

Output



Java

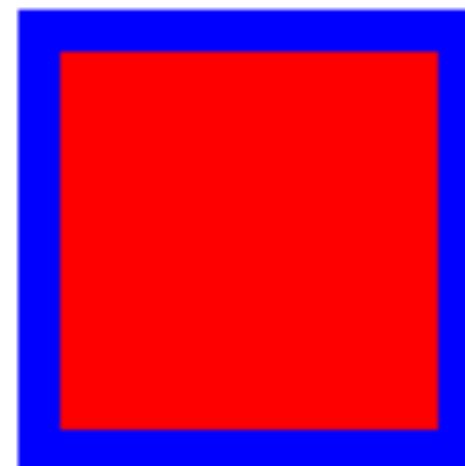
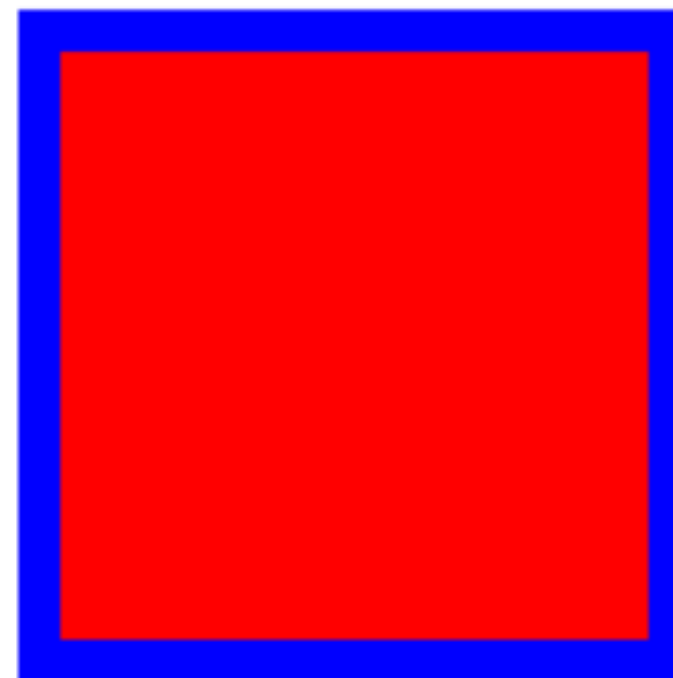
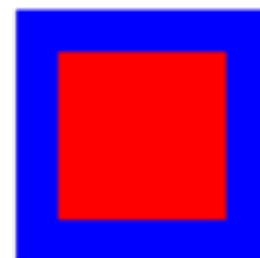
Sketch_05_Save

```
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

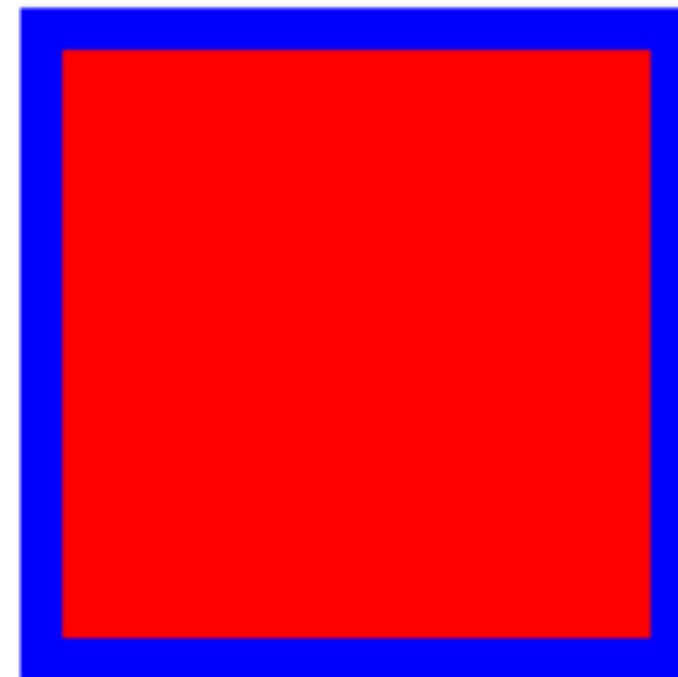
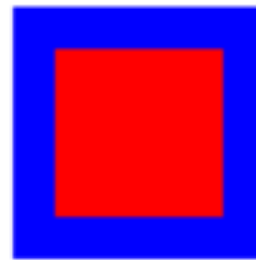
Errors

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 }
```



Sketch_05a_Save



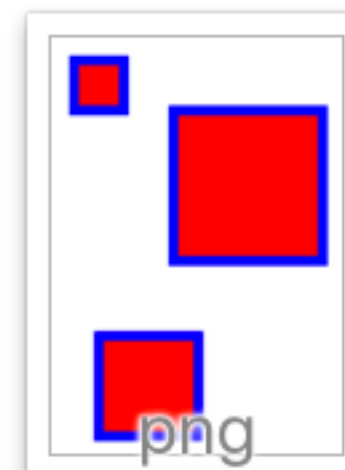
Favorites

Devices

Shared



Sketch_05a_Save.pde



sketch.png

Console

Errors



Java ▾

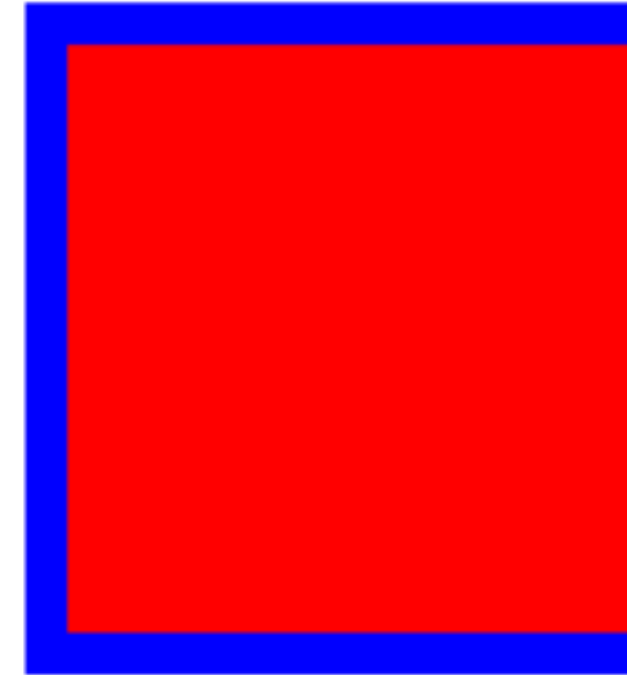
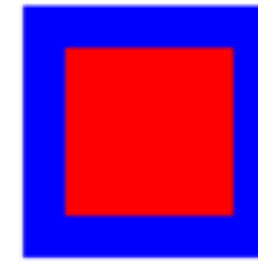
Sketch_06_PDF ▾

```
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

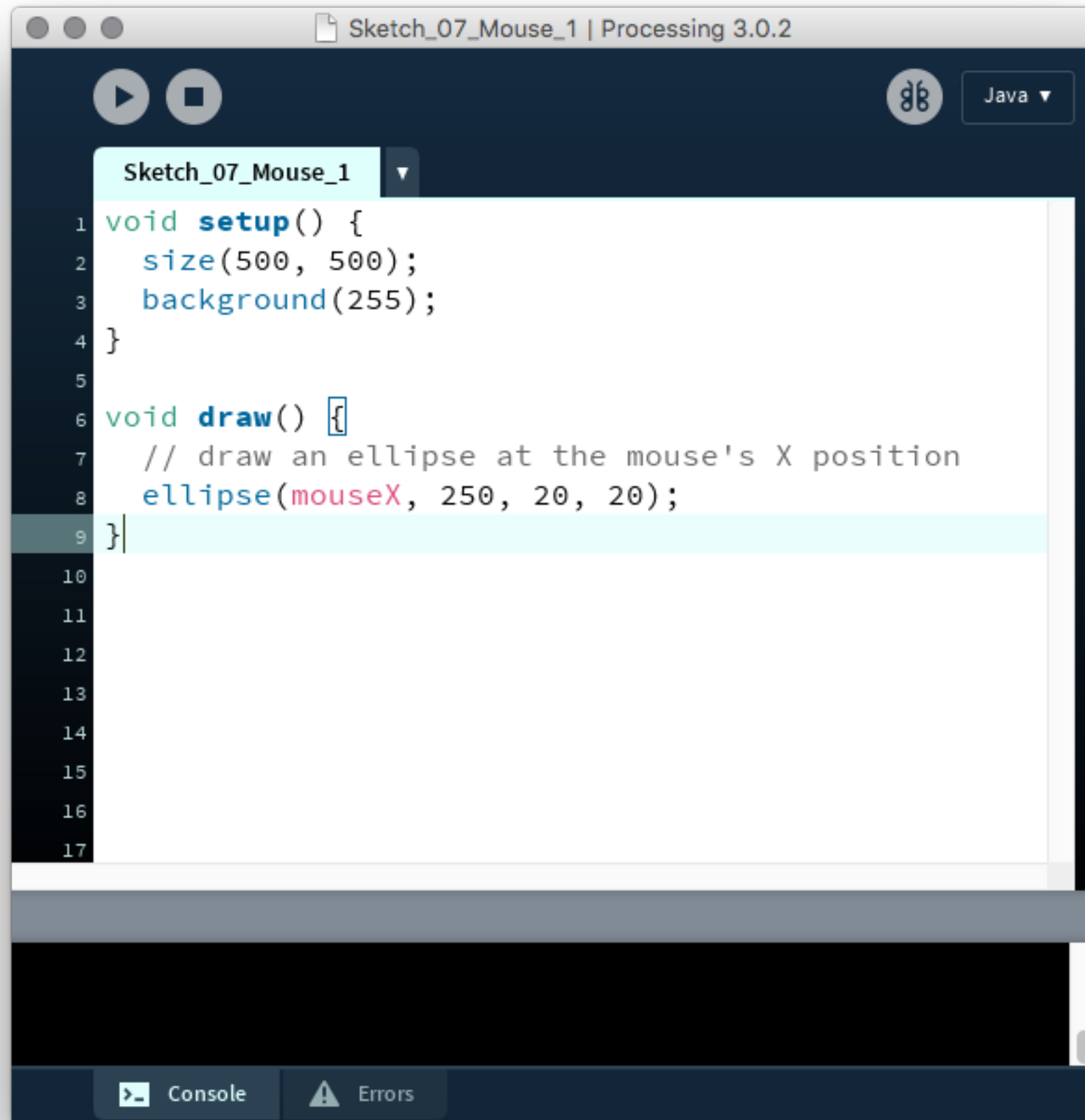


Sketch_06_PDF.pde

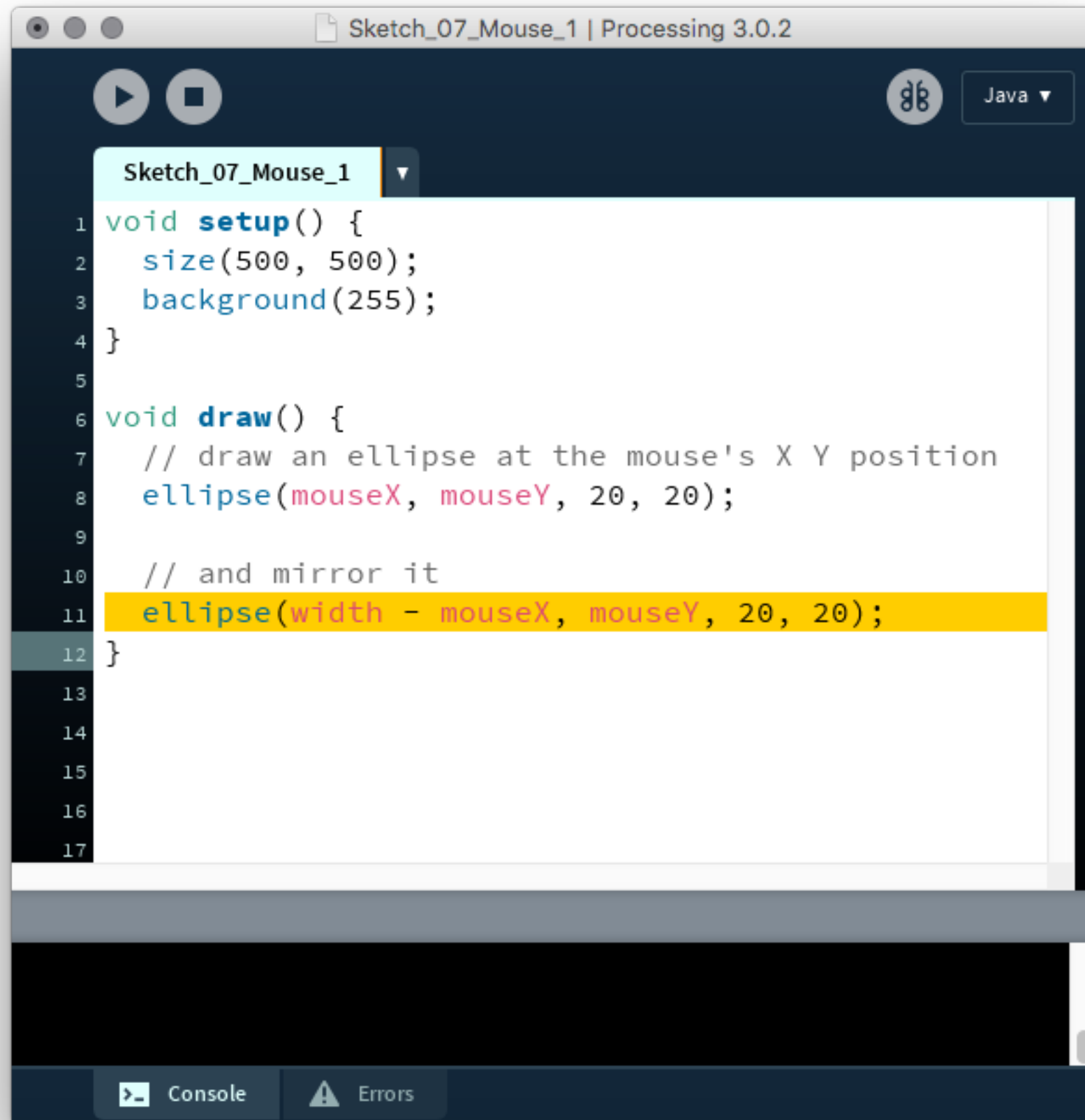


sketch.pdf

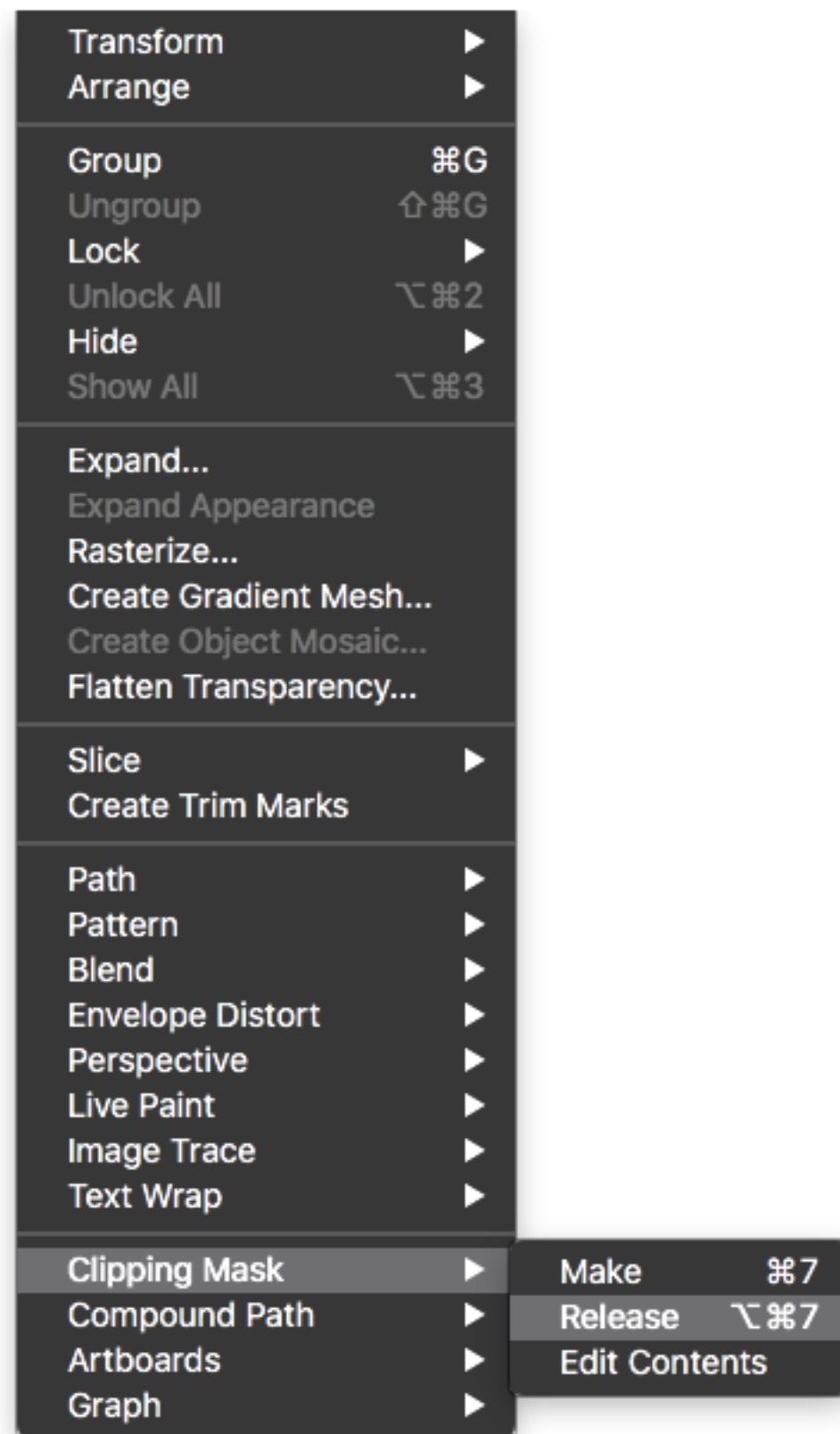
Mouse

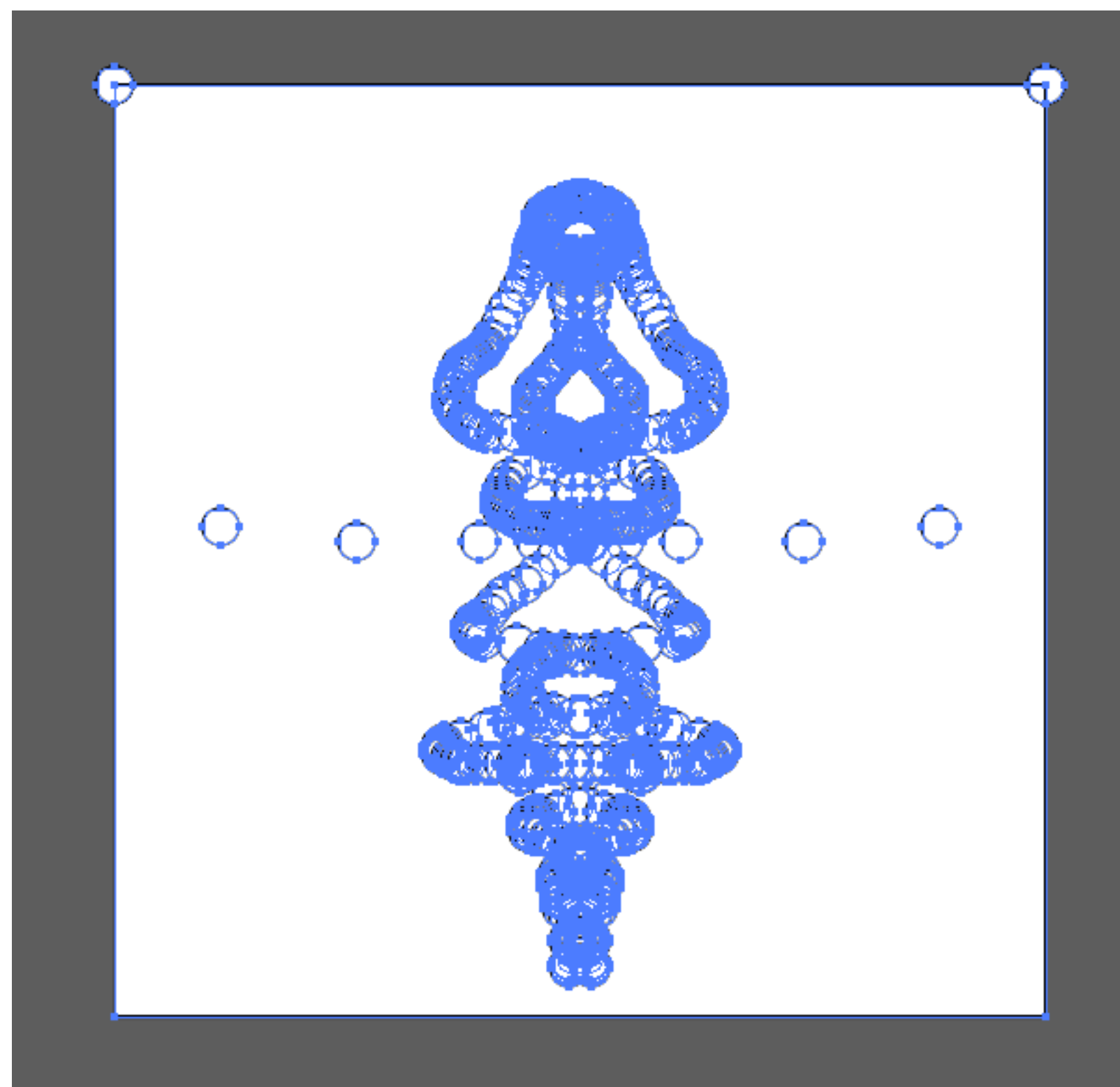












Variables

A **literal** stays the same
20 is always 20

ellipse(mouseX, mouseY, 20, 20);

A **variable** changes (varies)
mouseX could be any number

<code>mouseX</code>	——	mouse position on the x axis
<code>mouseY</code>	——	mouse position on the y axis
<code>width</code>	——	width of the canvas
<code>height</code>	——	height of the canvas
<code>frameRate</code>	——	current frameRate
<code>frameCount</code>	——	for how many frames the sketch has been running

int

float

boolean

color

char

String

int

Stores whole numbers (integers)

```
int theCurrentYear = 2016;  
int aPersonsAge = 55;  
int numParticipants = 9;
```


Type

Name

Value

|

|

|

`int theCurrentYear = 2016;`



Declaration

Assignment

float

Stores numbers with decimal points (floating point)

```
float productCost = 19.95;  
float documentHeight = 29.7;  
float pi = 3.14;
```

boolean

true or false?

```
boolean on = true;  
boolean mouseIsDown = false;  
boolean expired = true;
```

color

Stores a color

```
color red = color(255, 0, 0);  
color highlightColor = #FFFF00;  
color textColor = color(50);
```

char

Stores a single character

```
char firstInitial = 'D';  
char lastKeyPressed = 'A';  
char YorN = 'N';
```

String

Stores a 'string' (sequence) of characters i.e. text

```
String name = "Dan";  
String message = "Hello!";  
String content = "It was the best of times, it
```

Operators

+ Add

- Subtract

* Multiply

/ Divide

++ increment (Add one)

-- decrement (Subtract one)

+ Addition

```
int apples = 4;  
int oranges = 6;  
int fruits = apples + oranges;
```

- Subtraction

```
int purchased = 100;  
int sold = 25;  
int inventory = purchased - sold;
```

* Multiplication

```
float price = 19.99;  
float unitsSold = 25;  
float revenue = unitsSold * price;
```

/ Division

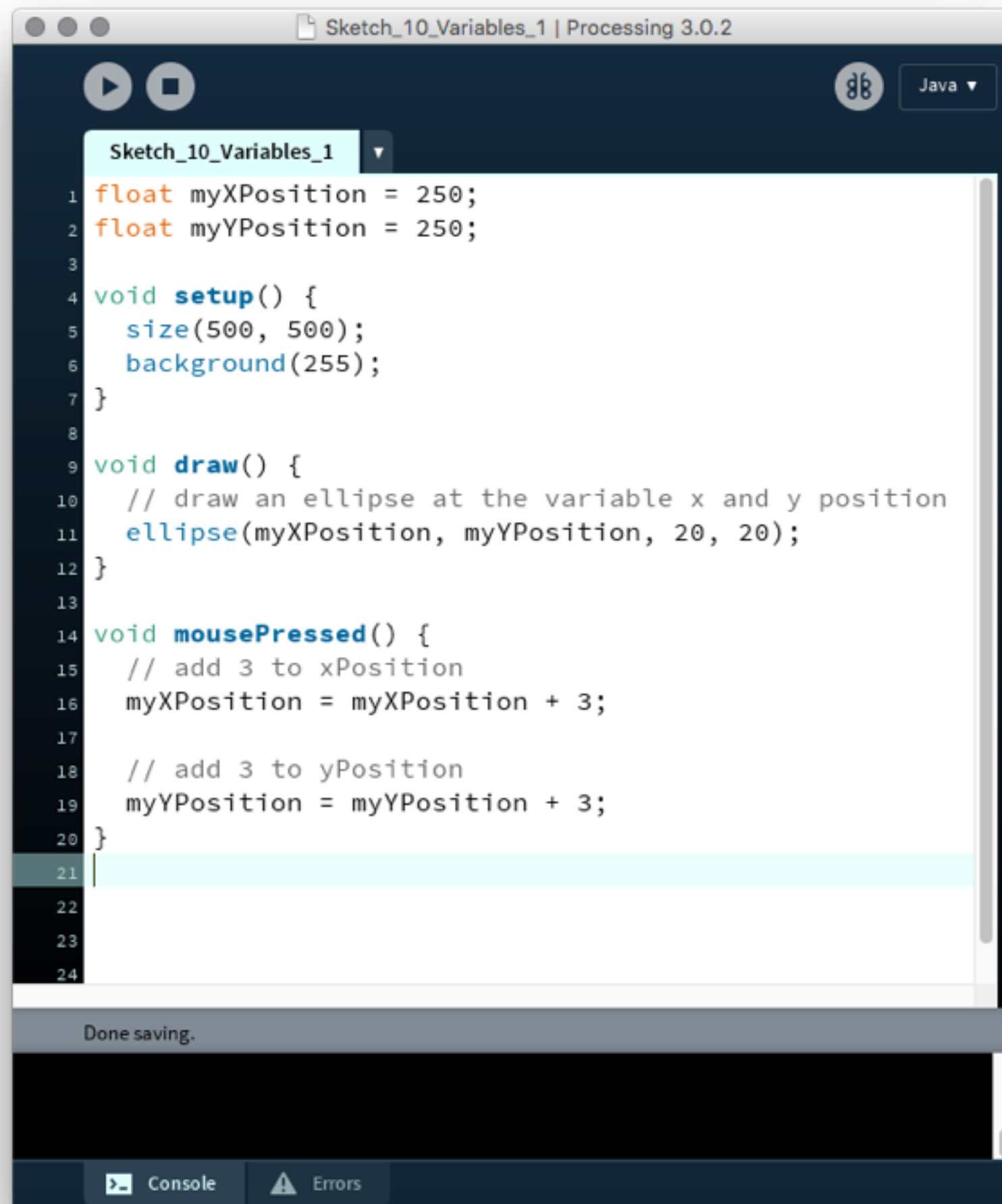
```
int miles = 80;  
int hours = 3;  
int speed = miles / hours;
```

++ Increment

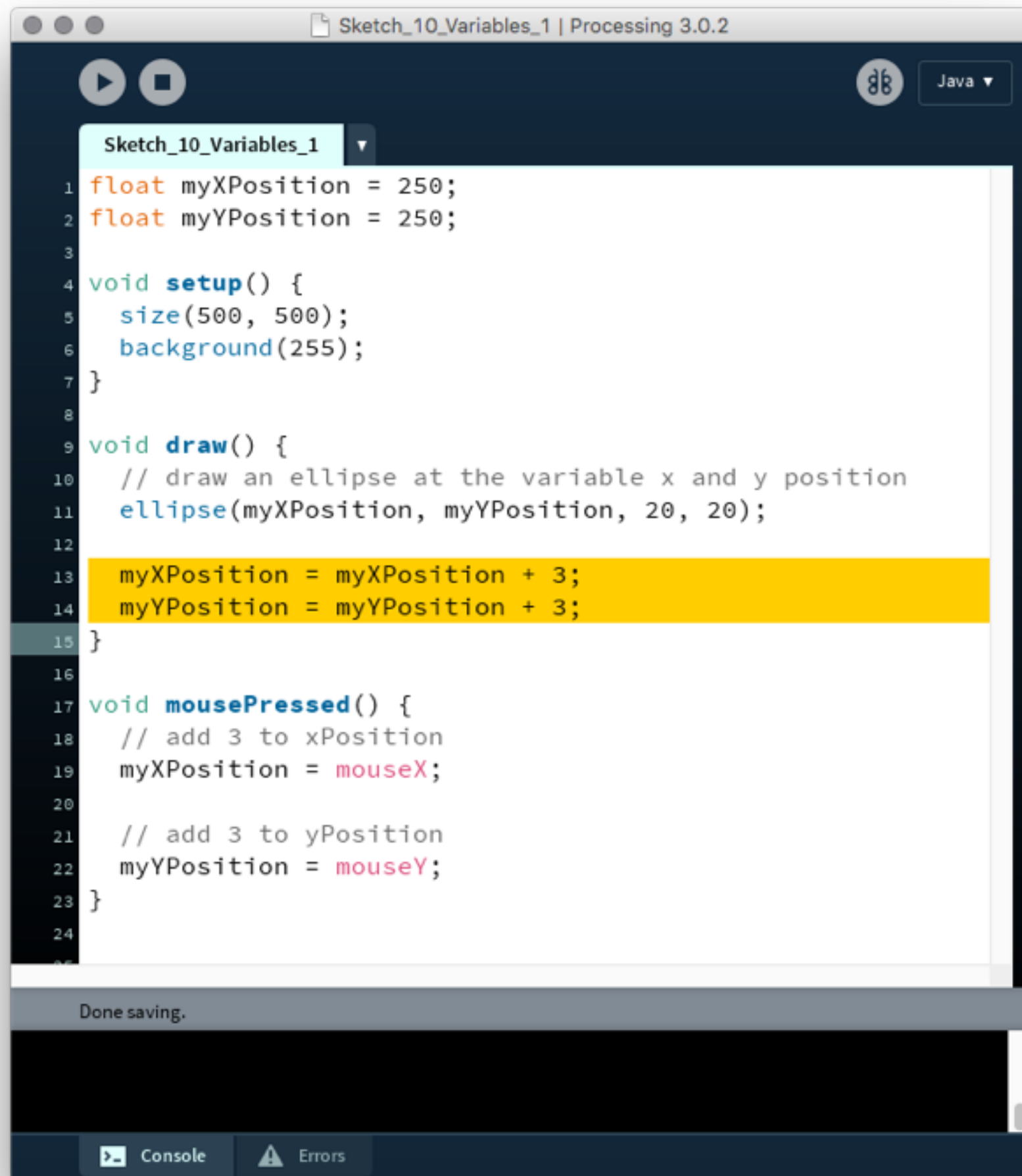
```
int age = 55;  
age++;  
println(age); // 56
```

-- Decrement

```
int sessions = 10;  
sessions--;  
println(sessions); // 9
```







Sketch_12_Variables_3 | Processing 3.0.2

▶

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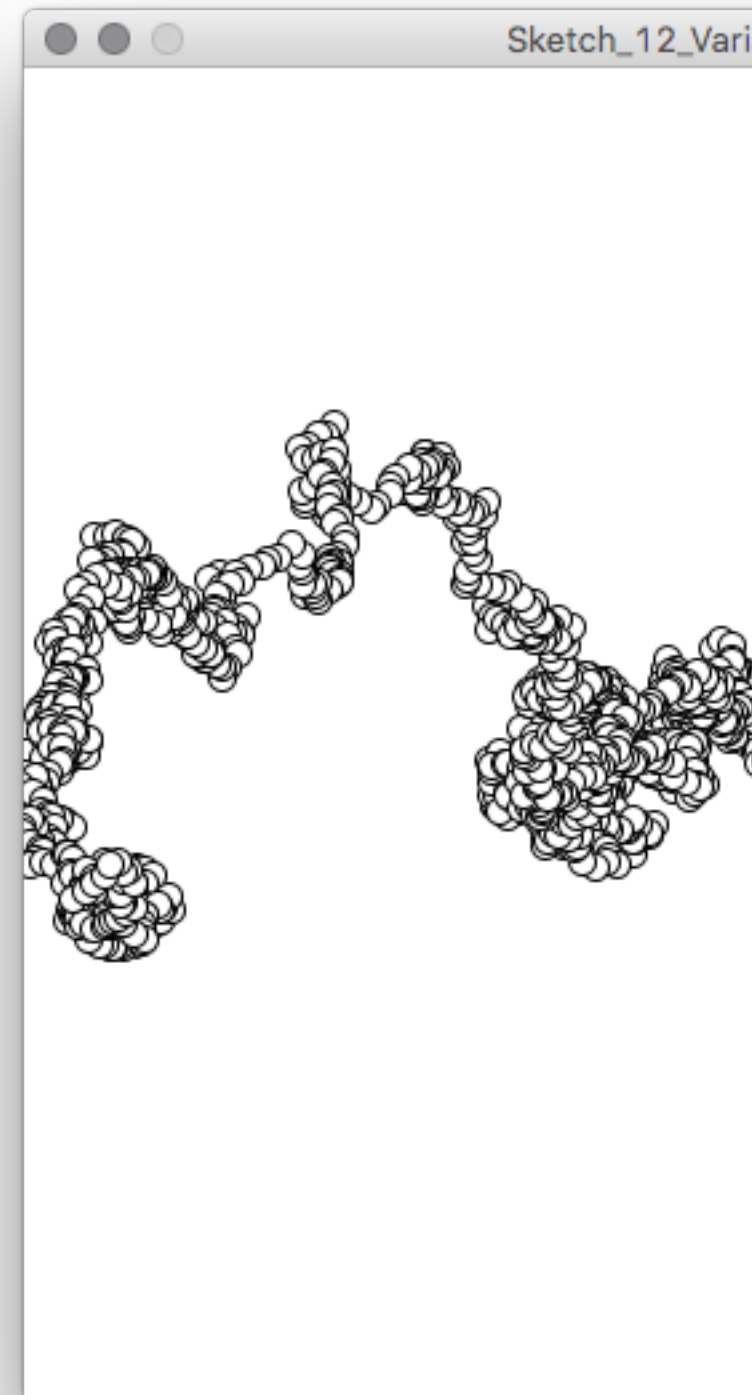
⌘

Java ▼

Sketch_12_Variables_3 ▼

```
1 float myXPosition = 250;
2 float myYPosition = 250;
3
4 void setup() {
5   size(500, 500);
6   background(255);
7 }
8
9 void draw() {
10  // draw an ellipse at the variable x and y position
11  ellipse(myXPosition, myYPosition, 10, 10);
12
13  // add a random number between -5 and 5 to both variables
14  myXPosition = myXPosition + random(-5, 5);
15  myYPosition = myYPosition + random(-5, 5);
16 }
17
18
19
20
```

Console Errors





Java ▼

Sketch_13_Variables_4 ▼

```
1 float myXPosition = 250;
2 float myYPosition = 250;
3
4 float rectSize = 10;
5
6 void setup() {
7   size(500, 500);
8   background(255);
9 }
10
11 void draw() {
12   // draw a rectangle at the variable positions
13   rect(myXPosition, myYPosition, rectSize, rectSize);
14
15   // round the random number to the nearest 10th
16   myXPosition = myXPosition + (round(random(-1, 1)) * rectSize);
17   myYPosition = myYPosition + (round(random(-1, 1)) * rectSize);
18 }
19
20
```

Console

Errors

Sketch_13_Variables_4

