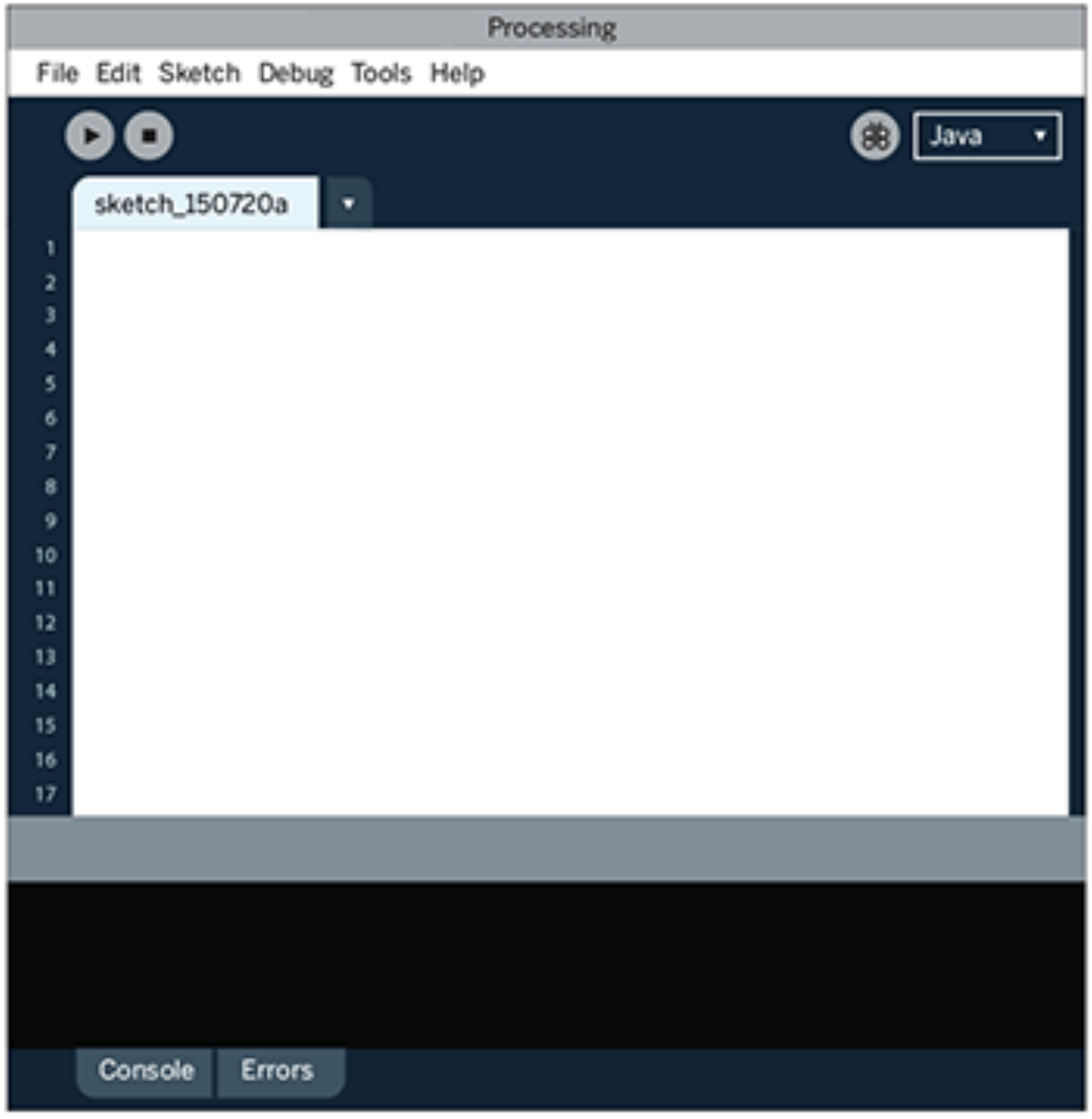
Expressing Data

XY Feng

Processing Overview

Processing IDE

Display Window



Menu

Toolbar

Tabs

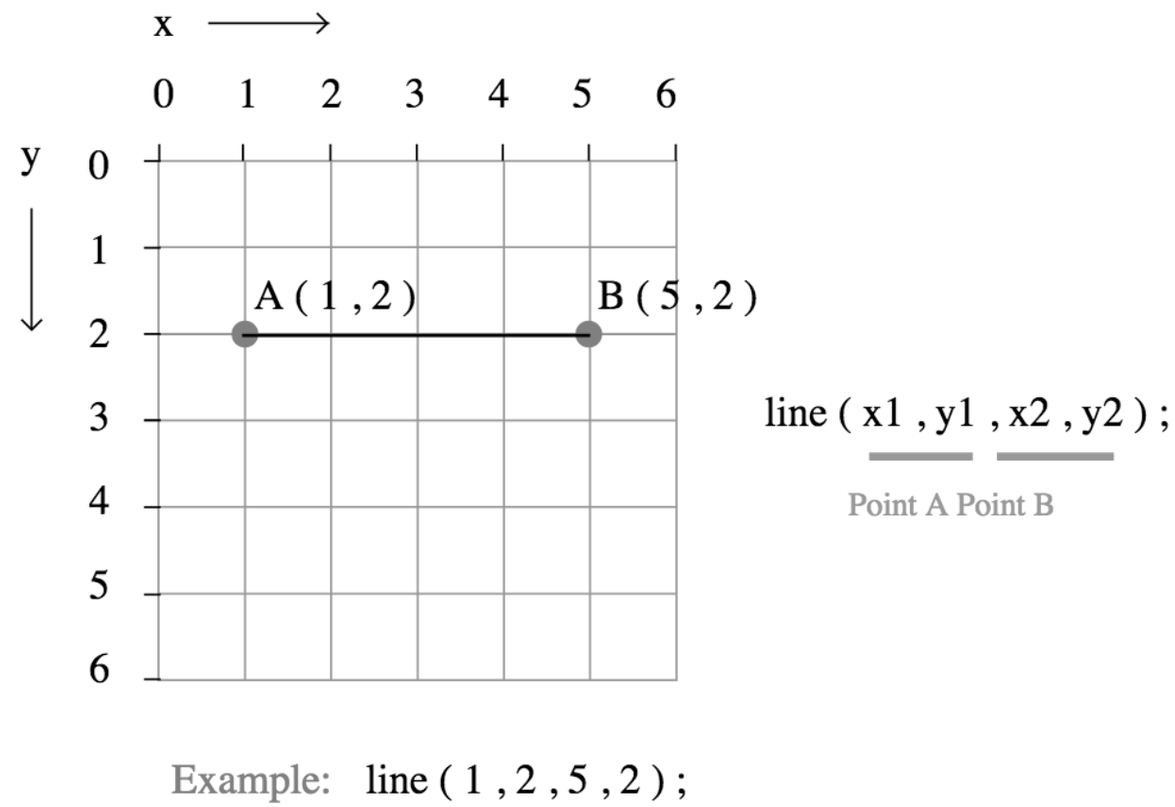
Text Editor

Message Area

Console

Language Elements

```
ellipse(50, 50, 60, 60);
strokeWeight(4);
fill(128);
rect(50, 50, 40, 30);
```



- Commands are case sensitive
- Configure the drawing mode beforehand
- Drawing with parameters

Language Elements

```
void setup()
{
    size(400,400);
    frameRate(30);
}

// looping
void draw()
{
    println(frameCount);
}
```

- runs line by line and comments
- void setup() and void draw()
- canvas size and frameRate

Language Elements

```
int myVariable;
myVariable = 5;

boolean myBoolean = true;

int myInteger = 7;

float myFloat = -3.219;

char myChar = 'A';

String myString = "This is text.";

String[] planets = ["Mercury", "Venus", "Earch"];
println(planets[0]);
```

- variables and data types
- arrays

Language Elements

```
float a = (4 + 2.3) / 7;

String s = "this number is: " + 7 + ".";

int i = myVariables * 50;

float convertedValue = map(aValue, 10, 20, 0 ,1);

int roundedValued = round(2.67); // floor(2.67), (int)2.67

float randomValue = random(-5, 5);

float cosineValue = con(angle);
```

- Mathematics
- Operators

Language Elements

```
if( aNumber == 3 ){
    fill(255);
}
else {
    fill(0);
}

switch ( aNumber ) {
    case 1:
        fill(100);
        break;
    case 2:
        fill(200);
        break;
    default:
        fill(0);
}
```

- Conditions

Language Elements

```
for (int i=0; i <= 5; i++) {
    line(0, 0, i * 20, 100);
}

float myValue = 0;
while( myValue < 100 ){
    myValue = myValue + random(5);
}
```

- Loops

Language Elements

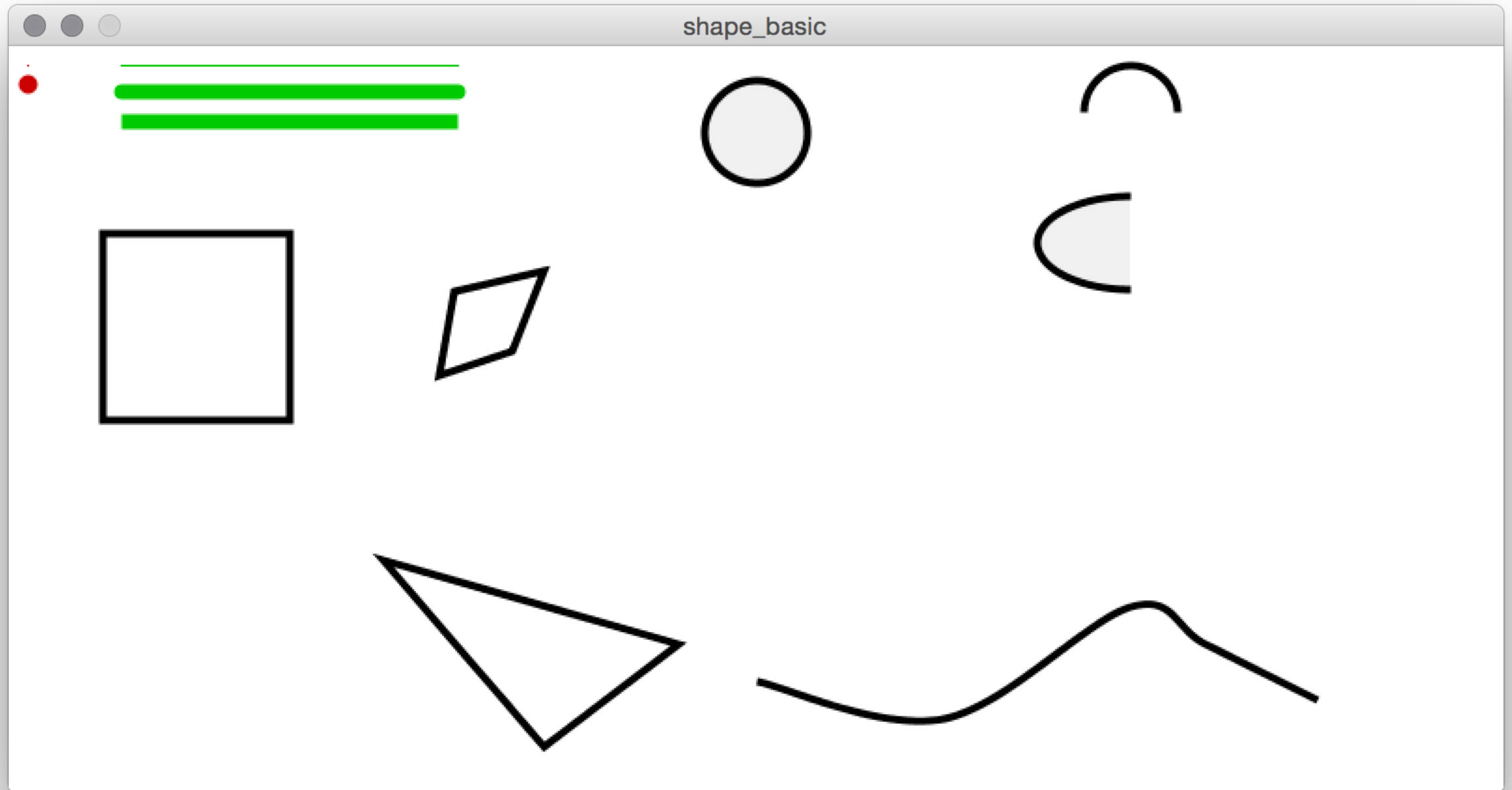
```
void setup() {
    translate(40, 15);
    drawStar();
}

void drawStar(){
    line(0, -10, 0, 10);
    line(-8, -5, 8, 5);
    line(-8, 5, 8, -5);
}
```

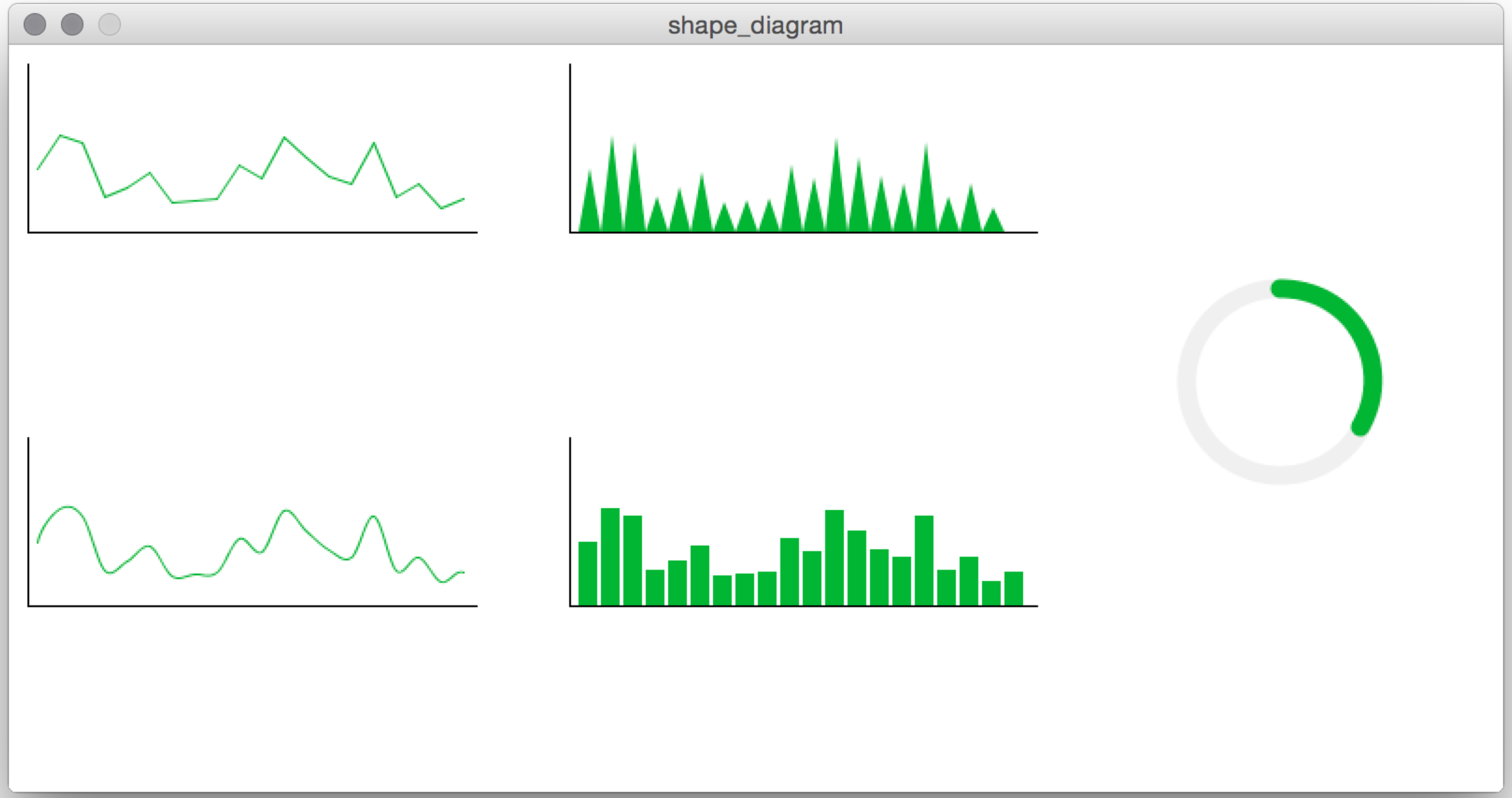
- Functions

Shape

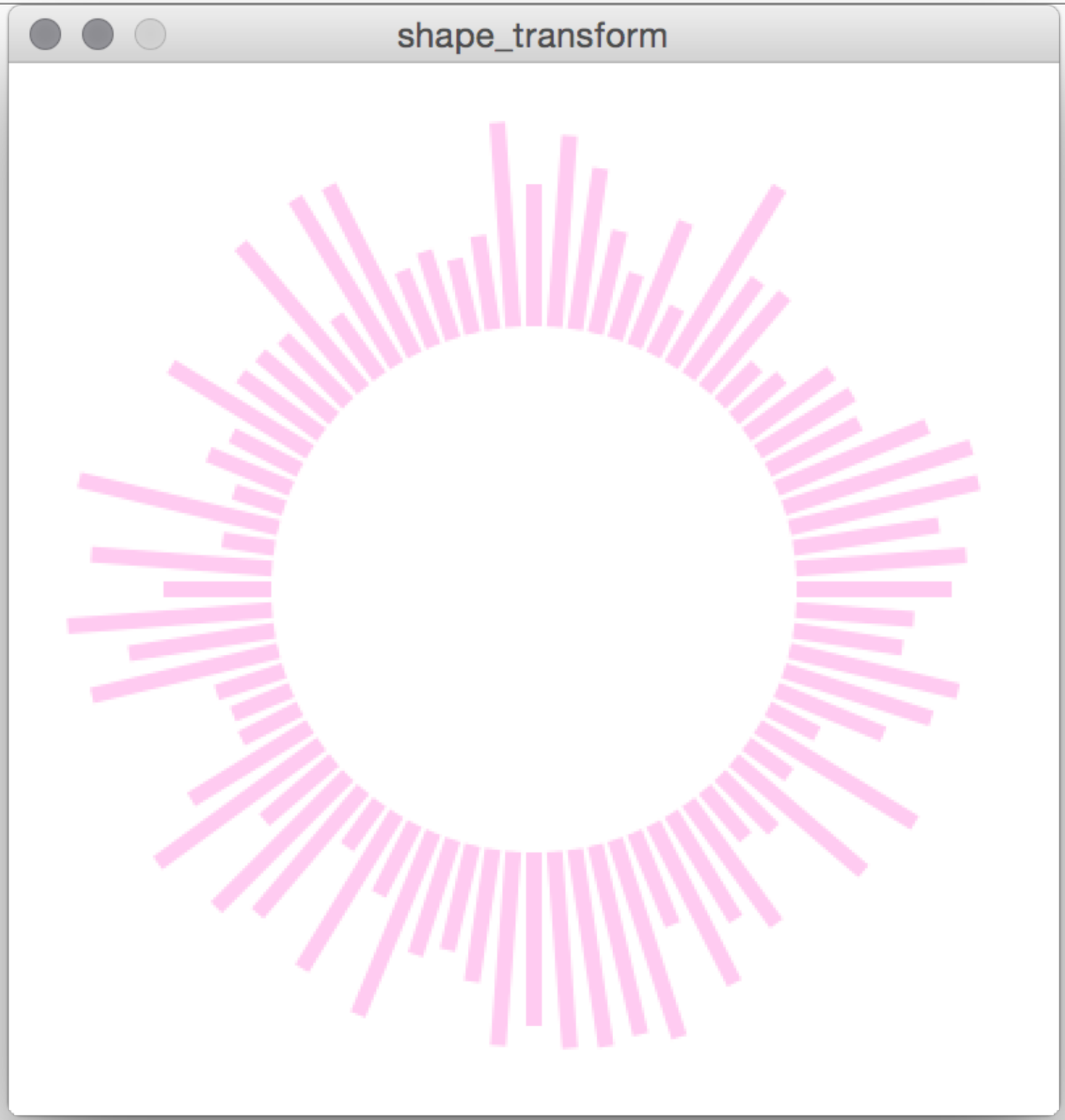
Shape



Shape



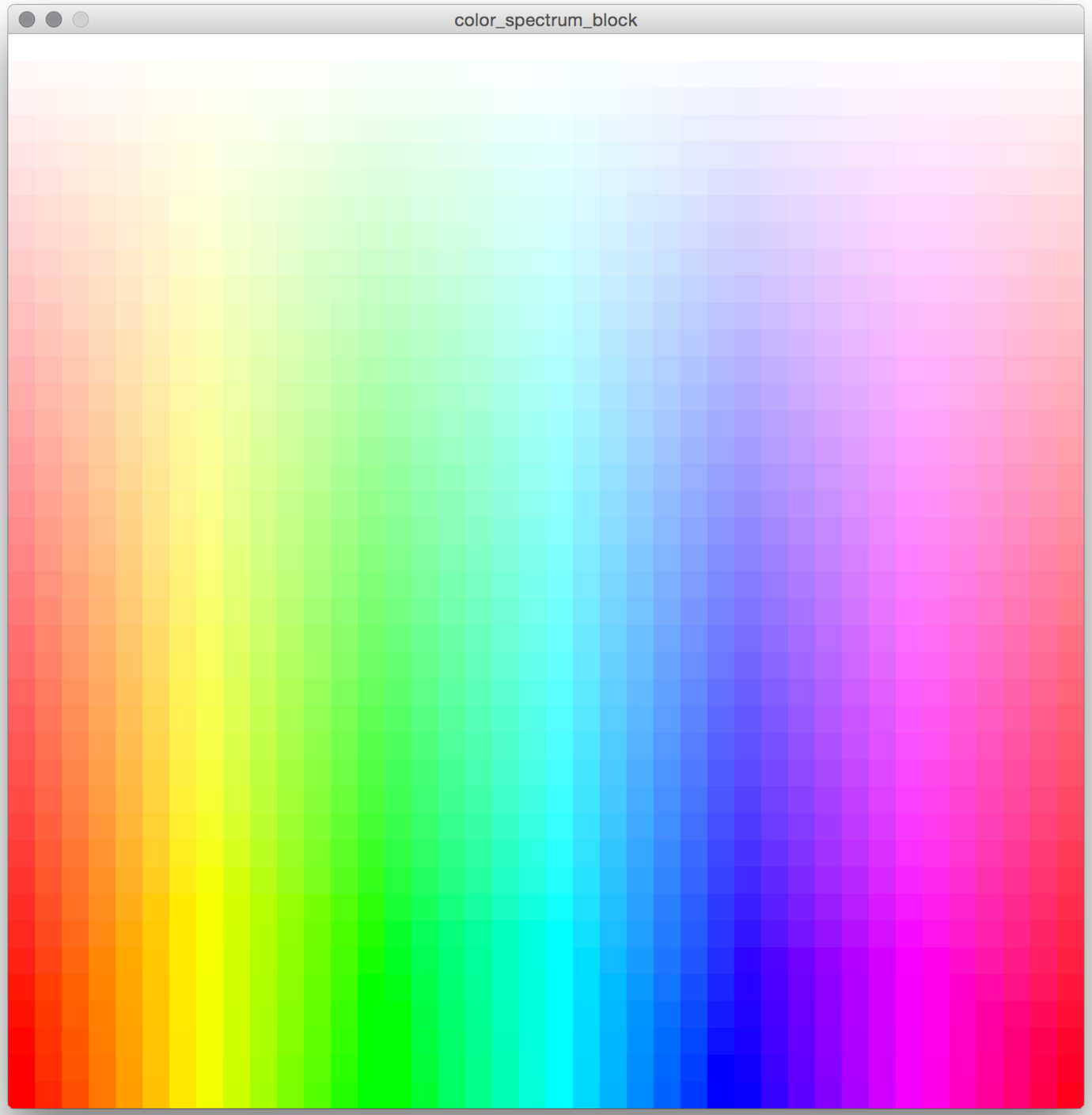
Shape



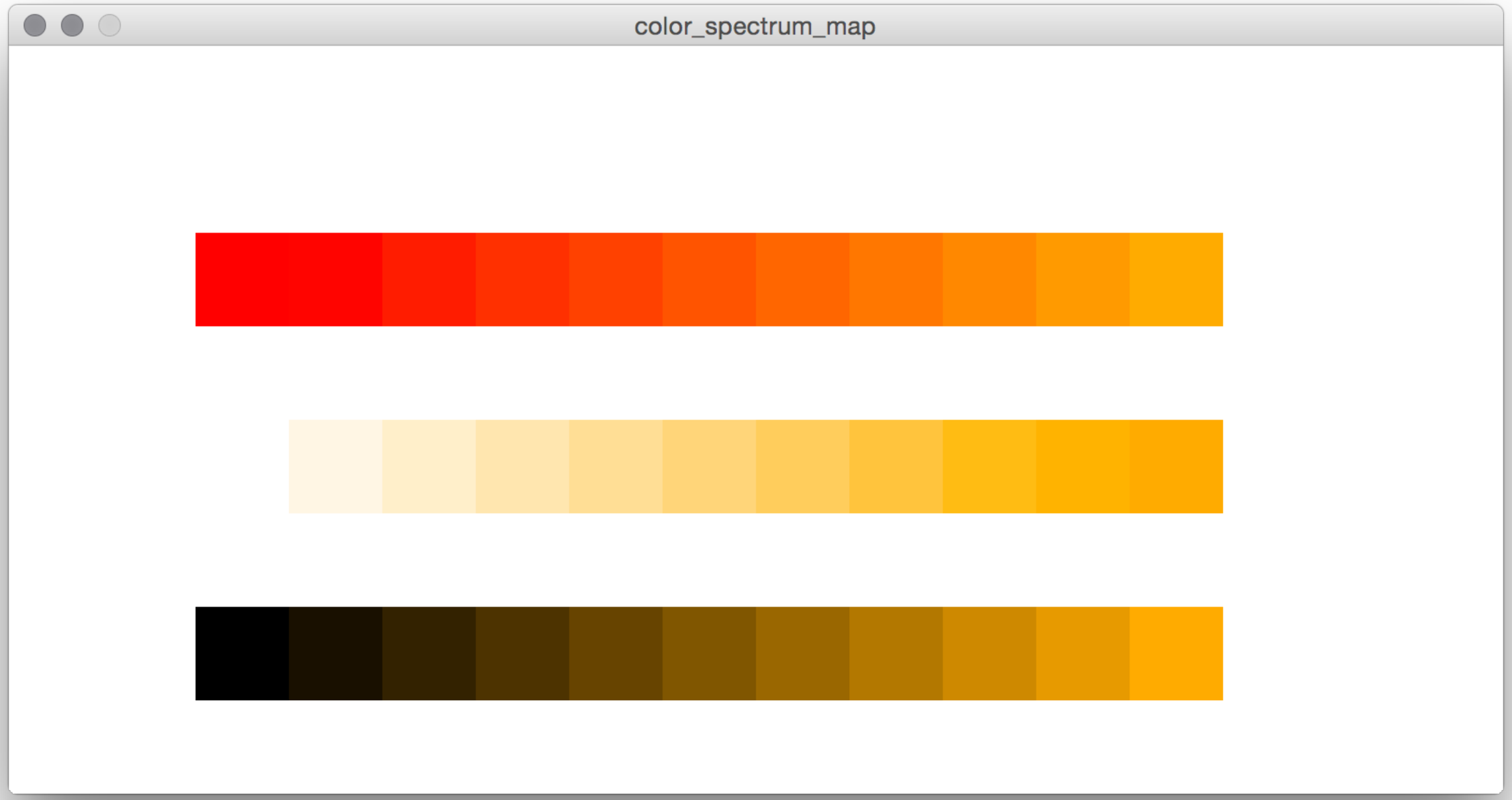
Color

Color

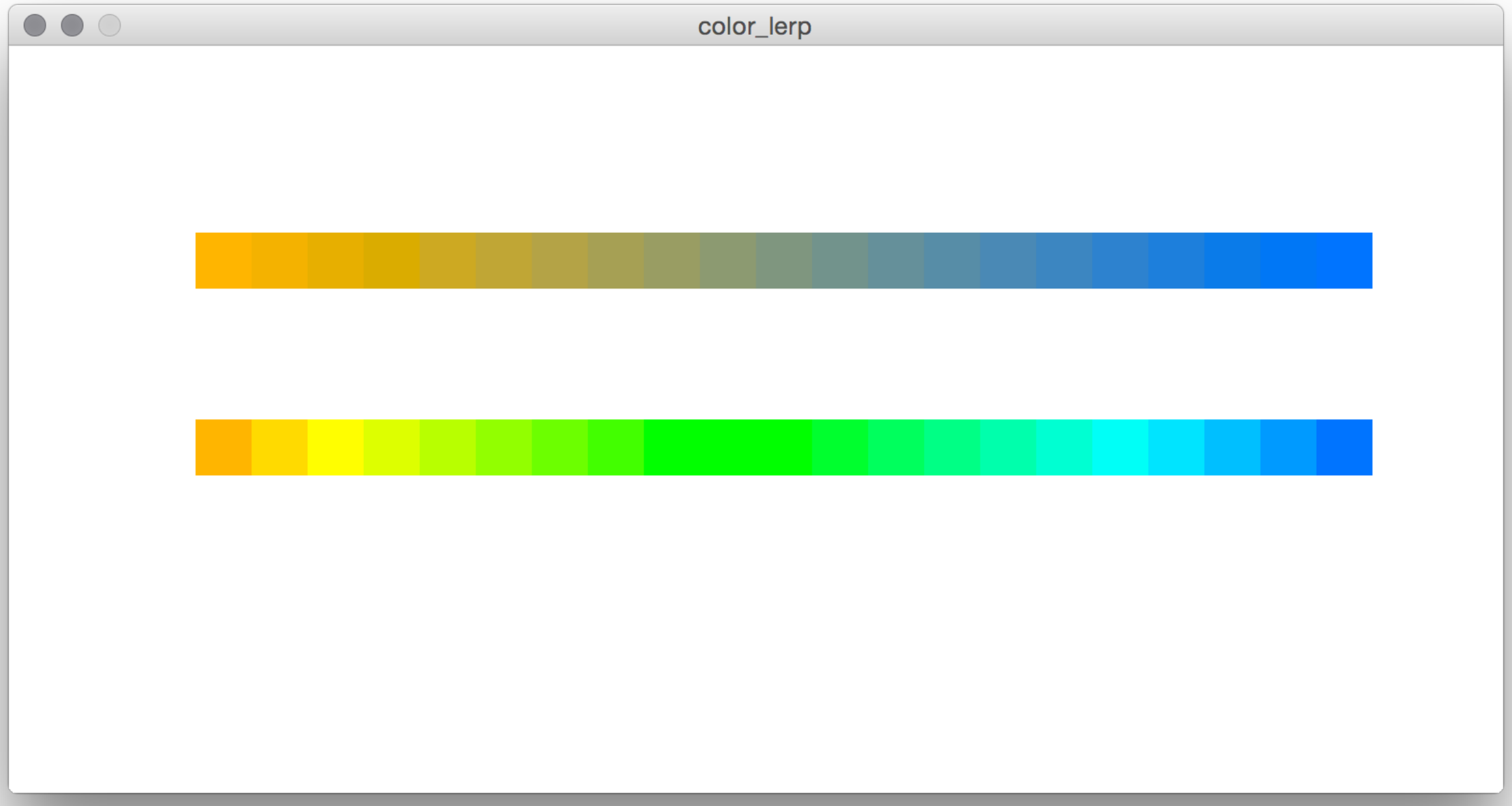
Color



Color



Color



ControlP5

Assignments