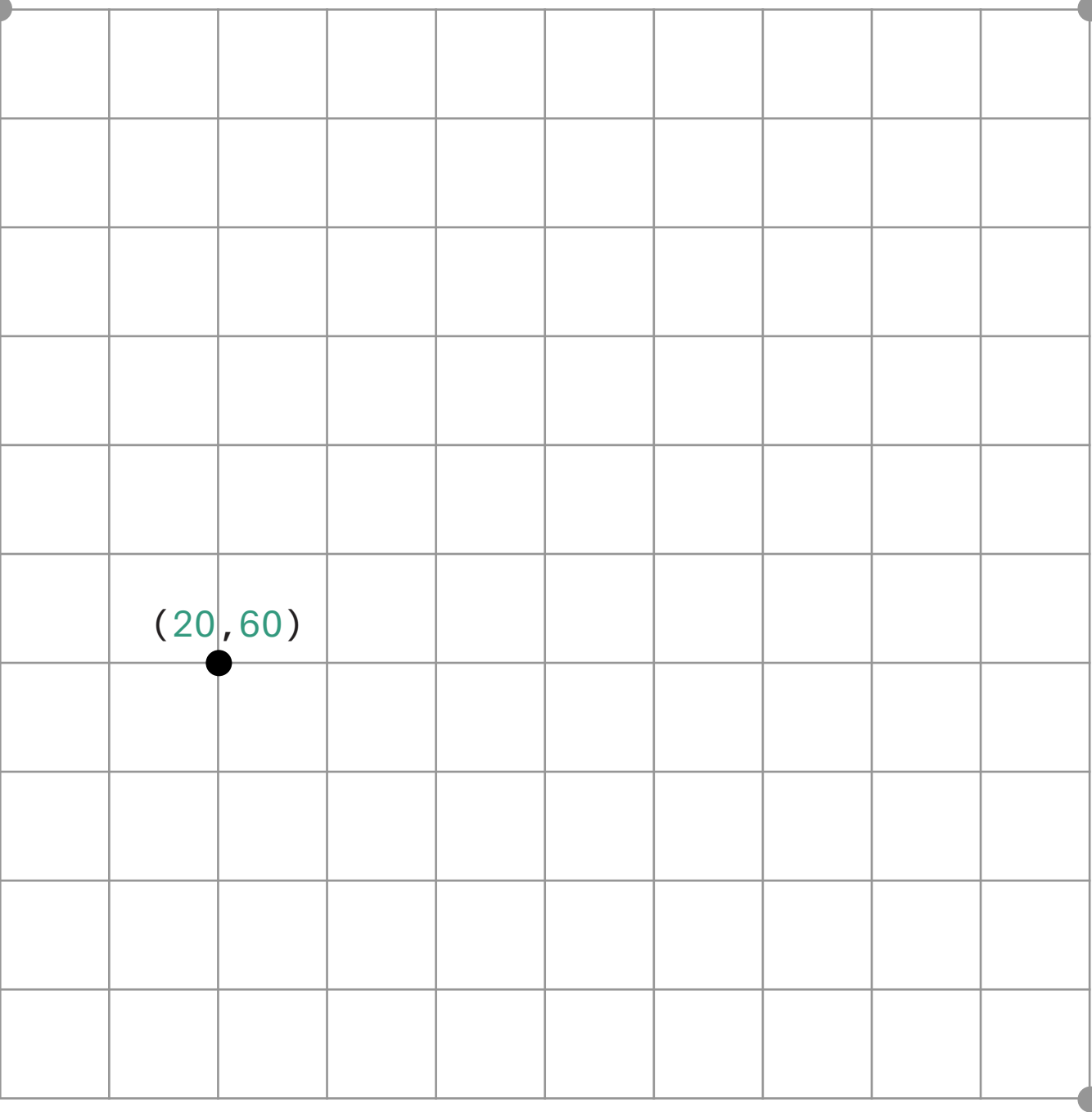
point(x, y);

(100,100)

point(20, 60);



(0,0) (100,0)



(20,60)

Parameters



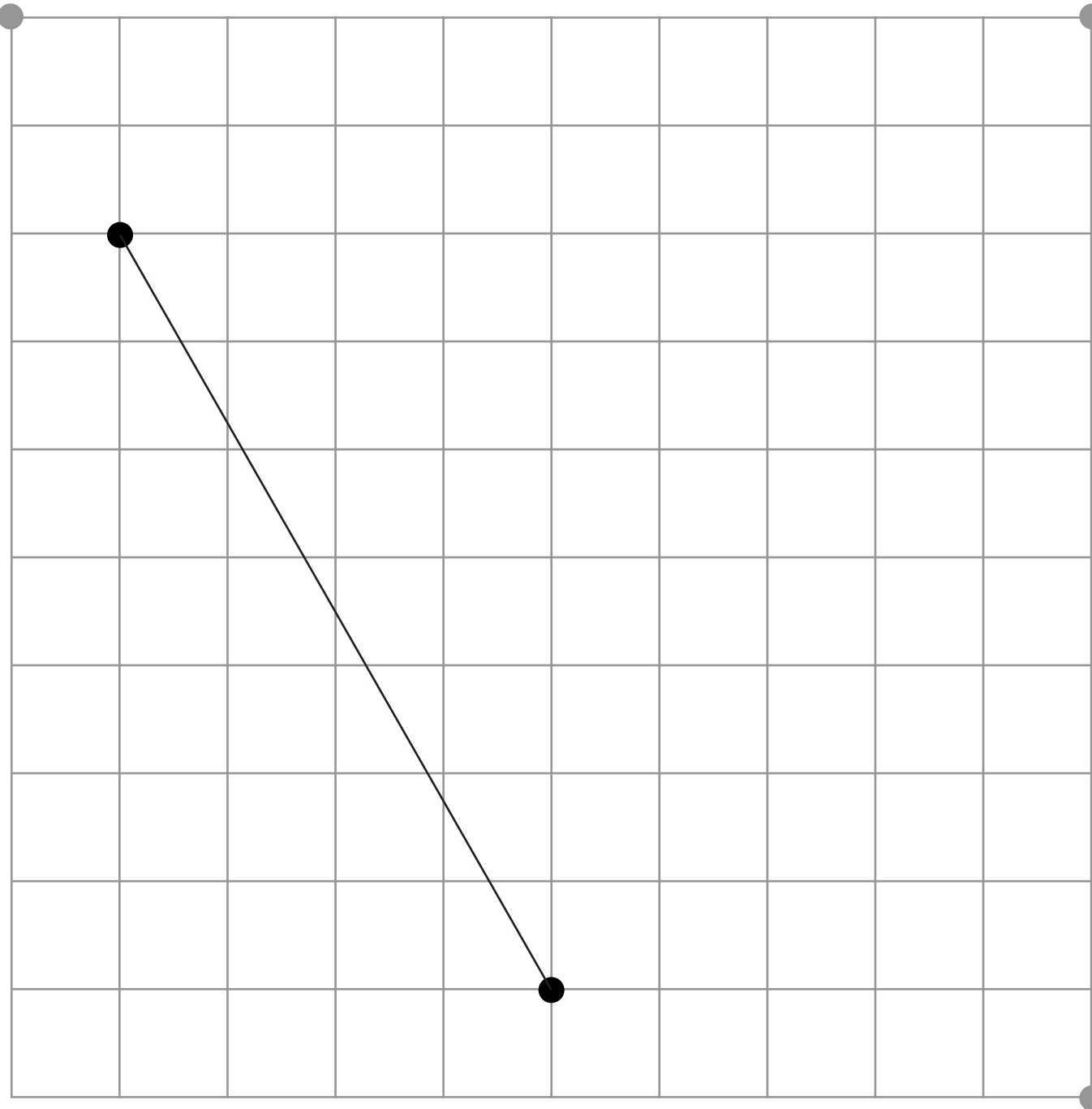
point(x, y);

Function

point(20, 60);

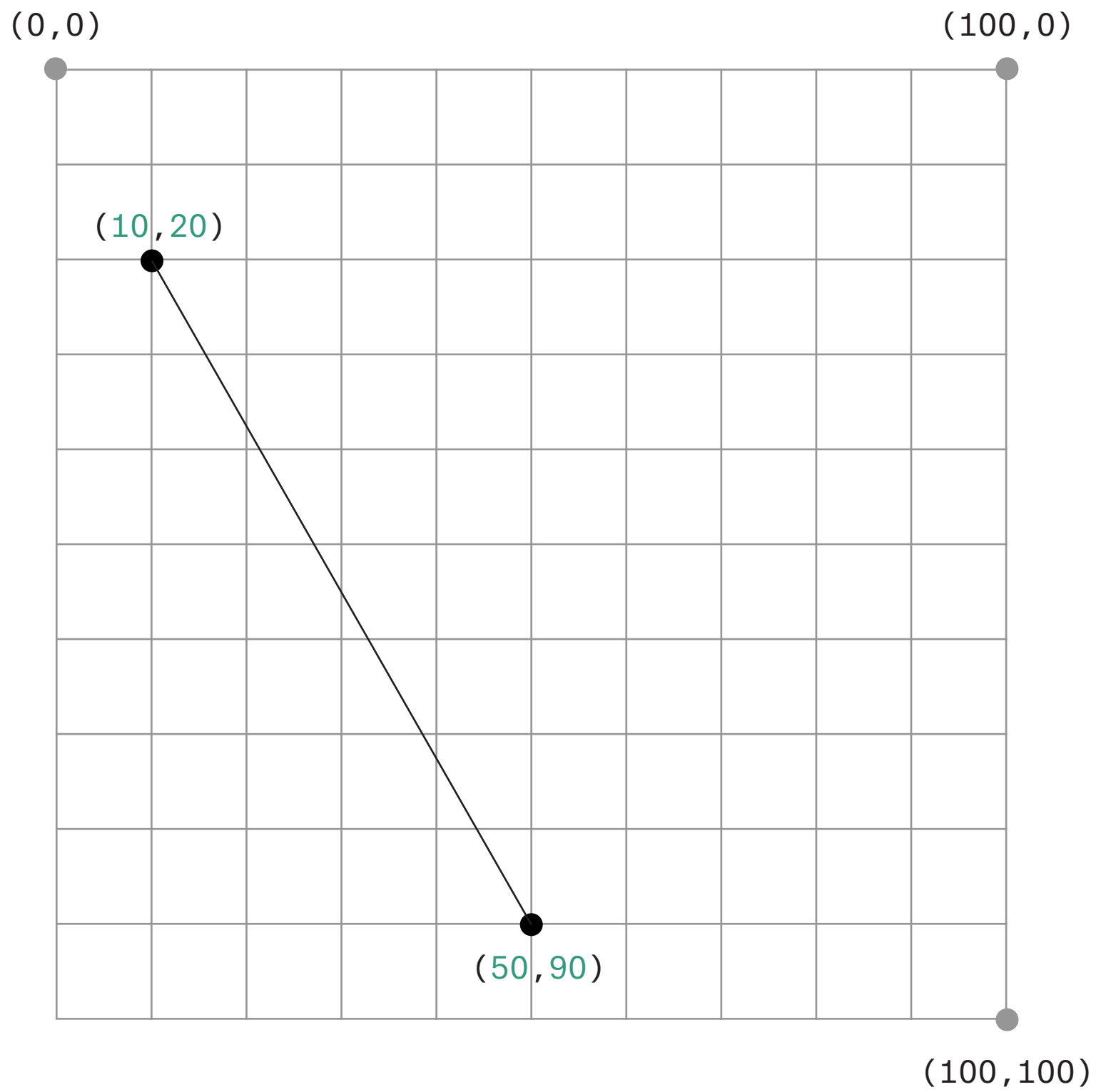
(0,0)

(100,0)



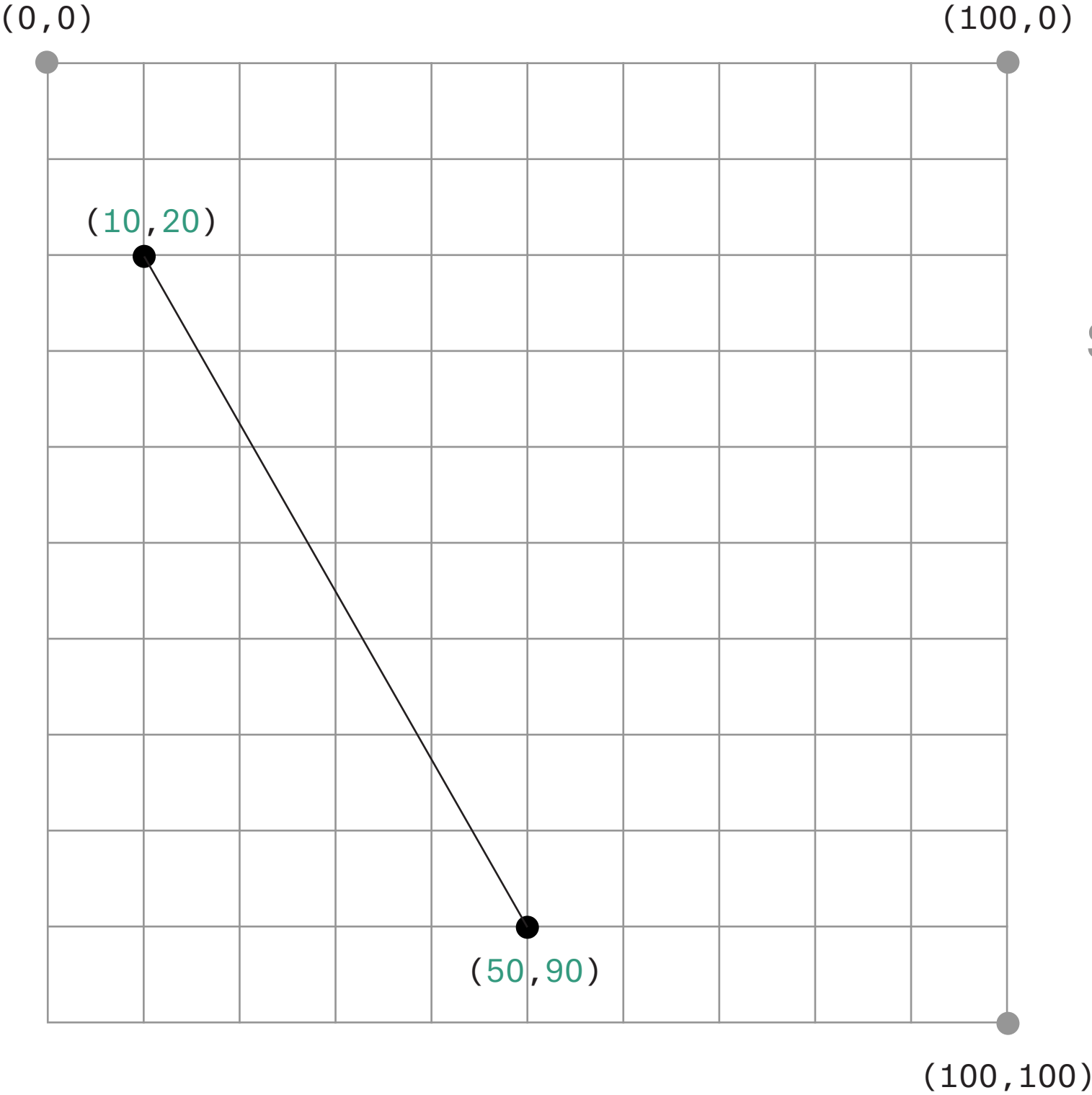
(100,100)

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



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

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



Start Coordinate



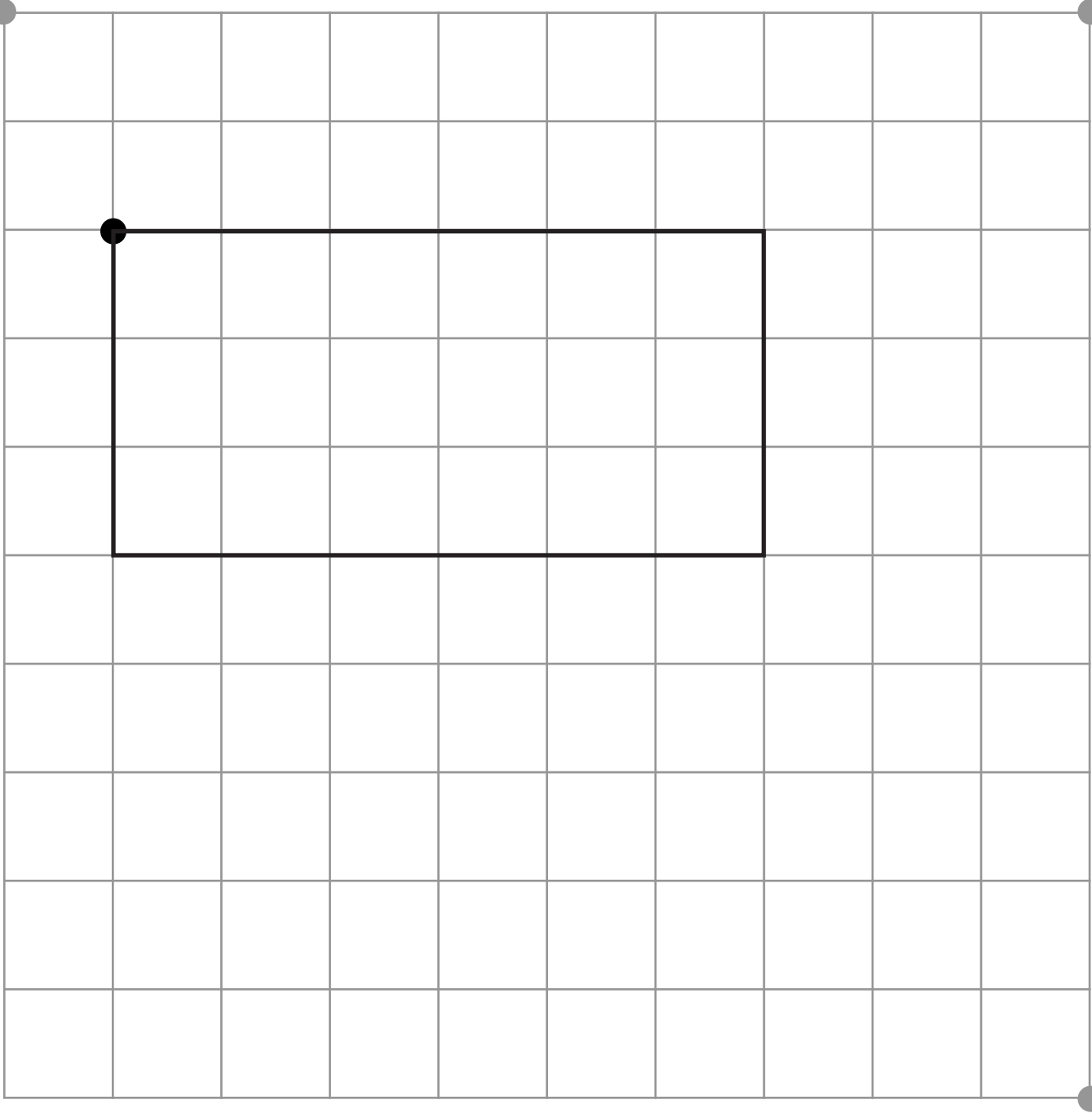
```
line(x, y, x, y);
```



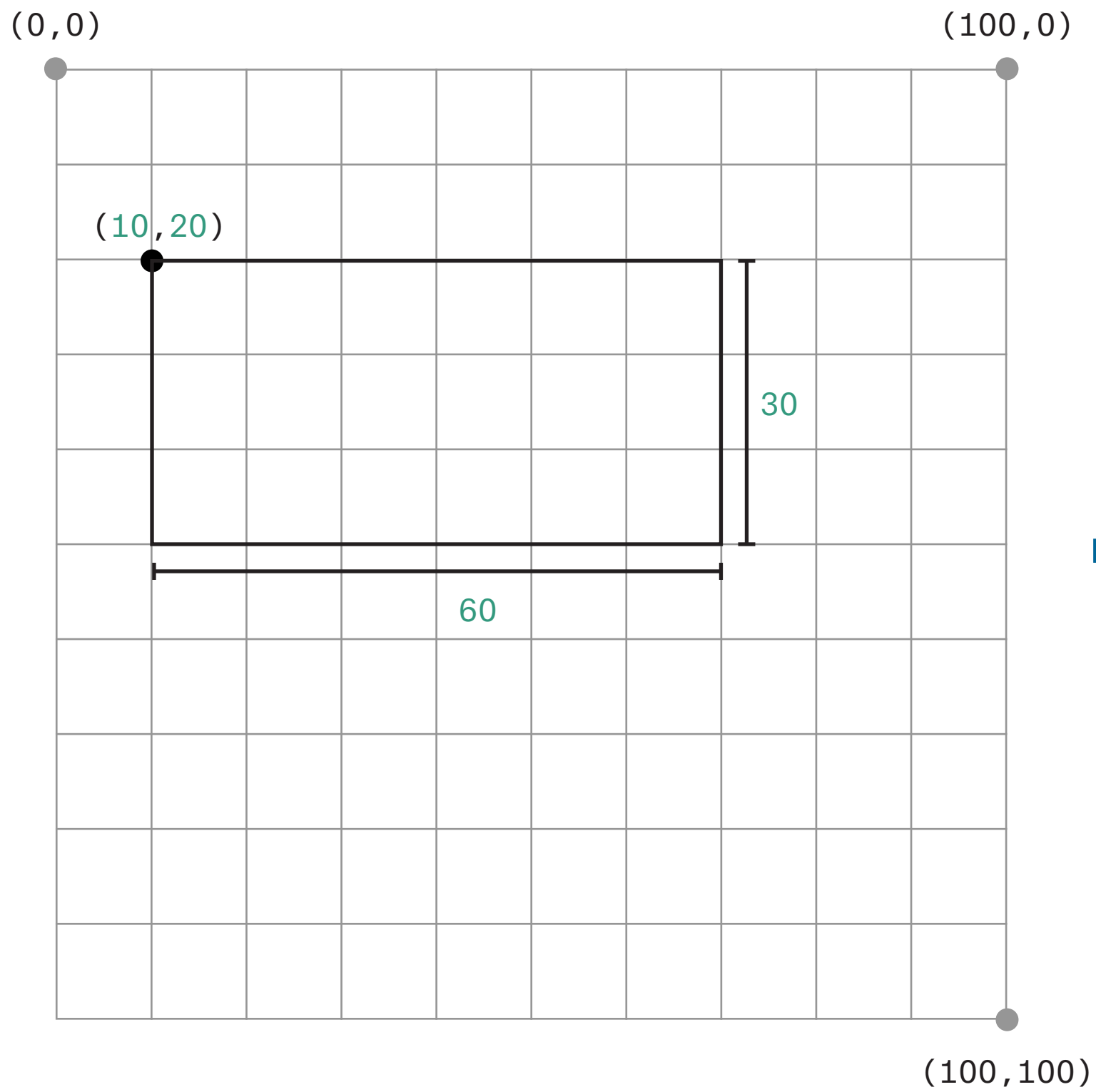
End Coordinate

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

(0,0) (100,0)



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

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

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

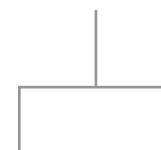
(0,0) (100,0)

(10,20)

30

60

Top left corner

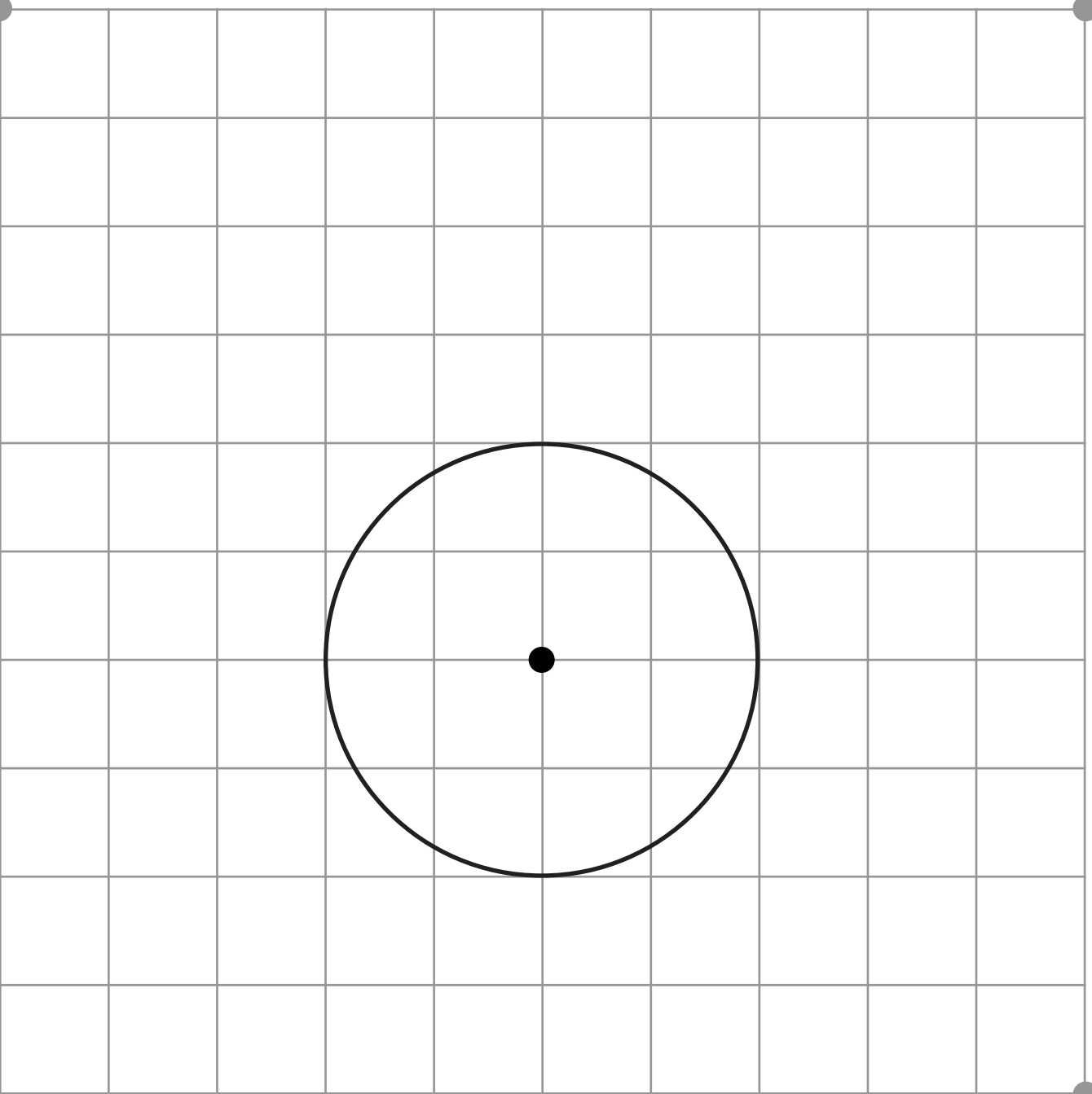


`rect(x, y, width, height);`

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

(100,100)

(0,0) (100,0)

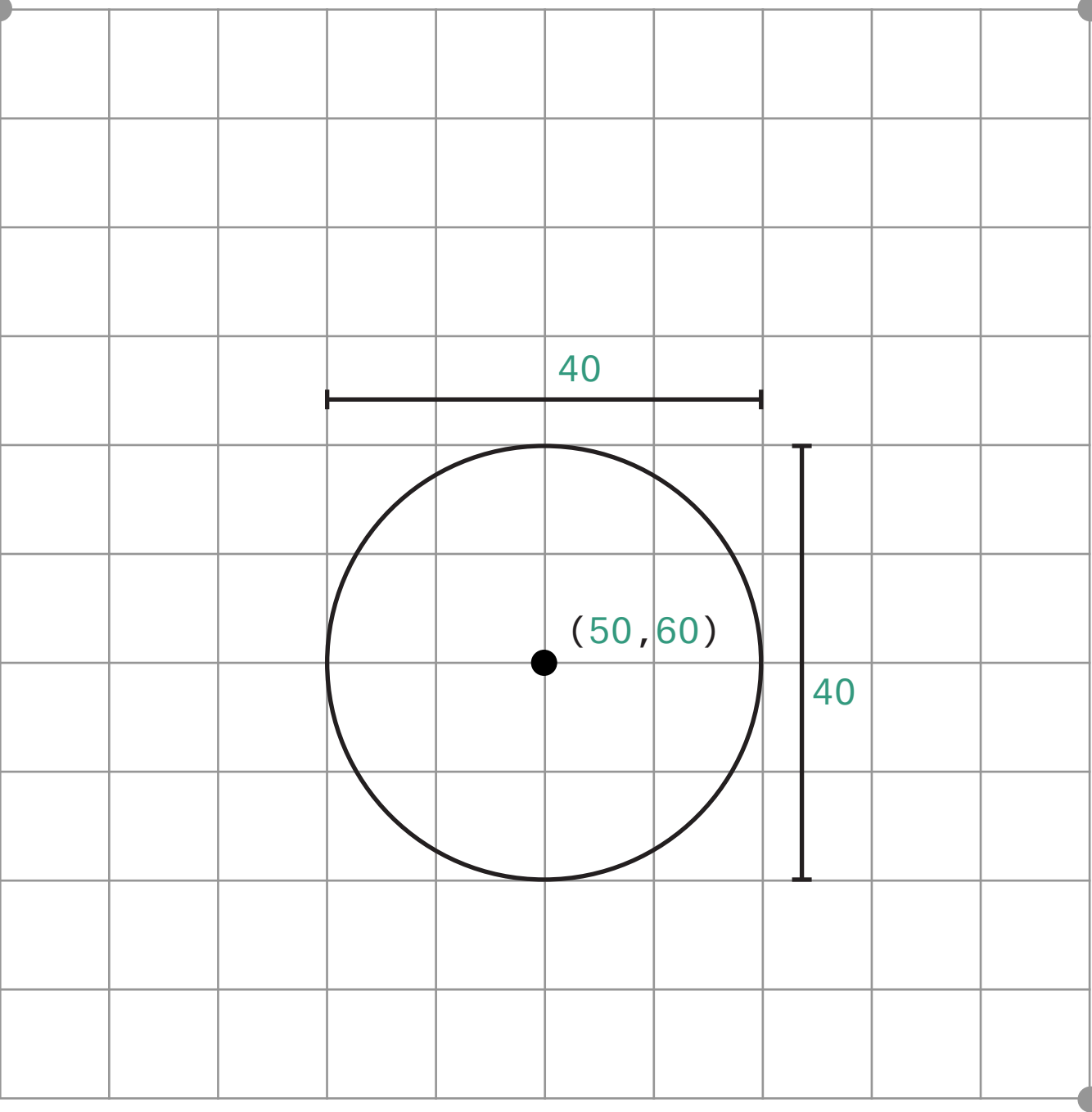


Center



ellipse(x, y, width, height);

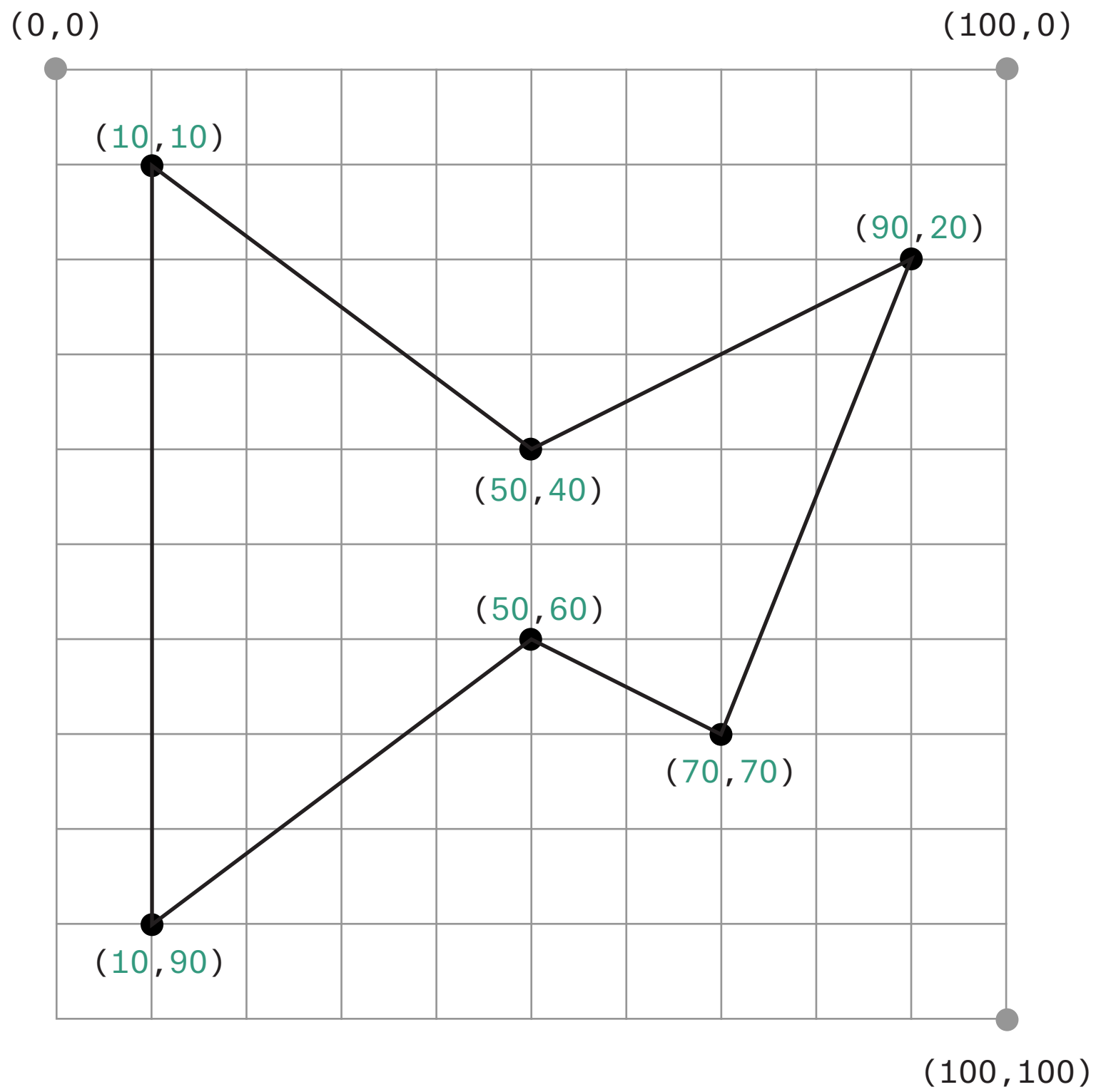
(0,0) (100,0)



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

Sketch_01_Shapes | Processing 3.0.2

▶

■

Processing

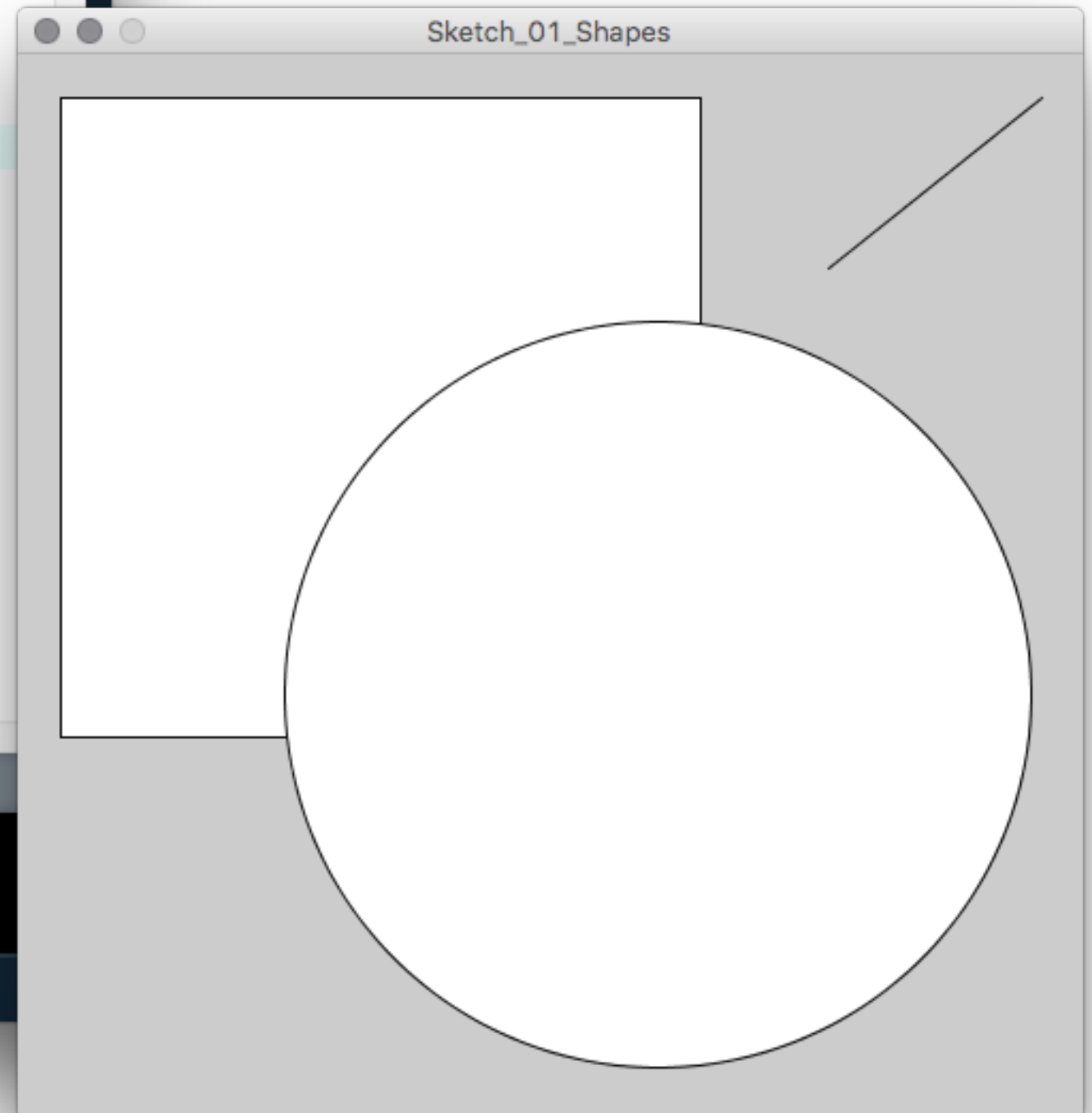
Java ▼

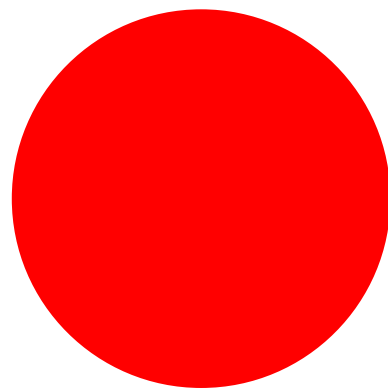
Sketch_01_Shapes ▼

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

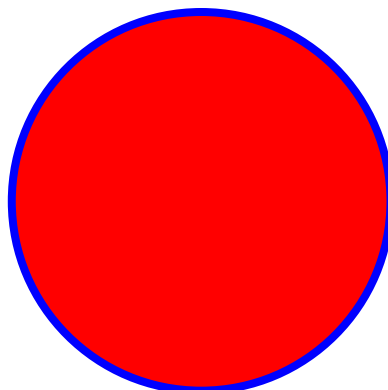
Done saving.

▶ Console ▲ Errors

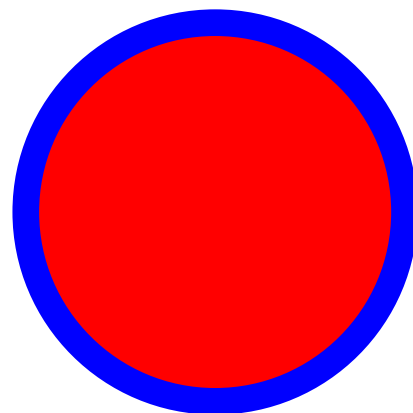




```
fill(255, 0, 0);
```



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



```
strokeWeight(10);
```


`fill(R, G, B);`

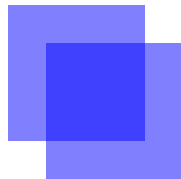


`fill(255, 0, 0);`



`fill(255, 0, 255);`

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



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

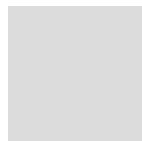
`fill(V);`



`fill(0);`



`fill(128);`



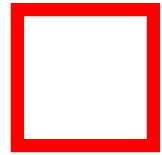
`fill(220);`

`fill(V, A);`

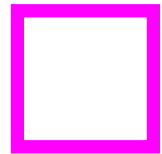


`fill(0, 128);`

`stroke(R, G, B);`

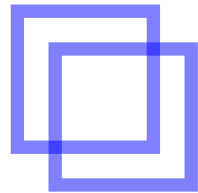


`stroke(255, 0, 0);`



`stroke(255, 0, 255);`

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



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

`stroke(V);`



`stroke(0);`

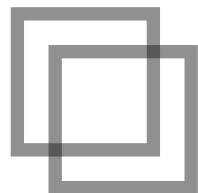


`stroke(128);`



`stroke(220);`

`stroke(V, A);`



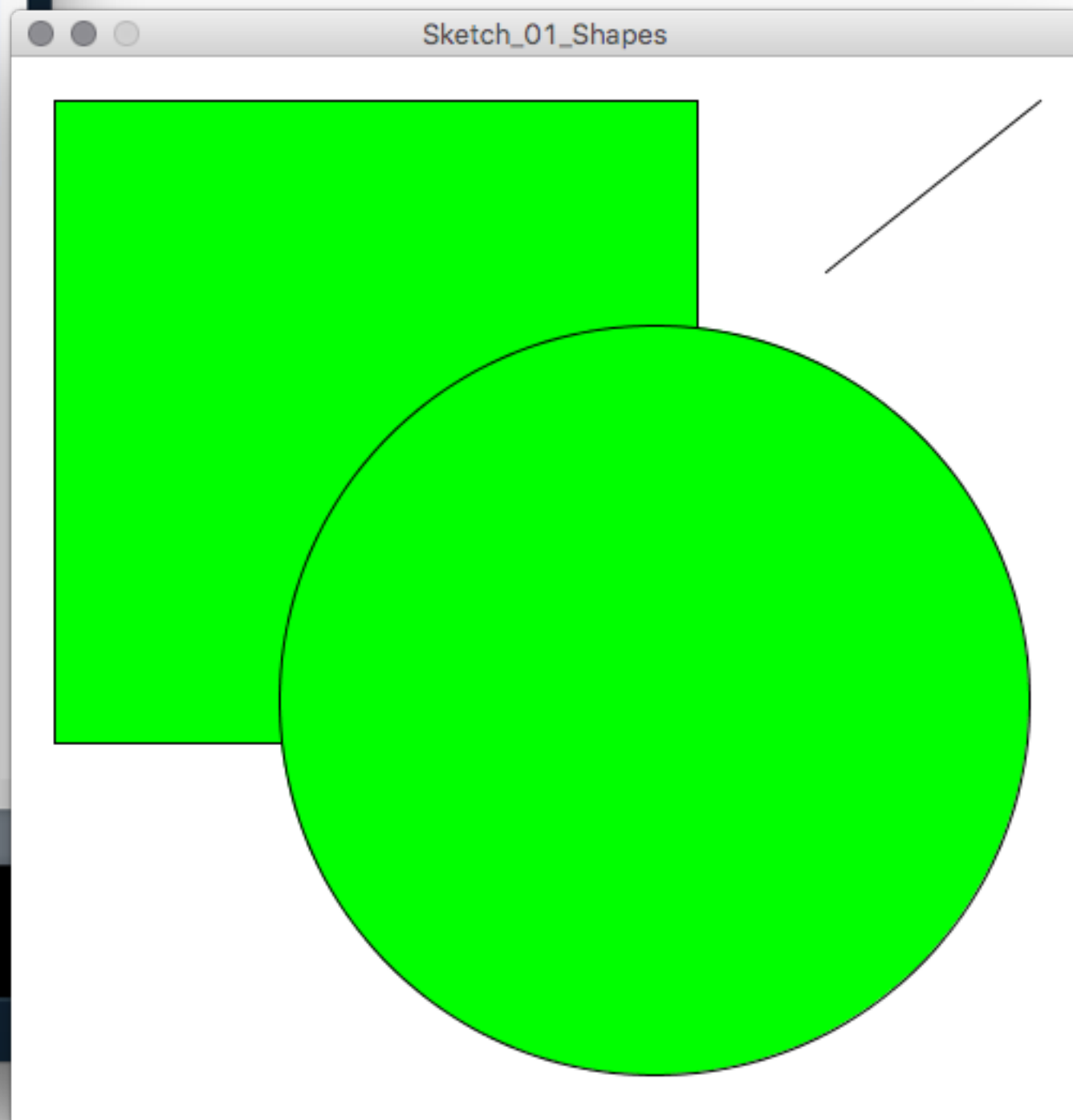
`stroke(0, 128);`

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

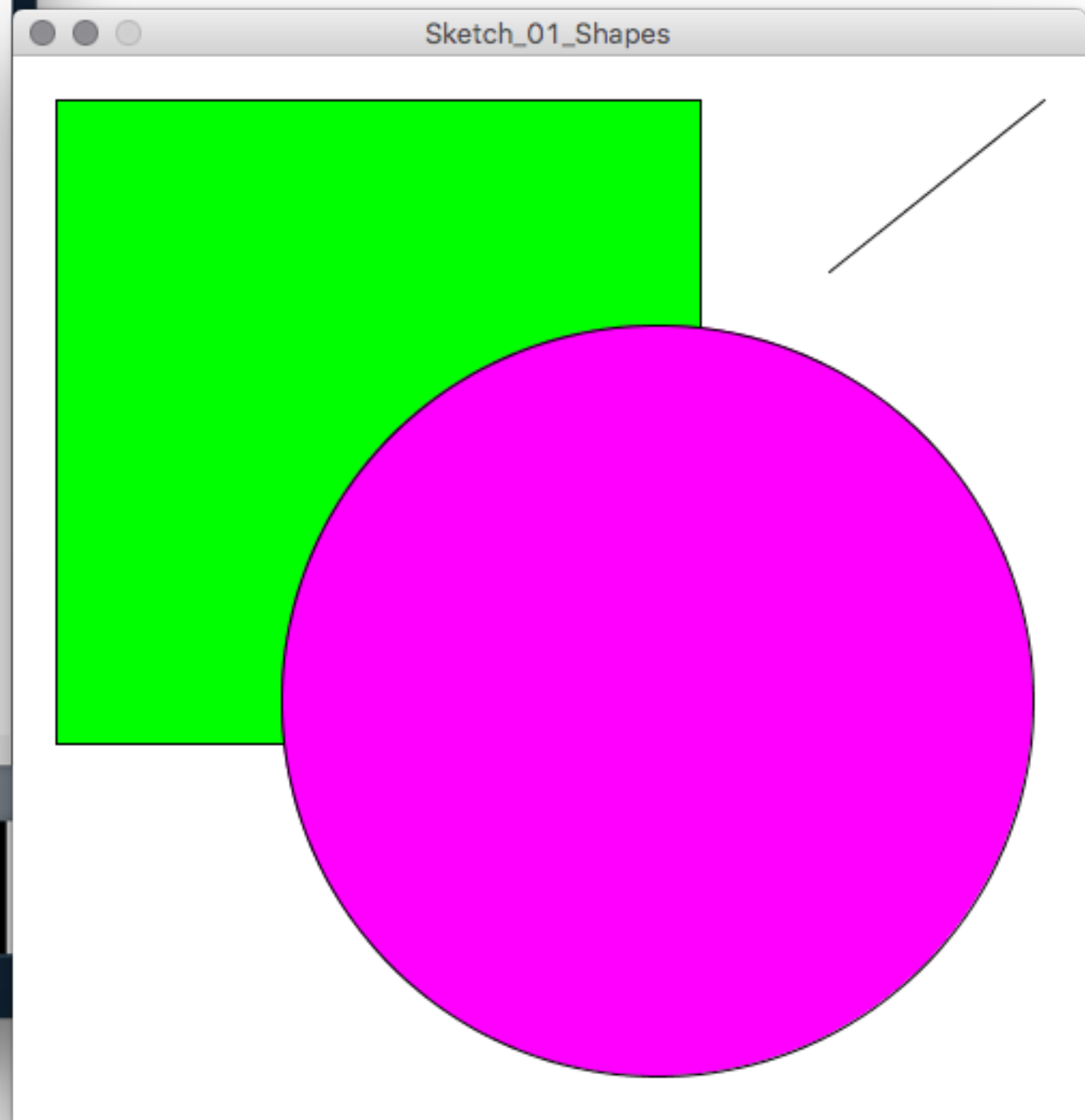
Java ▾

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

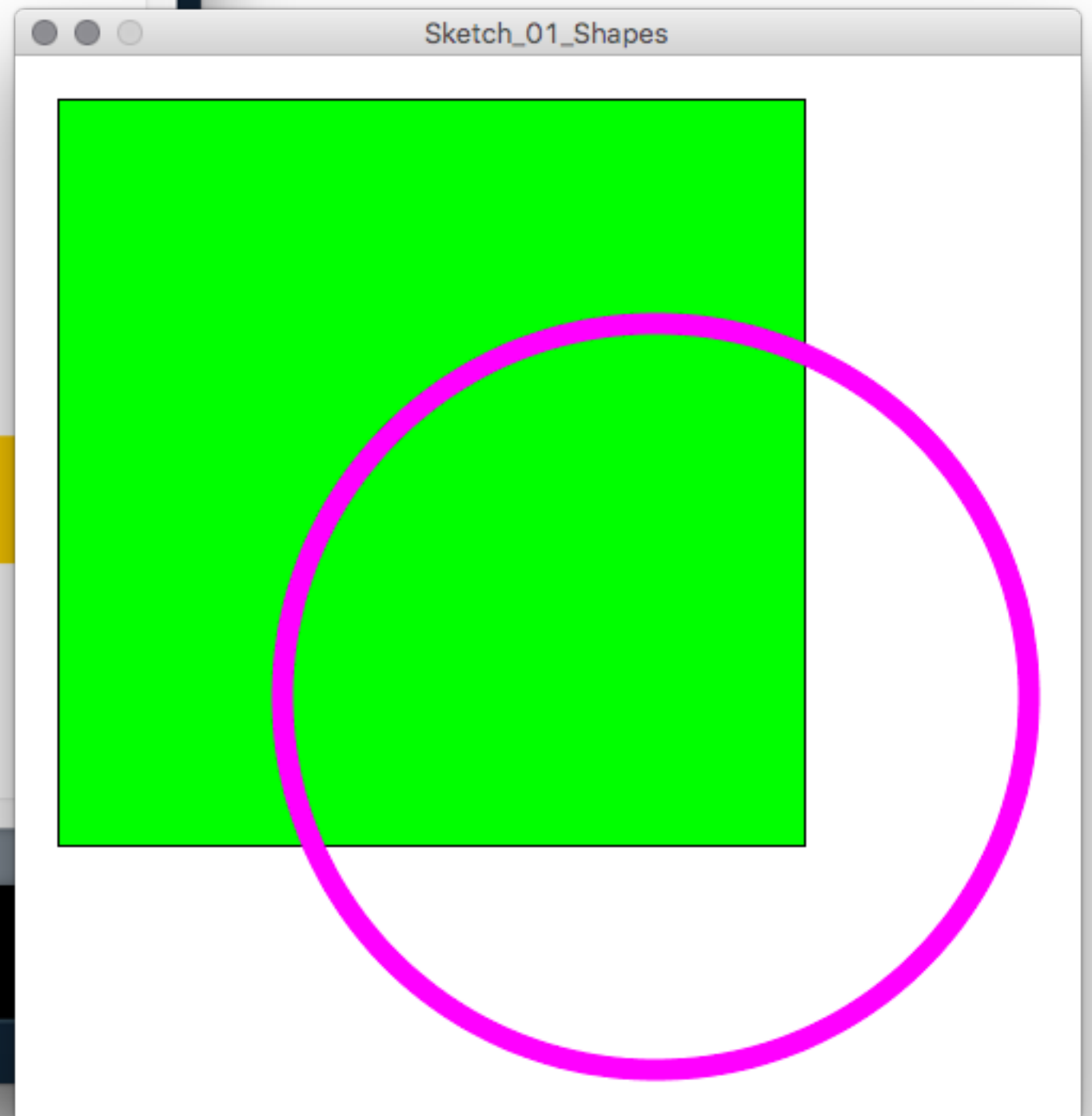


Sketch_01_Shapes | Processing 3.0.2

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 ▾

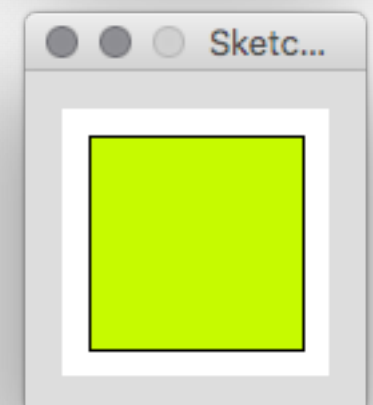
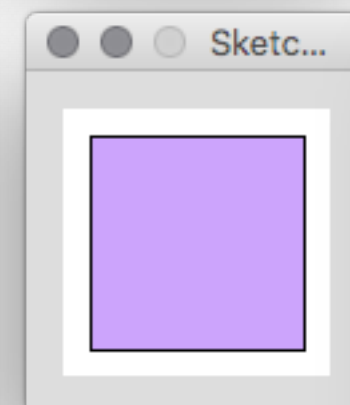
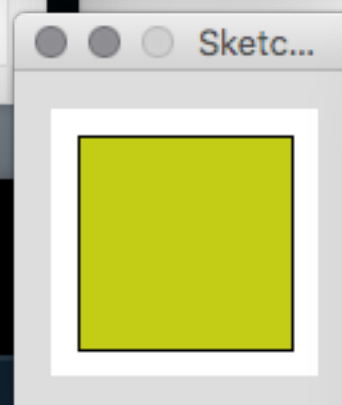
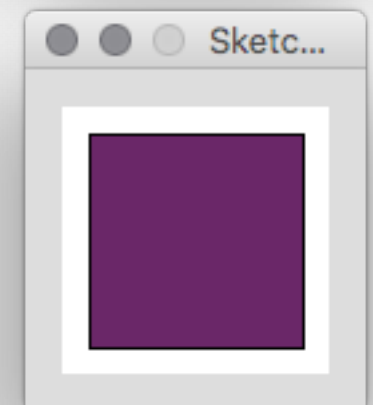
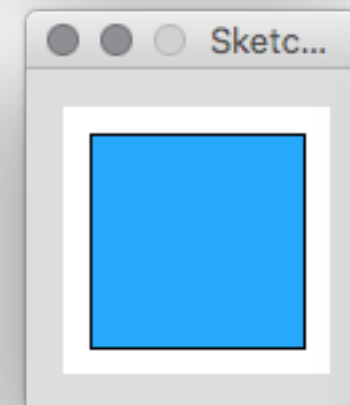
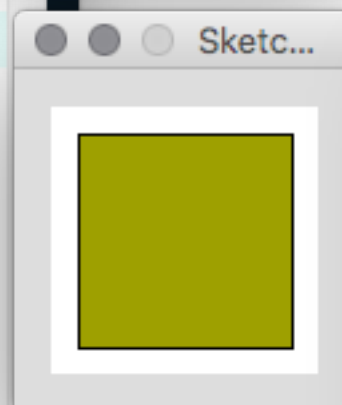
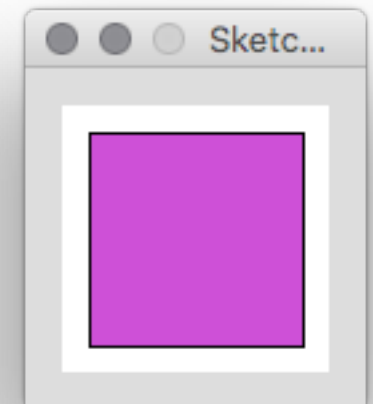
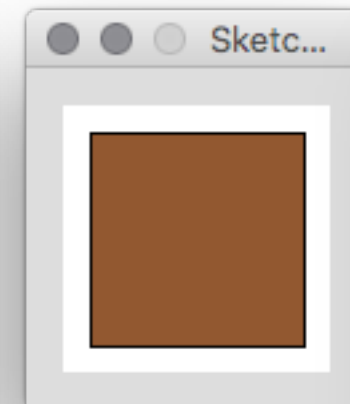
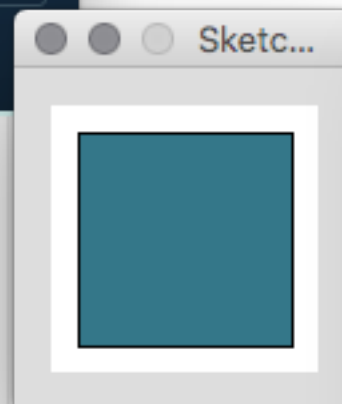
Sketch_03_Random ▾

```
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
```

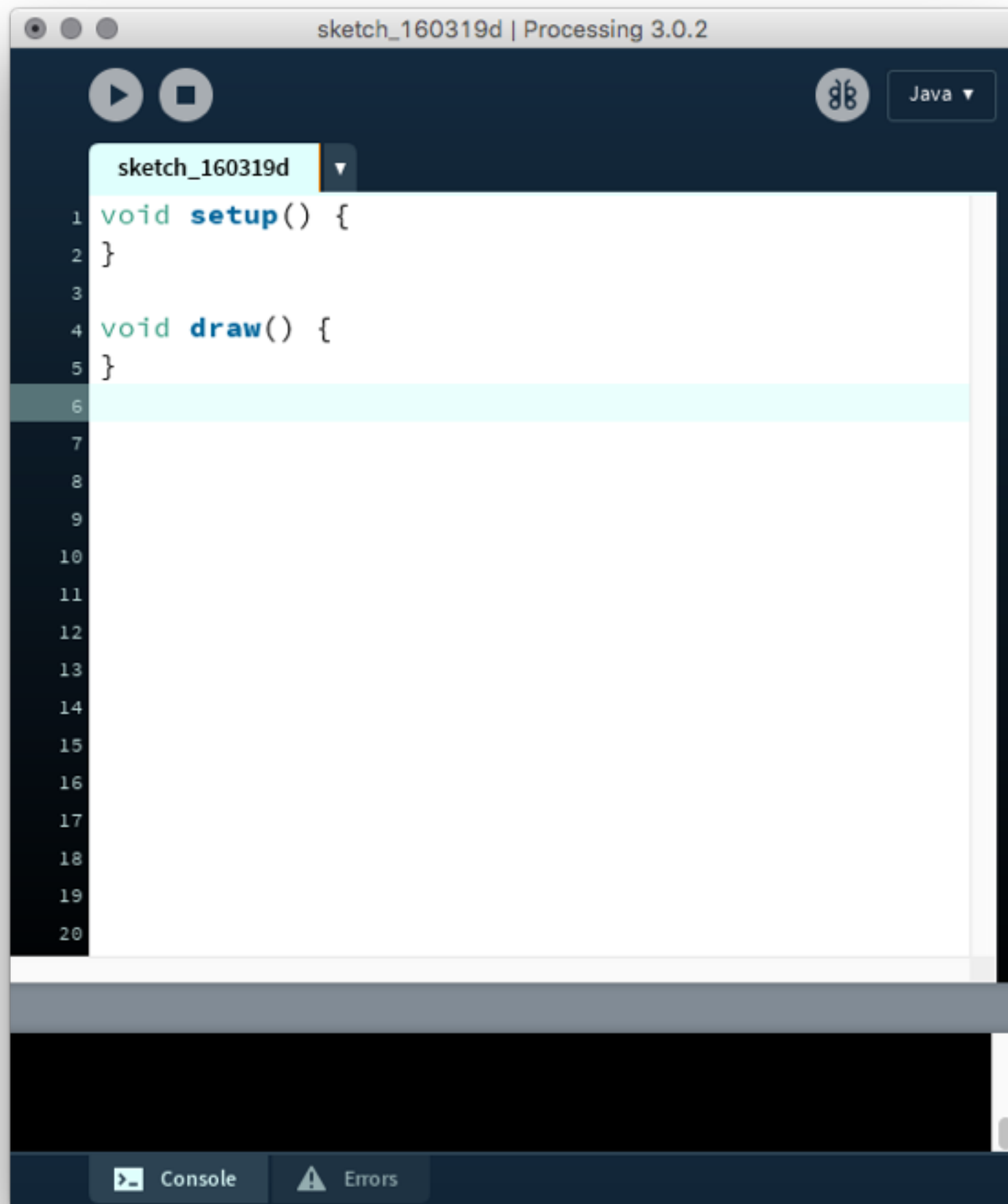
8.749135

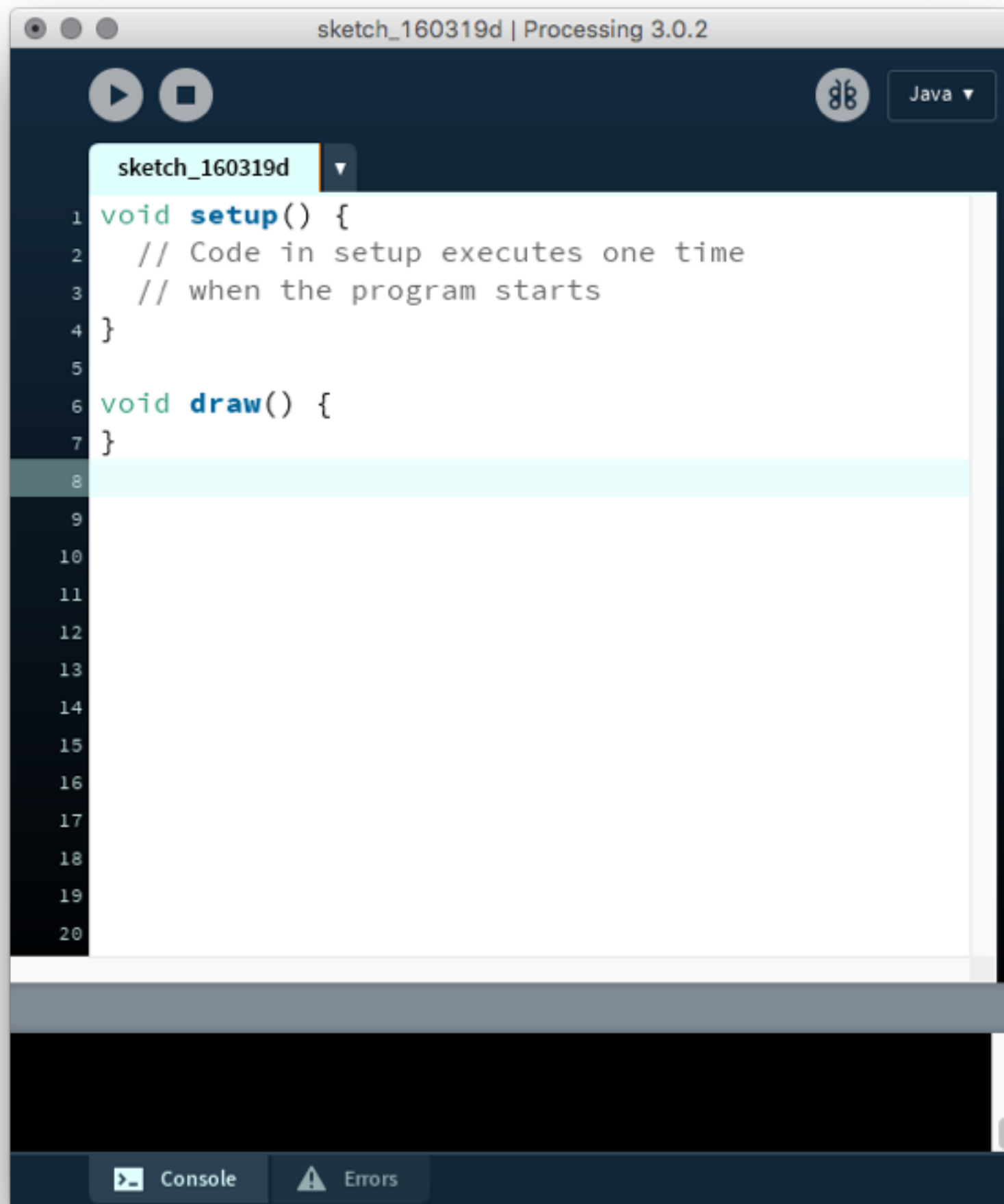
Console

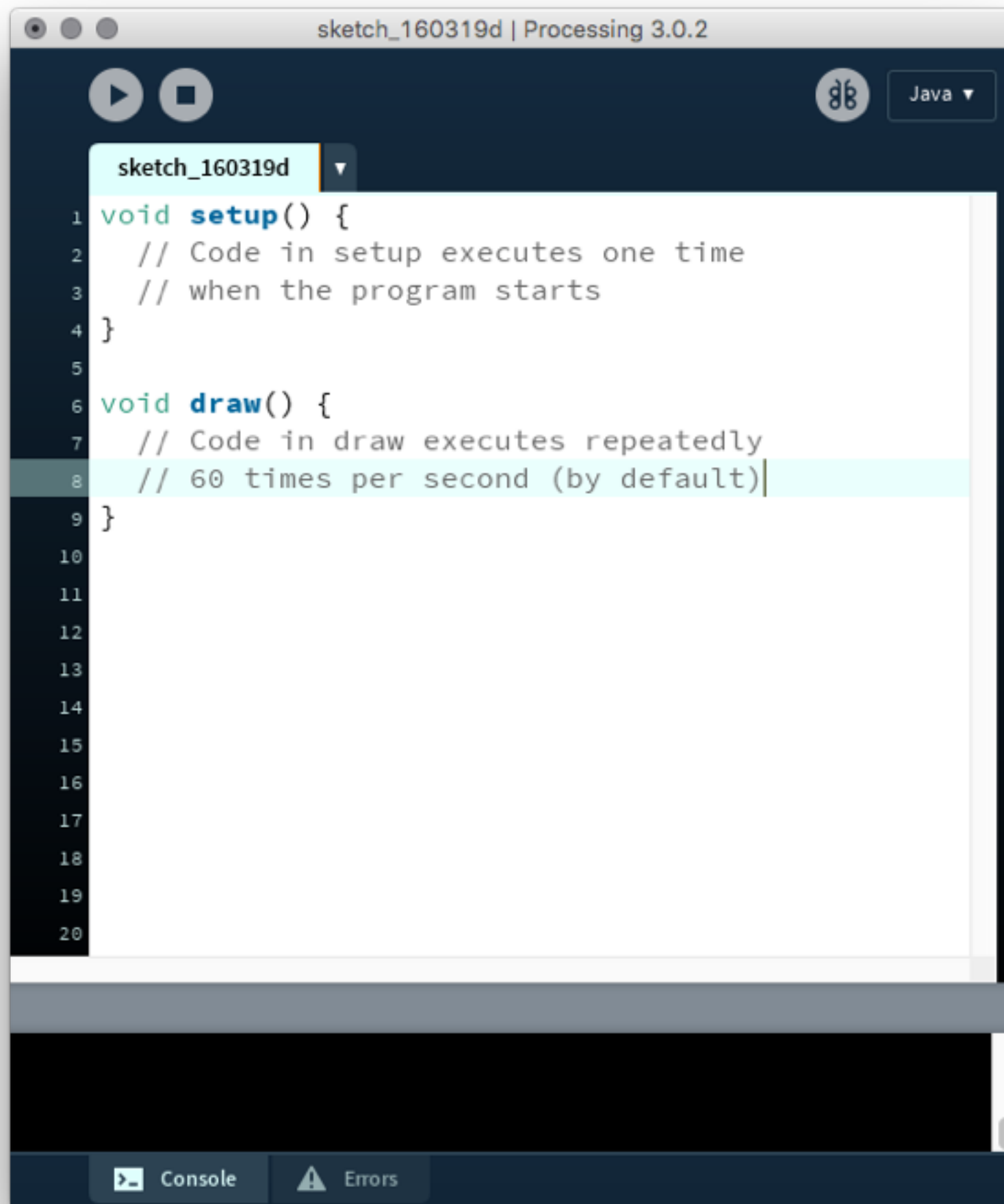
Errors



Setup and Draw



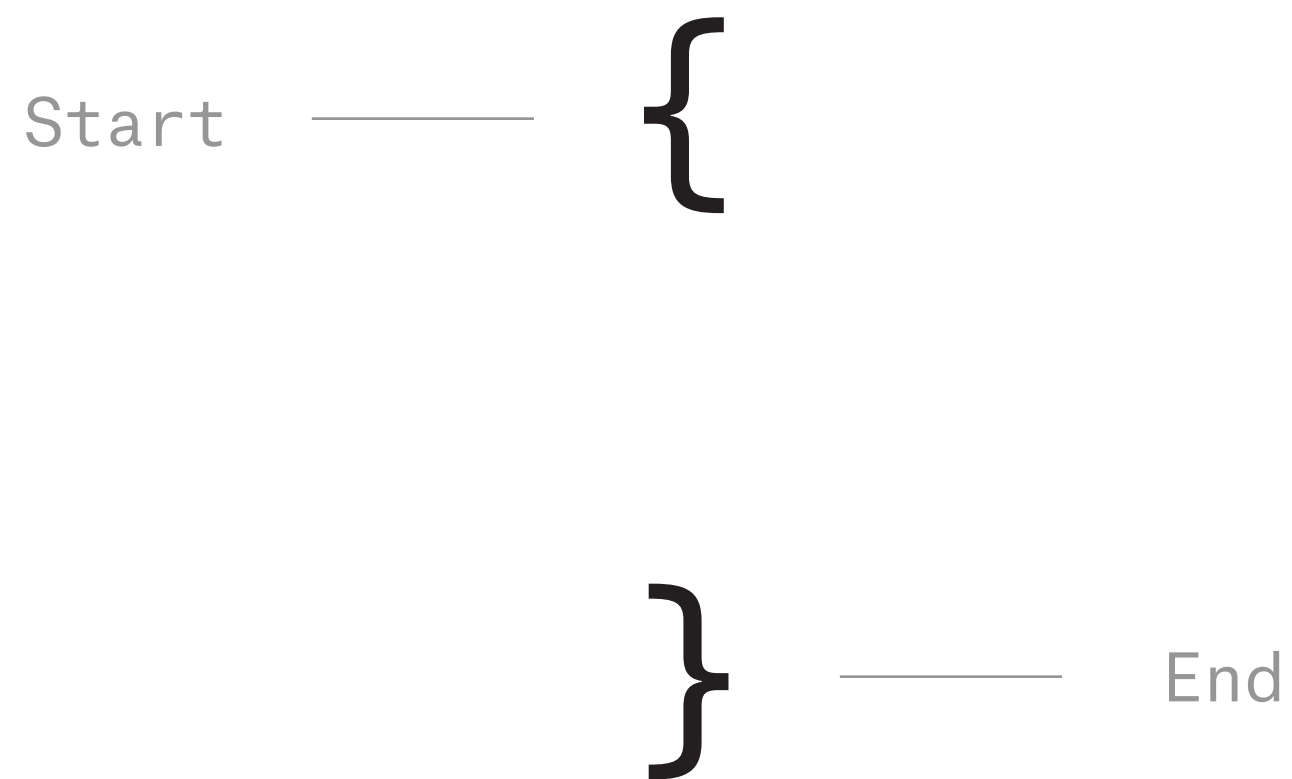


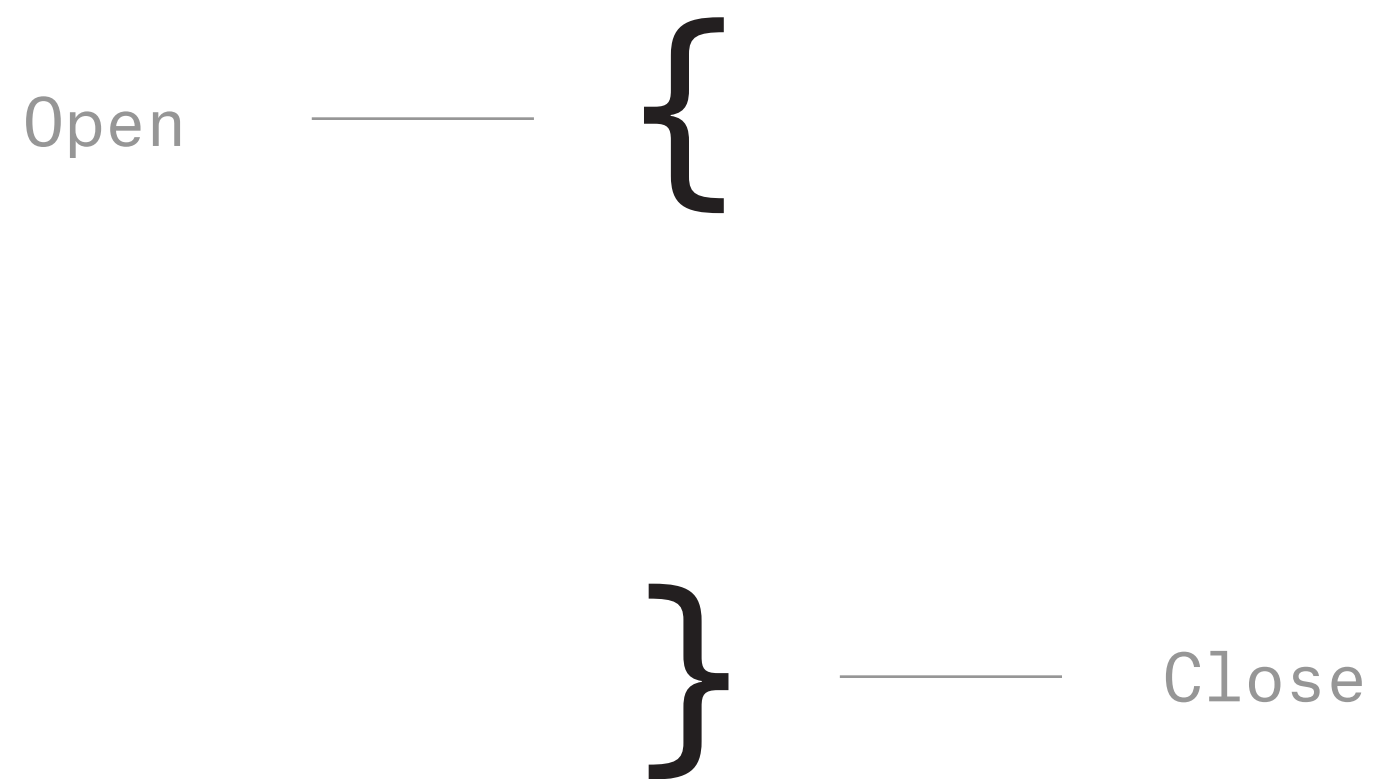


in setup?

in draw?

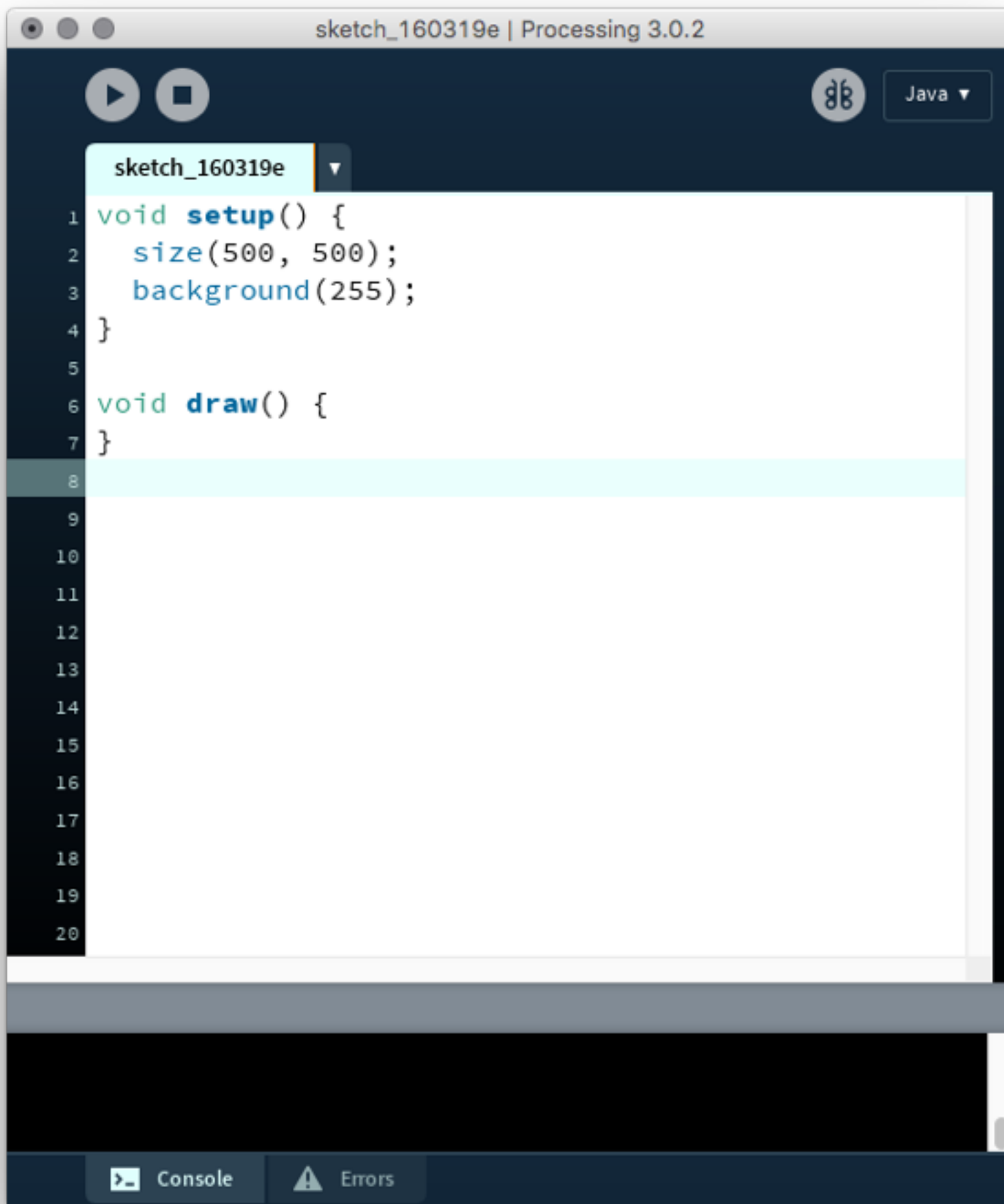
{ }

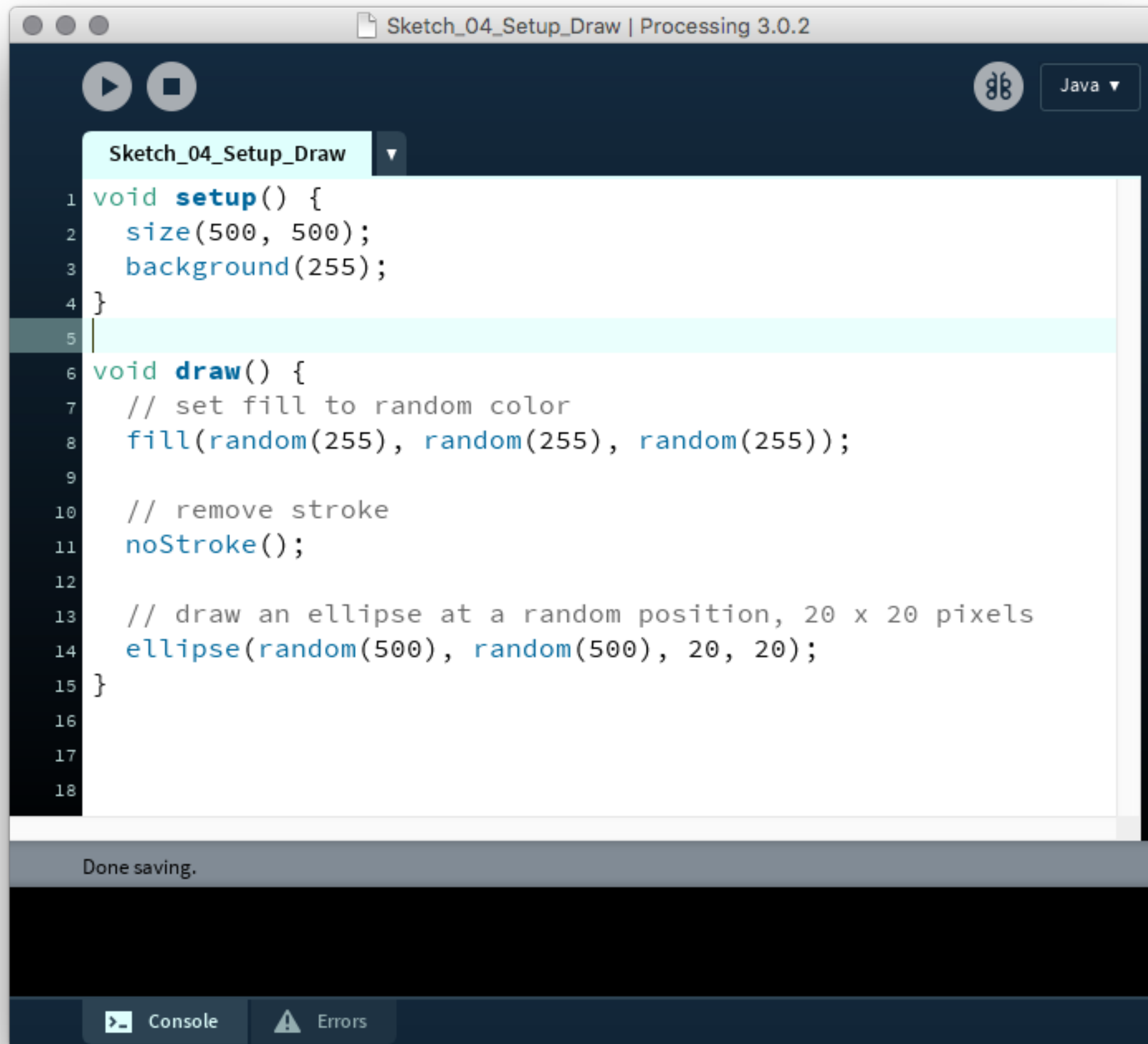


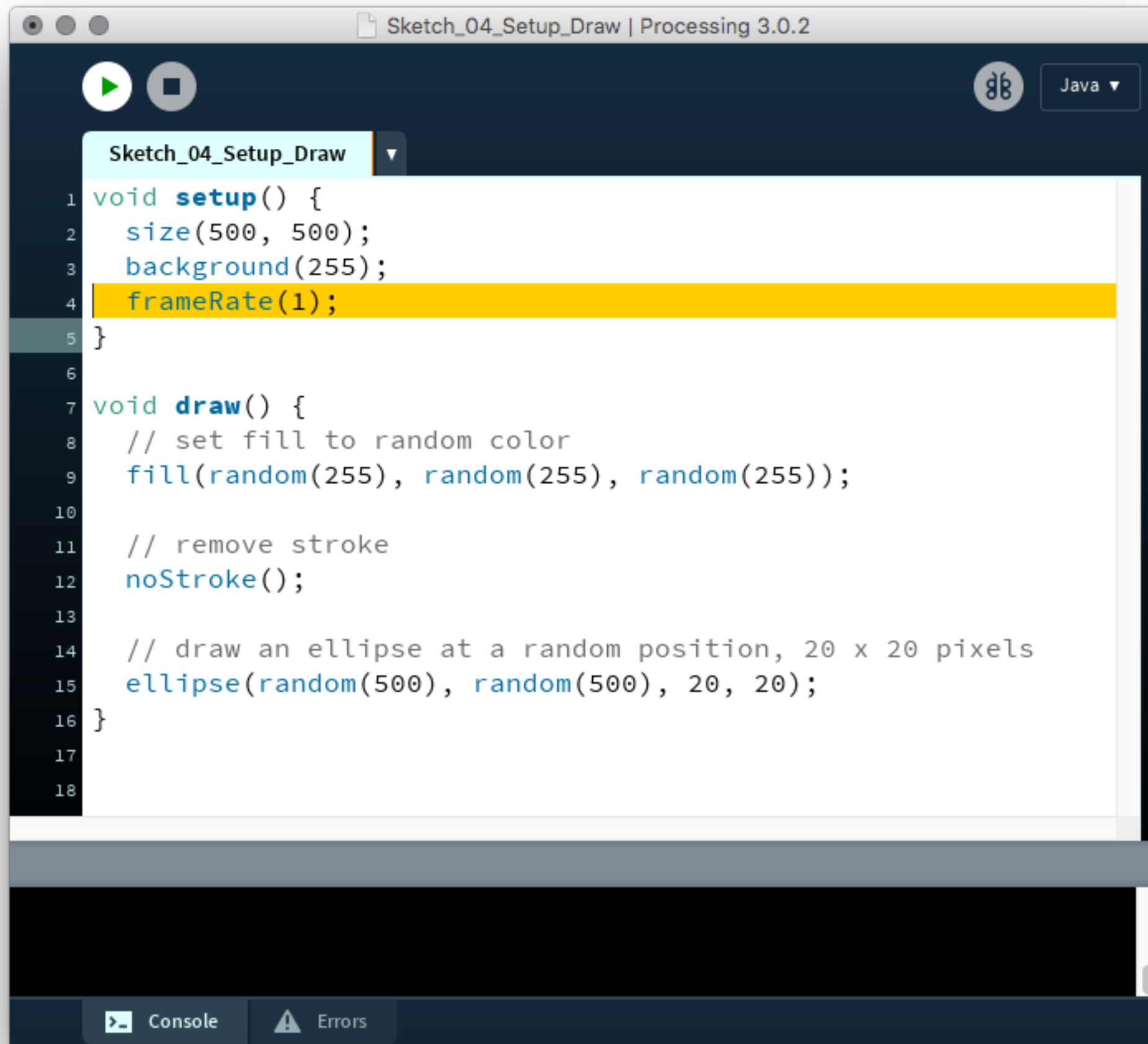


```
void setup() {  
    // in setup  
}
```

```
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  
14  ellipse(random(250), random(250), 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

Output



Java

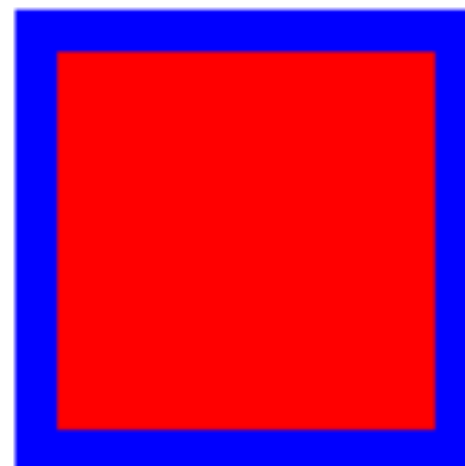
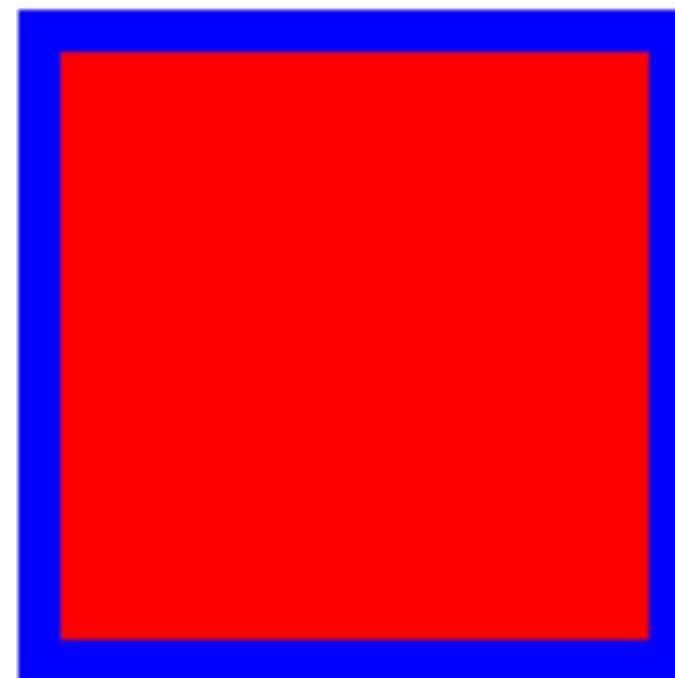
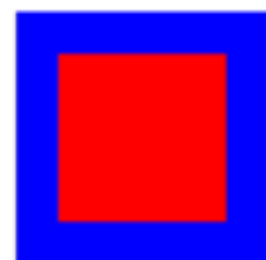
Sketch_05_Save

```
1 void setup() {  
2   size(594, 841);  
3   background(255);  
4  
5   fill(255, 0, 0);  
6   strokeWeight(20);  
7   stroke(0, 0, 255);  
8  
9   rect(50, 50, 100, 100);  
10  rect(250, 150, 300, 300);  
11  rect(100, 600, 200, 200);  
12 }
```

Console

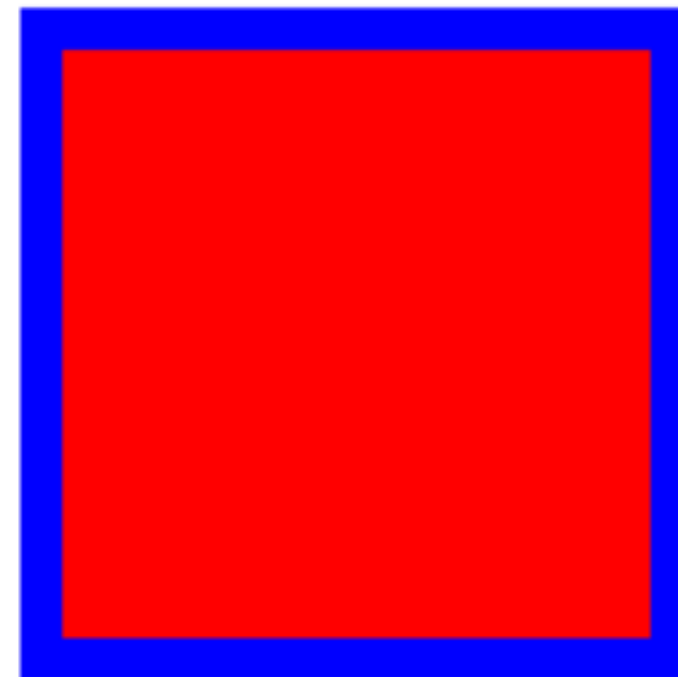
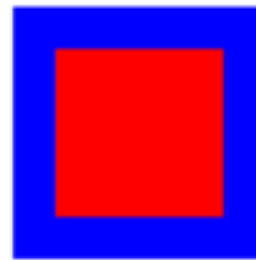
Errors

Sketch_05a_Save



Sketch_05_Save

```
1 void setup() {  
2   size(594, 841);  
3   background(255);  
4  
5   fill(255, 0, 0);  
6   strokeWeight(20);  
7   stroke(0, 0, 255);  
8  
9   rect(50, 50, 100, 100);  
10  rect(250, 150, 300, 300);  
11  rect(100, 600, 200, 200);  
12  
13  save("sketch.png");  
14 }
```



Search

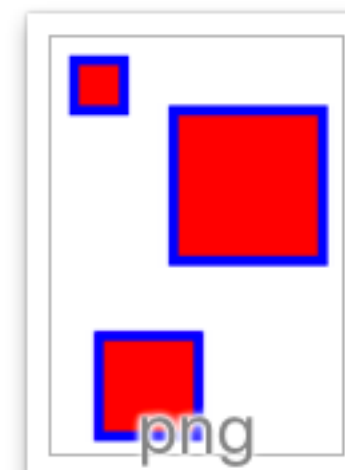
Favorites

Devices

Shared



Sketch_05a_Save.pde



sketch.png

Console

Errors



Java ▾

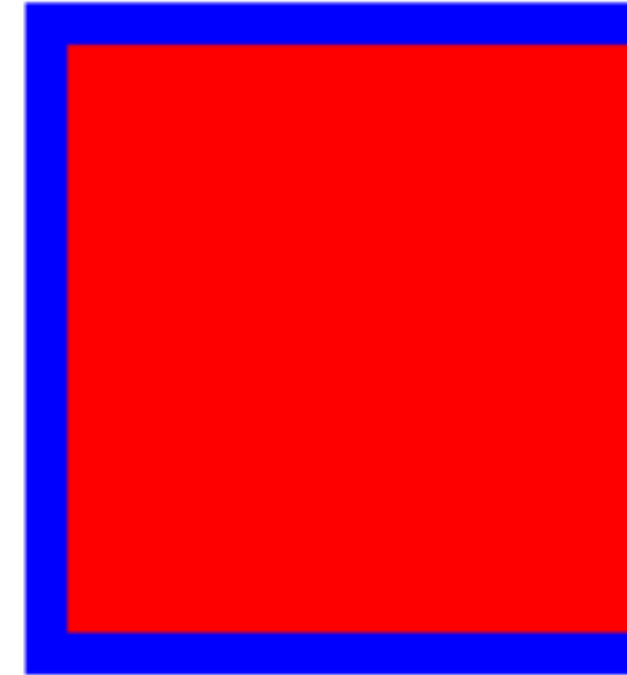
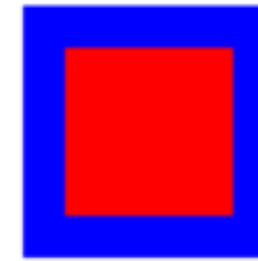
Sketch_06_PDF ▾

```
1 // import pdf library
2 import processing.pdf.*;
3
4 void setup() {
5   // start recording into pdf
6   beginRecord(PDF, "sketch.pdf");
7
8   size(594, 841);
9   background(255);
10
11   fill(255, 0, 0);
12   strokeWeight(20);
13   stroke(0, 0, 255);
14
15   rect(50, 50, 100, 100);
16   rect(250, 150, 300, 300);
17   rect(100, 600, 200, 200);
18
19   // finish recording into pdf
20   endRecord();
21 }
22
```

Done saving.

Console

Errors



Sketch_06_PDF



Favorites

Devices

Shared



Sketch_06_PDF.pde



sketch.pdf