An Introduction to Processing

Basics of Animation

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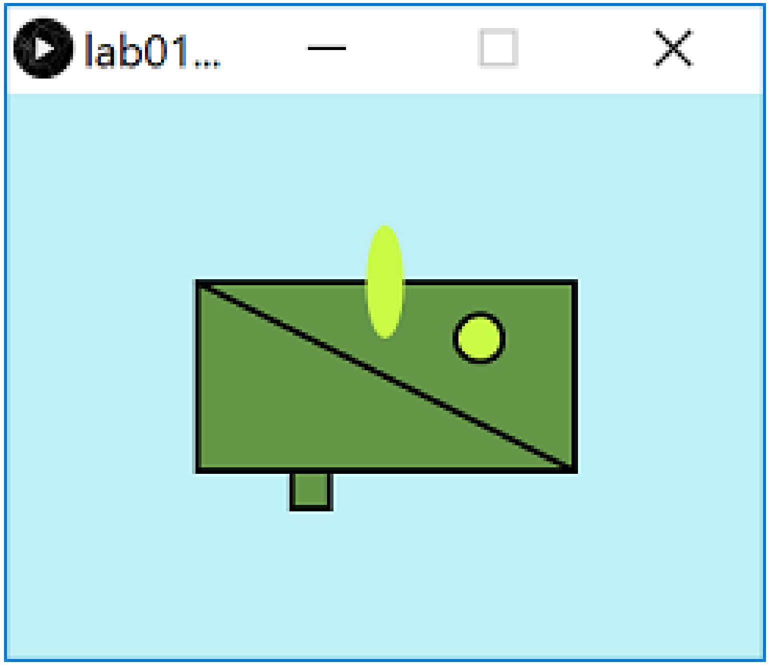
Static versus Animated Drawings

- So far, all of our animations have been static.



Topics list

- The setup() function.
- The draw() function.
- System Variables in Processing.

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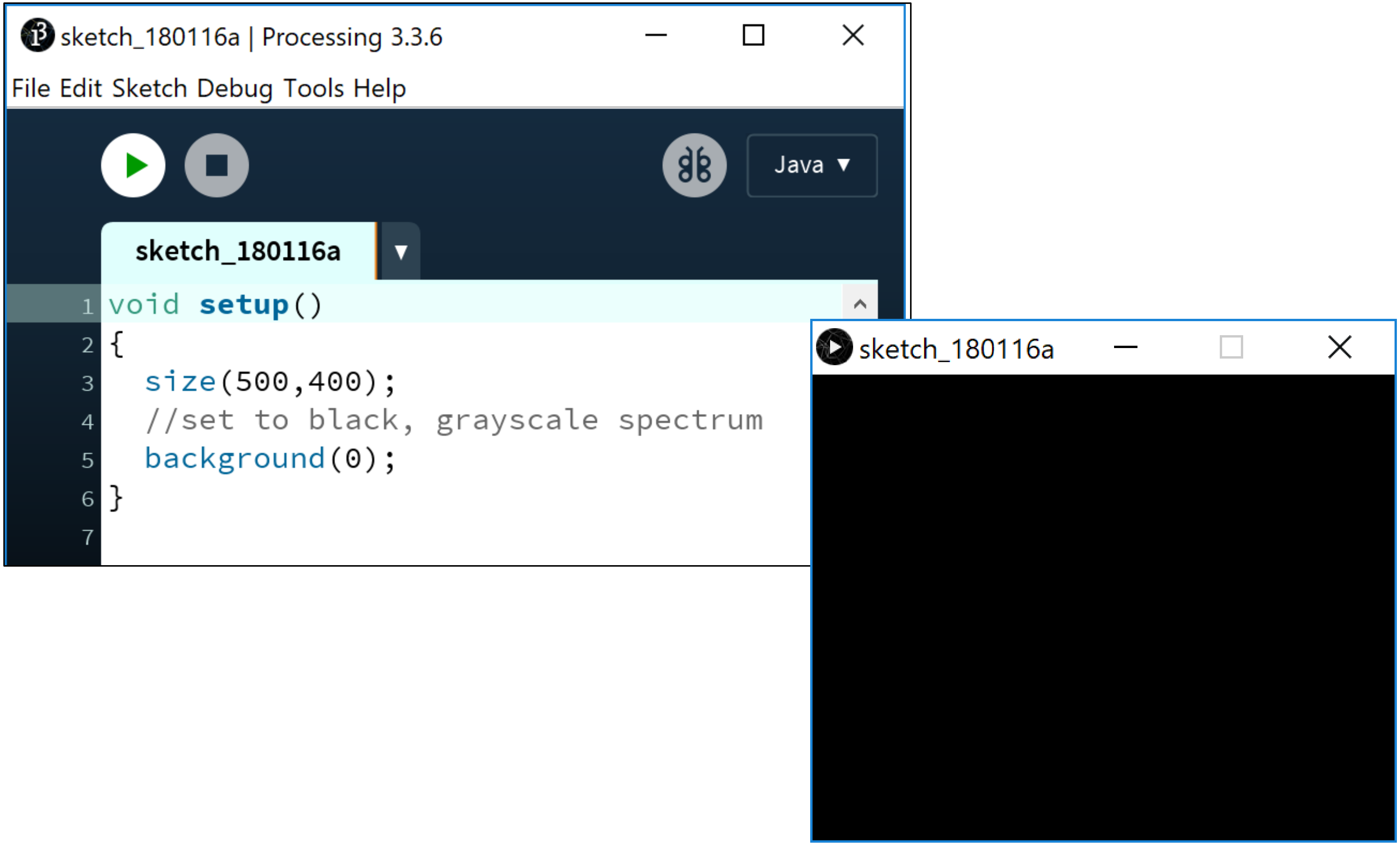

sketch_180116a | Processing 3.3.6
File Edit Sketch Debug Tools Help
Java ▼
sketch_180116a
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```
void setup()
{
  size(500,400);
  //set to black, grayscale spectrum
  background(0);
}
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- The draw() function.
- System Variables in Processing.

void draw()

- You should never call the draw() function.
- Processing automatically calls the draw() function straight after the setup() call.

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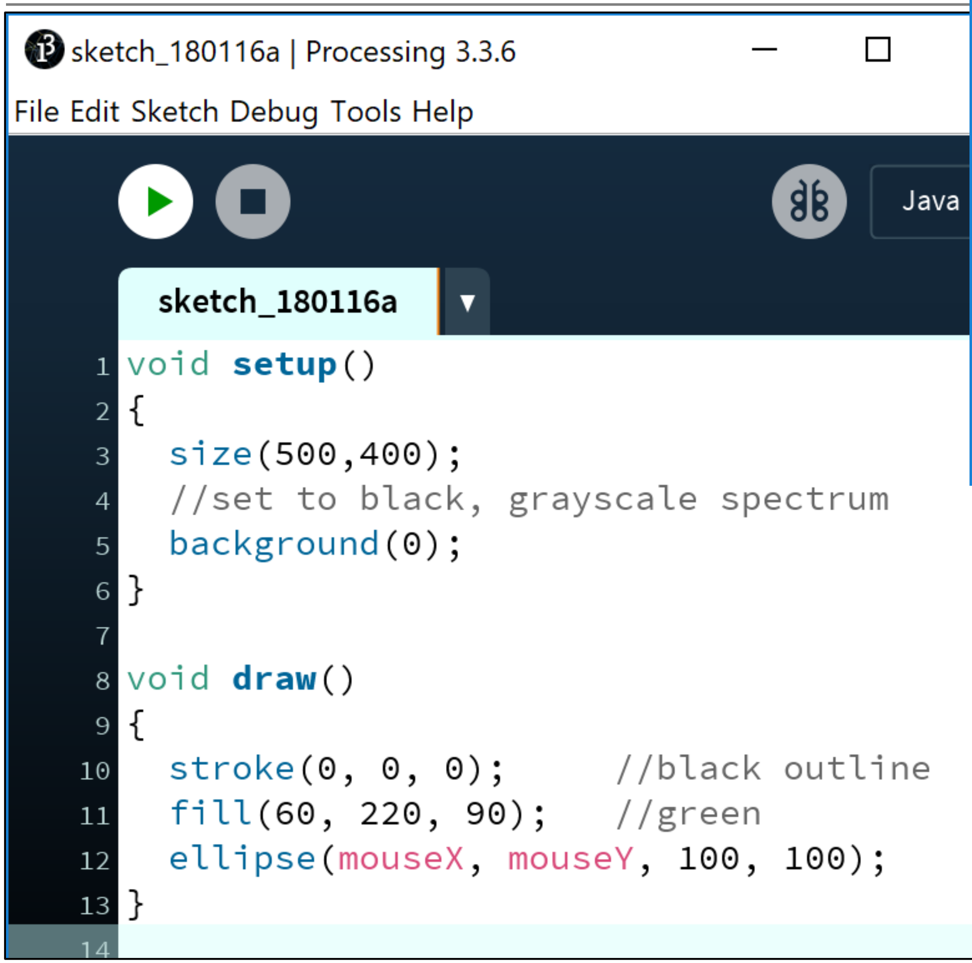
void draw()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void draw()
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  fill(60, 220, 90);    //green
  ellipse(mouseX, mouseY, 100, 100);
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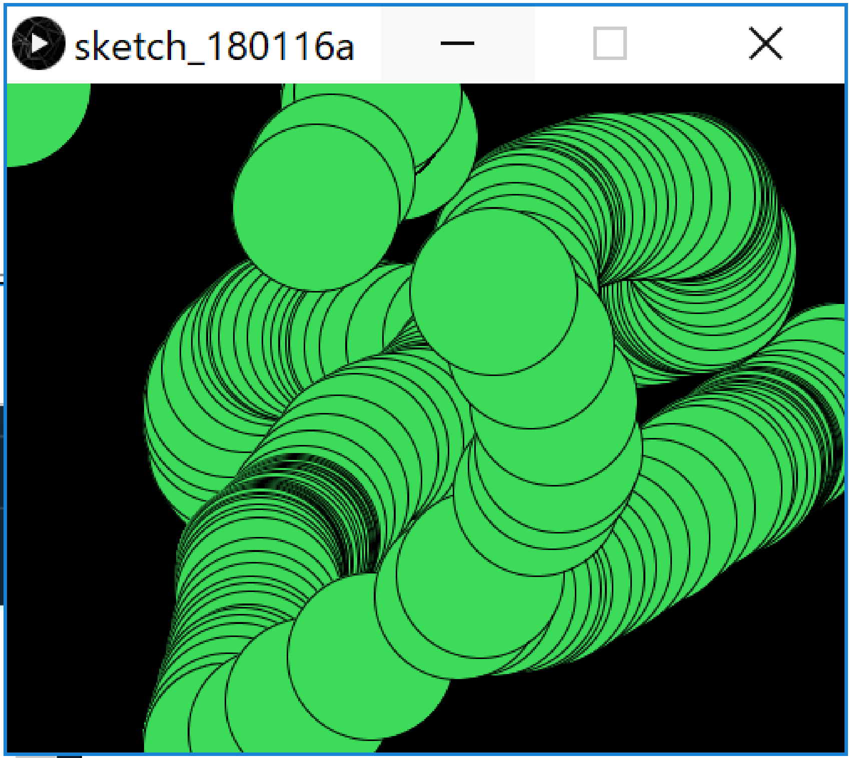
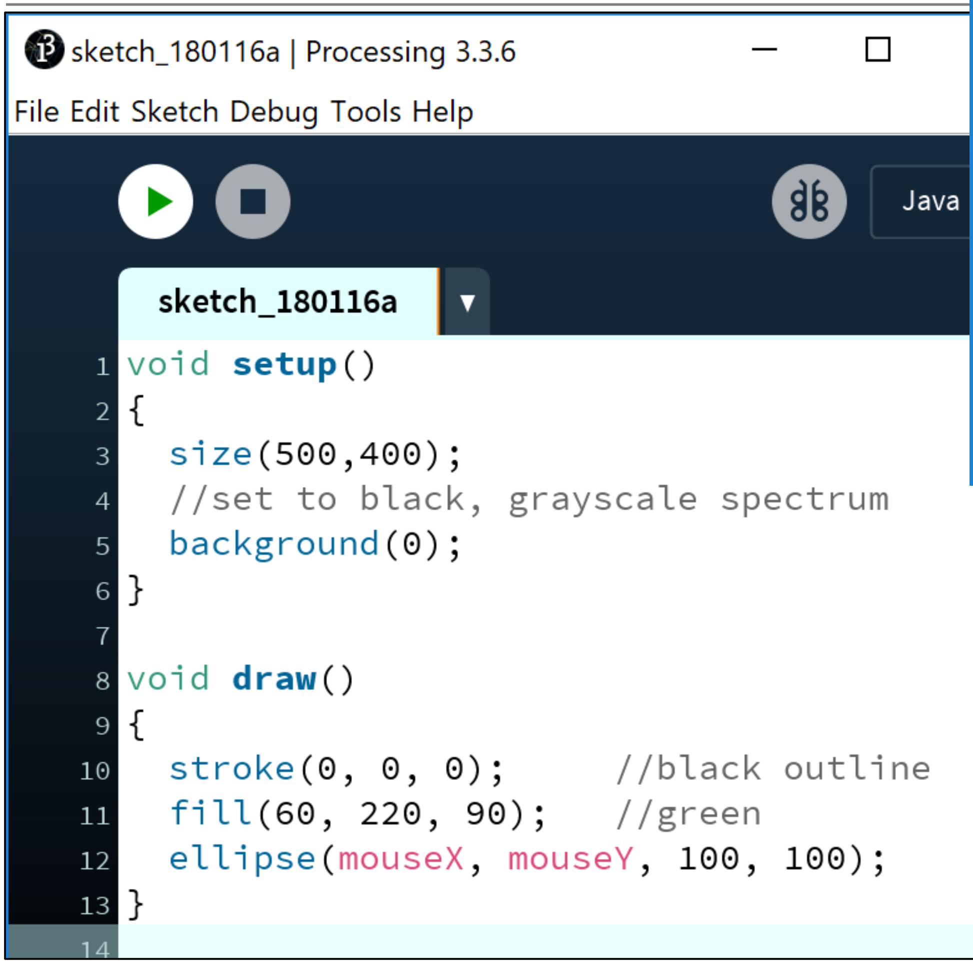


mouseX = x co-ordinate of mouse pointer

mouseY = y co-ordinate of mouse pointer

void draw()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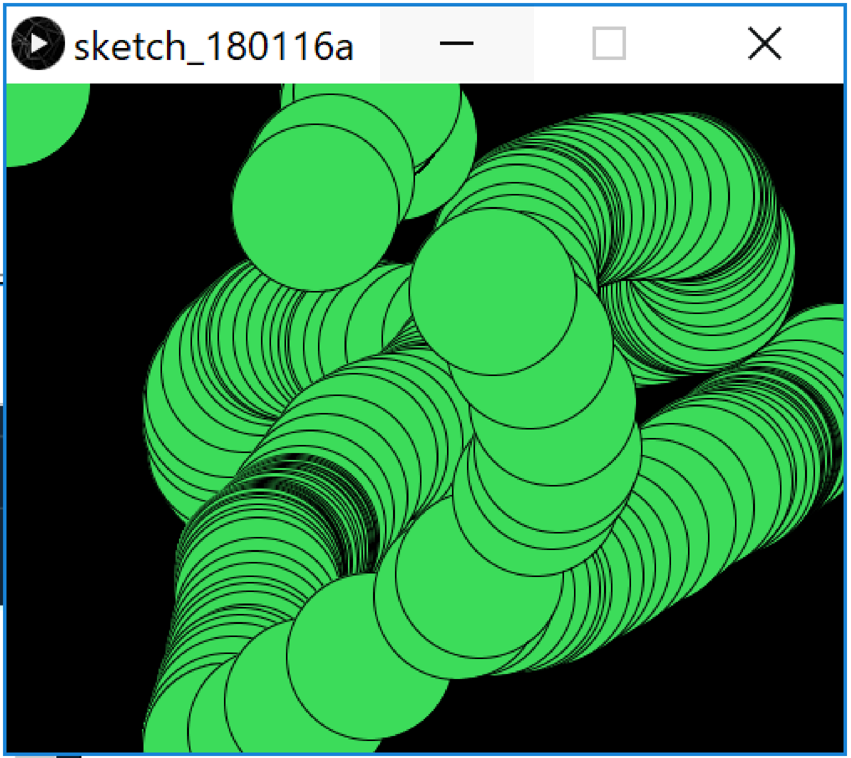
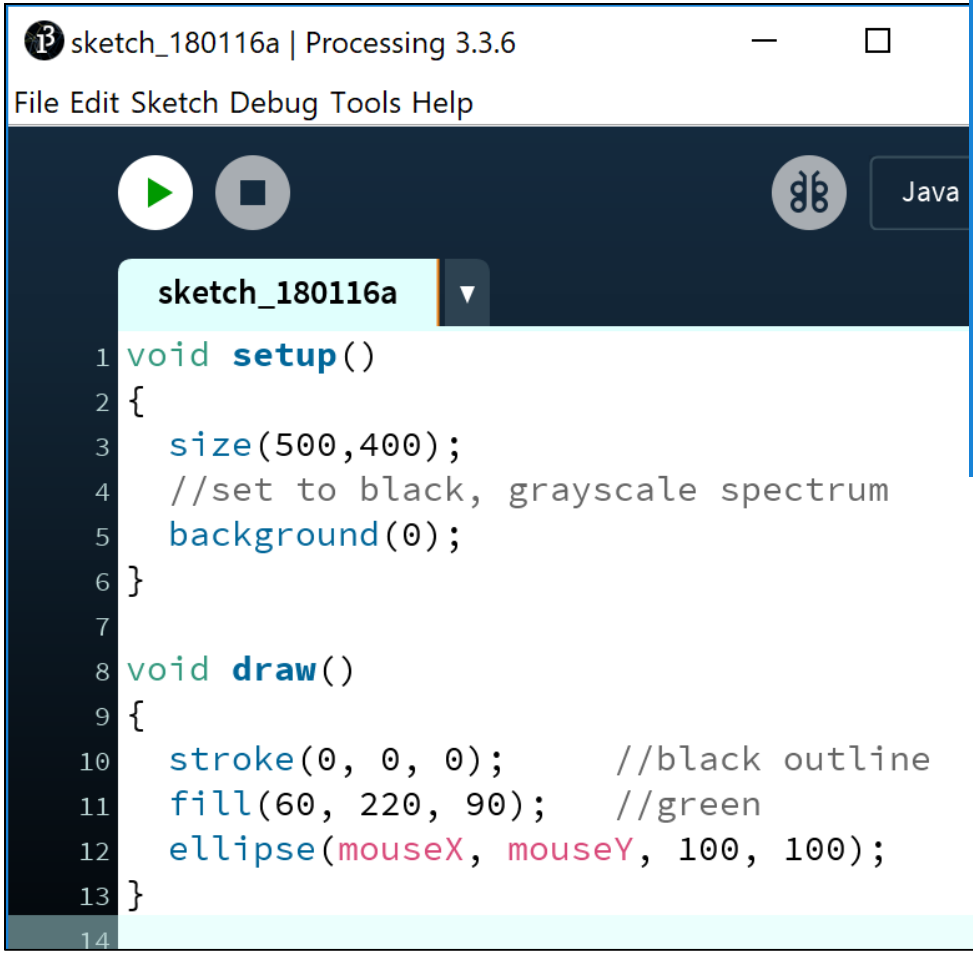


Q: Why many circles?

mouseX = x co-ordinate of mouse pointer
mouseY = y co-ordinate of mouse pointer

void draw()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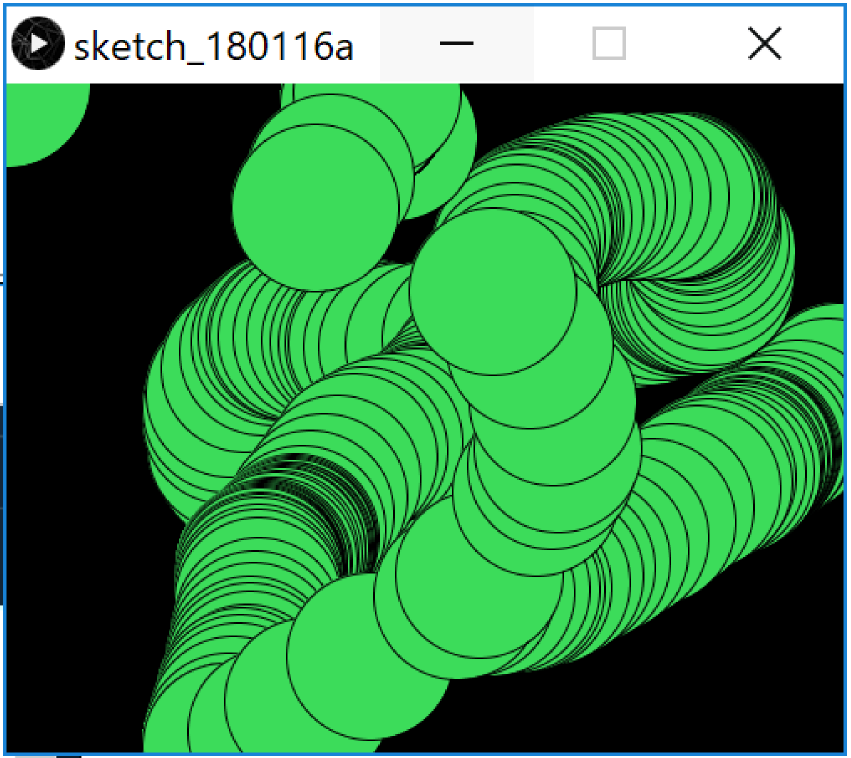

Q: Why many circles?

A: **background(0)** is in the setup function.

mouseX = x co-ordinate of mouse pointer

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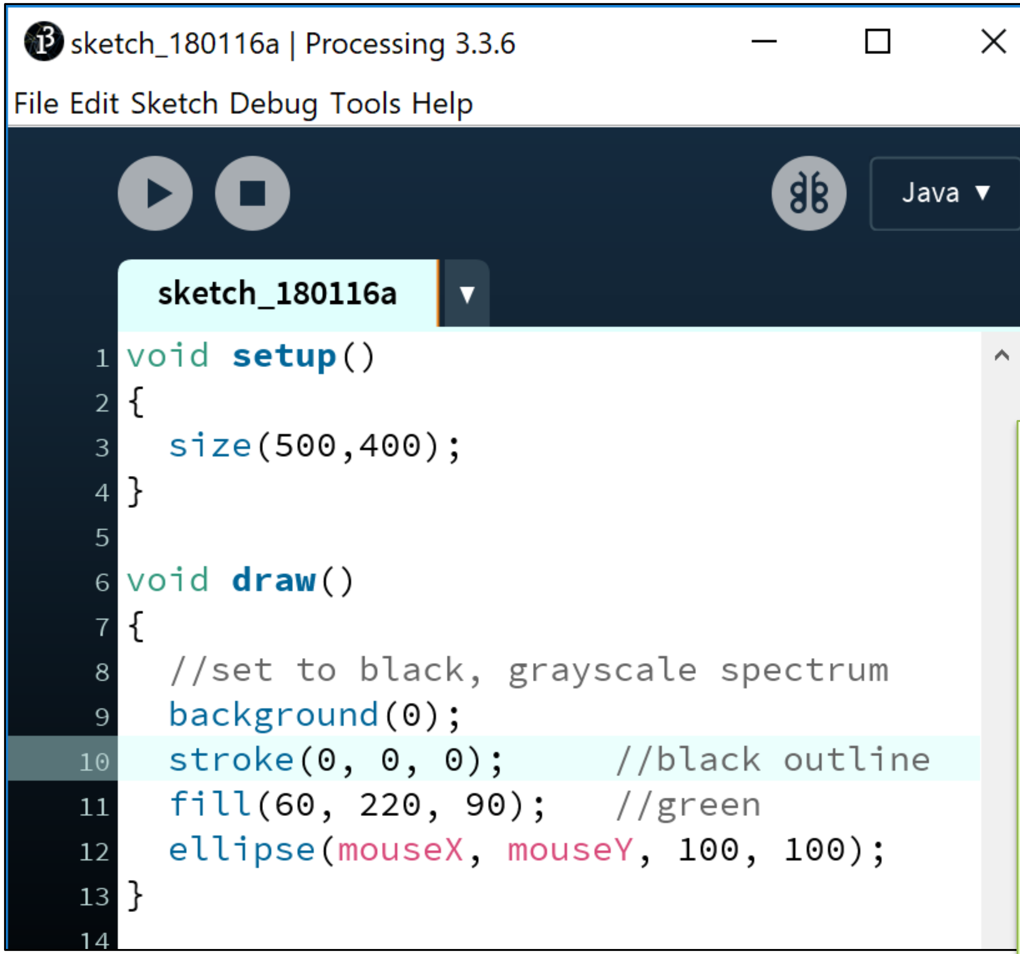
void draw()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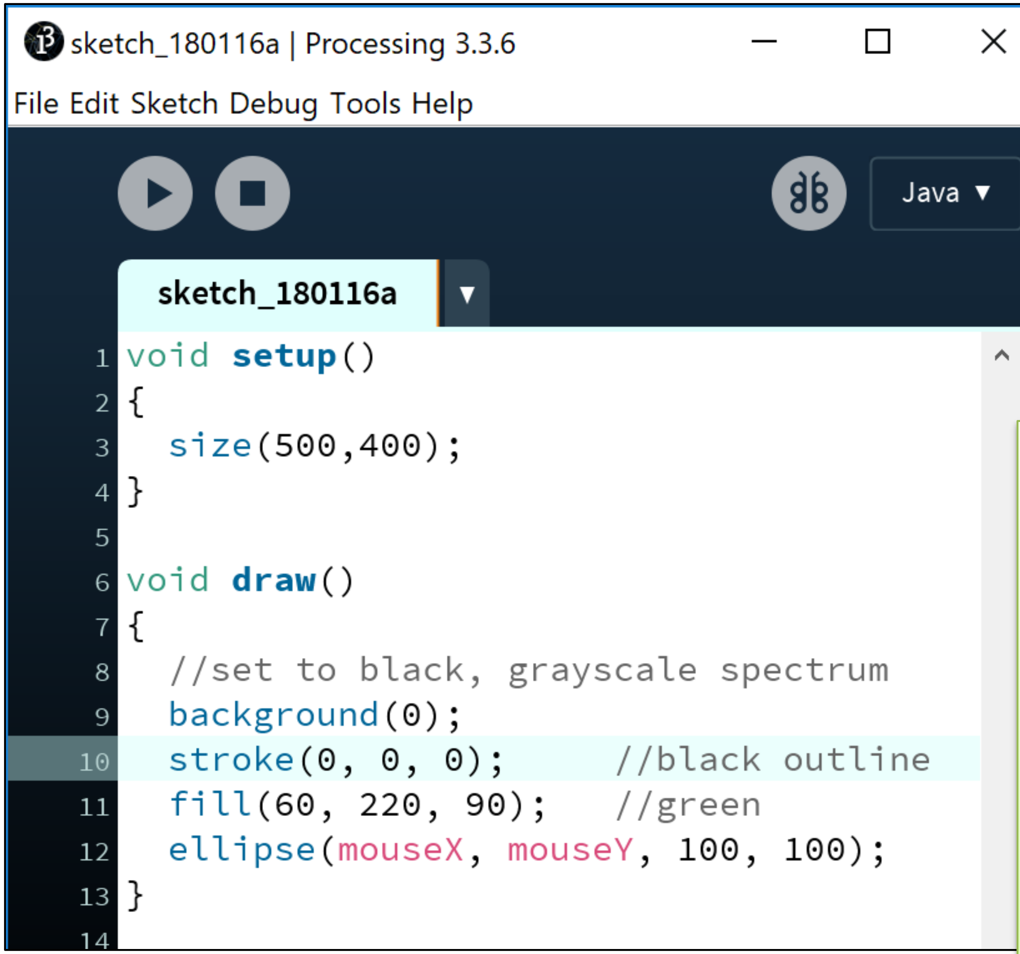
Q: Why happens when we move **background(0)** into the draw function?

void draw()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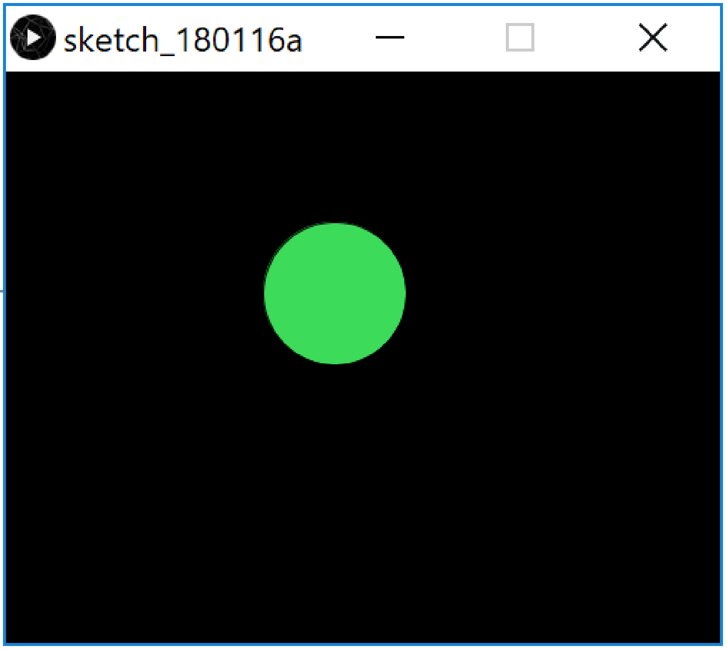

Q: Why happens when we move **background(0)** into the draw function?

A: Before each circle is drawn, the background is painted black, so it clears the previous circle.

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- System Variables in Processing.

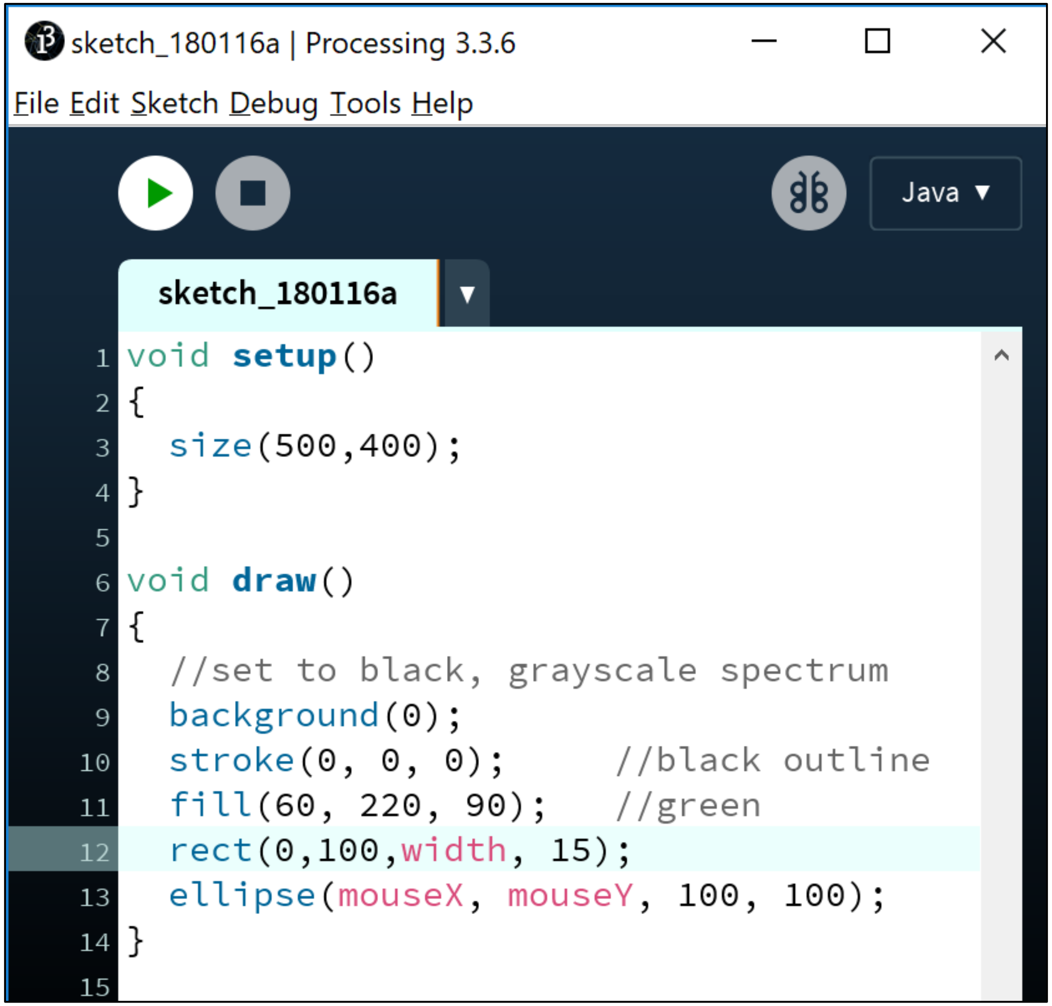
System Variables in Processing

Some examples of system variables in Processing:

- **mouseX** (x co-ordinate of the mouse pointer on the display window)
- **mouseY** (y co-ordinate of the mouse pointer on the display window)
- **width** (width of the display window)
- **height** (height of the display window)

We don’t have to define/create these; we just use them.

System Variables in Processing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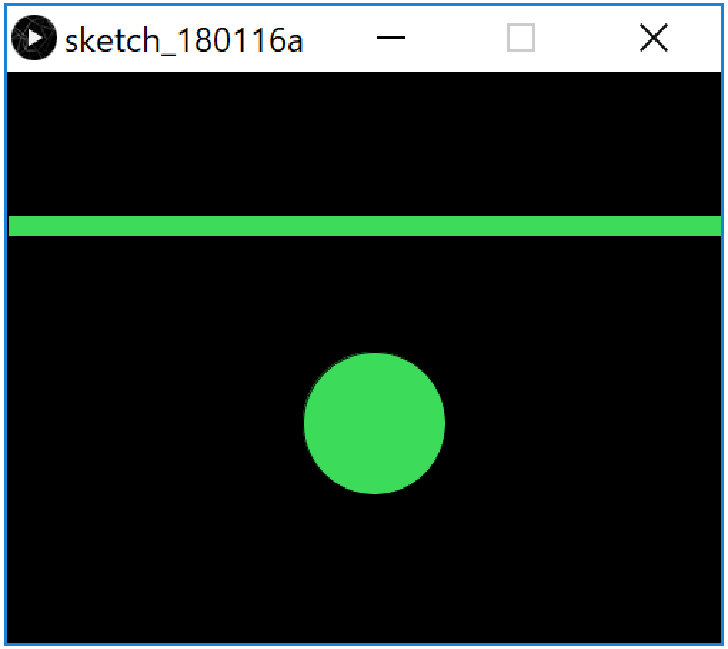
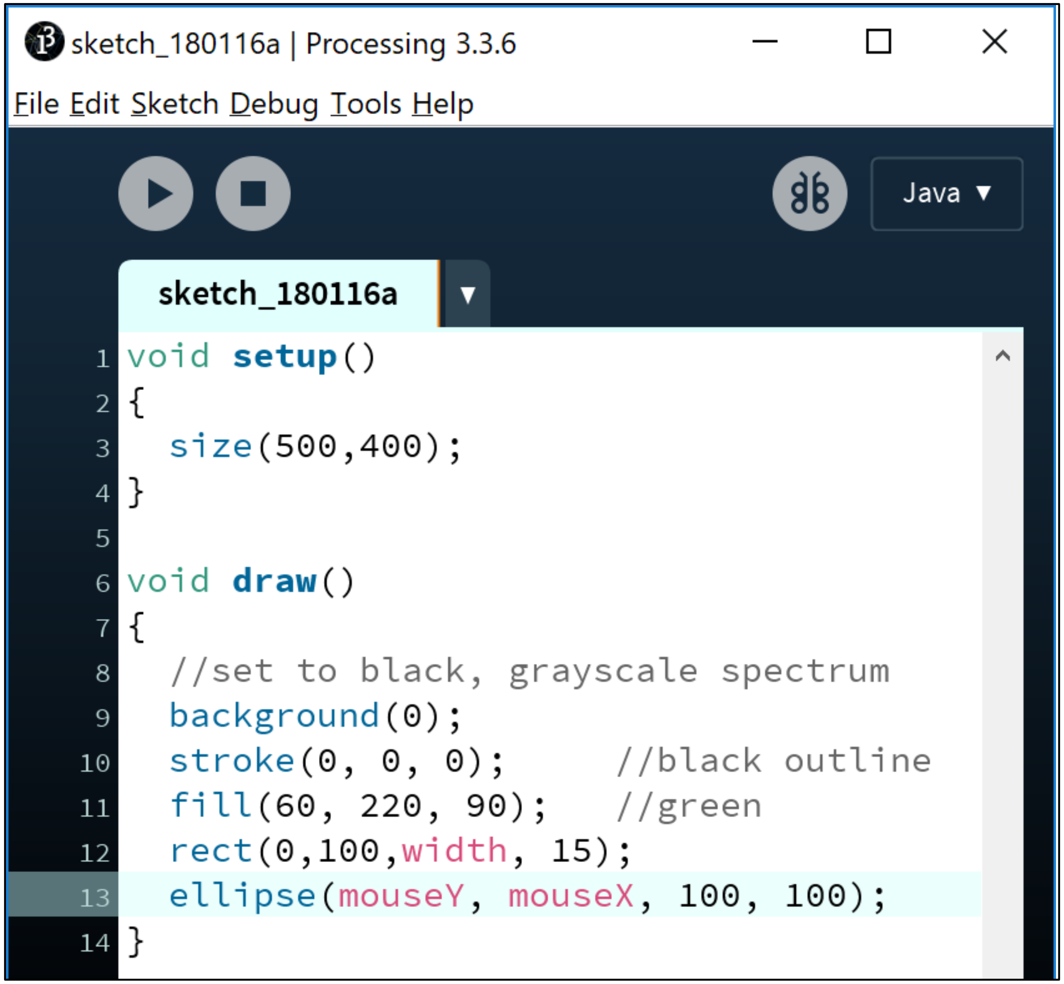


Using the **width** system variable in the **rect** function to draw a thick line.

System Variables in Processing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*Q: What would happen to our animation if we swapped the **mouseX** and **mouseY** variables in the **ellipse** function with each other?*

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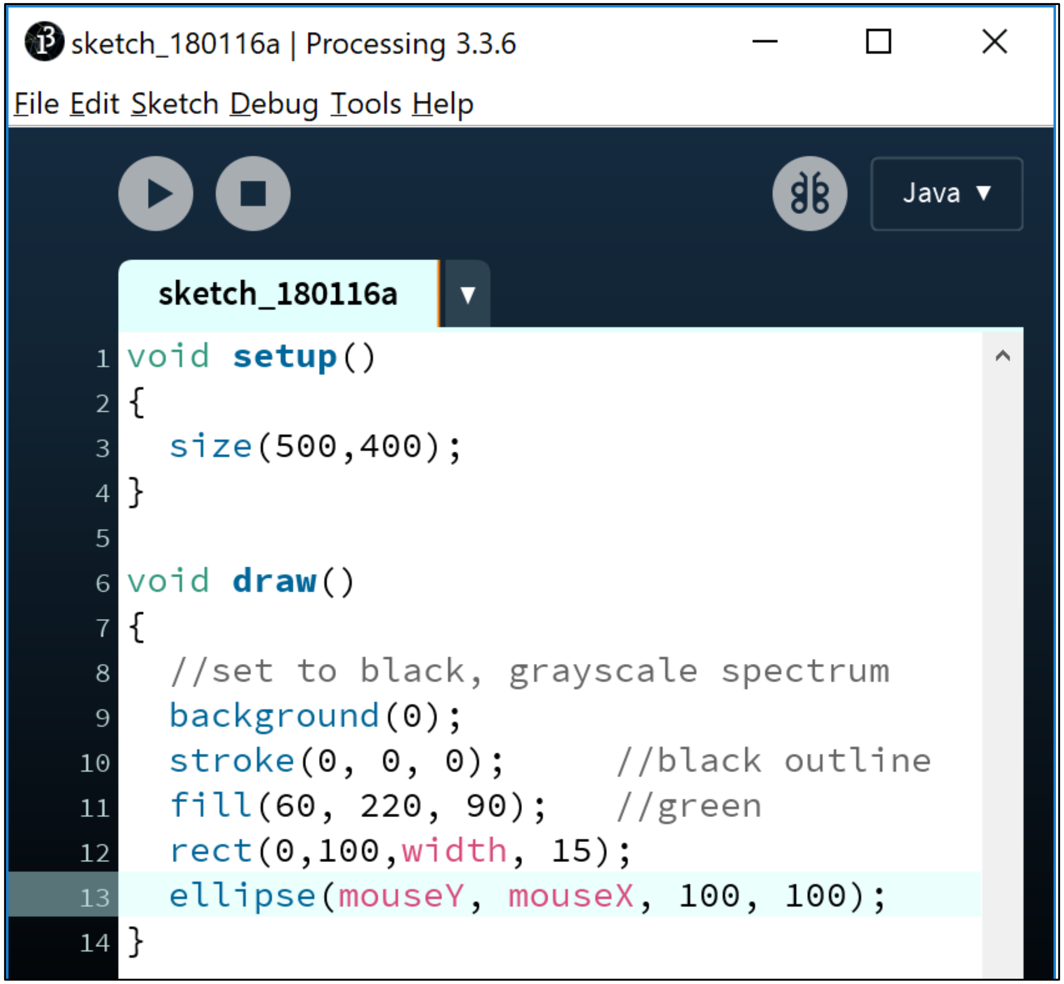
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Q: *What would happen to our animation if we swapped the* ***mouseX*** *and* ***mouseY*** *variables in the* ***ellipse*** *function with each other?*

A: *As you move your mouse right on the x axis, the circle will move down on the y axis and vice versa.*

Questions?