pixels

An array containing the color of each pixel in the image.

Colors are stored as numbers representing red, green, blue, and alpha (RGBA) values. `img.pixels` is a one-dimensional array for performance reasons.

Each pixel occupies four elements in the pixels array, one for each RGBA value. For example, the pixel at coordinates (0, 0) stores its RGBA values at `img.pixels[0]`, `img.pixels[1]`, `img.pixels[2]`, and `img.pixels[3]`, respectively. The next pixel at coordinates (1, 0) stores its RGBA values at `img.pixels[4]`, `img.pixels[5]`, `img.pixels[6]`, and `img.pixels[7]`. And so on. The `img.pixels` array for a 100×100 p5.Image object has 100 × 100 × 4 = 40,000 elements.

Accessing the RGBA values for a pixel in the image requires a little math as shown in the examples below. The img.loadPixels() method must be called before accessing the `img.pixels` array. The img.updatePixels() method must be called after any changes are made.

Examples

```
function setup() {
  createCanvas(100, 100);

  background(200);

  // Create a p5.Image object.
  let img = createImage(66, 66);

  // Load the image's pixels.
  img.loadPixels();

  for (let i = 0; i < img.pixels.length; i += 4) {
    // Red.
    img.pixels[i] = 0;
    // Green.
    img.pixels[i + 1] = 0;
    // Blue.
    img.pixels[i + 2] = 0;
    // Alpha.
    img.pixels[i + 3] = 255;
  }

  // Update the image.
  img.updatePixels();

  // Display the image.
  image(img, 17, 17);

  describe('A black square drawn in the middle of a gray
square.');
}
```

```
function setup() {
  createCanvas(100, 100);

  background(200);

  // Create a p5.Image object.
  let img = createImage(66, 66);

  // Load the image's pixels.
  img.loadPixels();

  // Set the pixels to red.
  for (let i = 0; i < img.pixels.length; i += 4) {
    // Red.
    img.pixels[i] = 255;
    // Green.
    img.pixels[i + 1] = 0;
    // Blue.
    img.pixels[i + 2] = 0;
    // Alpha.
    img.pixels[i + 3] = 255;
  }

  // Update the image.
  img.updatePixels();

  // Display the image.
  image(img, 17, 17);

  describe('A red square drawn in the middle of a gray
square.');
```

This page is generated from the comments in src/image/p5.Image.js . Please feel free to edit it and submit a pull request!

Related References

blend
Copies a region of pixels from another image into this one.

copy
Copies pixels from a source image to this image.

delay
Changes the delay between frames in an animated GIF.

filter
Applies an image filter to the image.