Collaborative Processing

Part 3
October 2016

Load and display images

The same way <u>float</u> is a type that can contain numbers, <u>PImage</u> is a type that can contain bitmap images, and <u>PShape</u> can contain vector images.

Loading JPG, PNG, GIF, TIF, TGA

```
// Declare a PImage variable
PImage catPhoto;

// Load an image into the variable
catPhoto = loadImage("cat.png");

// Display the image
image(catPhoto, 100, 100);
```

Loading SVG

```
// Declare a PShape variable
PShape logo;

// Load a vector image into the variable
logo = loadShape("logo.svg");

// Display the vector image
shape(logo, 200, 200);
```

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Load and display images

To add an image to your Processing sketch you have two options:

1) drag and drop the image on top of your sketch window

   or

2) use the `sketch/Add file…` menu option

A "data" folder will be created inside your sketch folder, and the file will be placed inside.

    Right: loadShape("myfile.svg");
    Wrong: loadShape("data/myfile.svg");

Exercise: write a program that loads an image once, then uses a for loop to display it 5 times on each animation frame.

Read image pixel color using .get()

```
// Use colors coming from an image to set the stroke color
PImage img;
size(600, 200);
// load a random image from a website
img = loadImage("http://lorempixel.com/600/600/#.png");
// cover the screen with vertical lines
for (int x=0; x<width; x=x+1) {
  // read the color of a pixel from the image
  color c = img.get(x, 300);
  stroke(c);
  line(x, 0, x, height);
}
```

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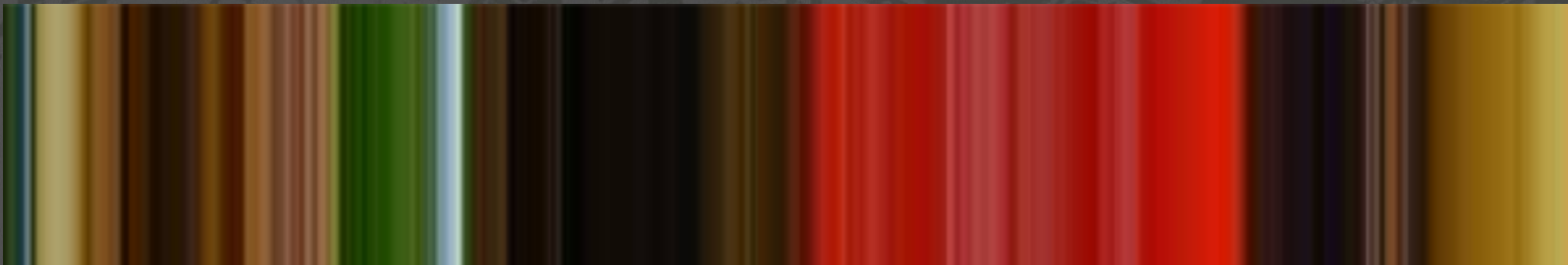
Read image pixel color using .get()

```
// Use colors coming from an image to control the sizes of circles
PImage img;
size(1200, 200);
background(#4c4c4c);
img = loadImage("http://lorempixel.com/1200/200/#.png");
for (int x=50; x<width-50; x=x+1) {
  color c = img.get(x, 100);
  float sz = brightness(c) / 4;
  ellipse(x, 100, sz, sz);
}
save("result.png");
```