

pixels

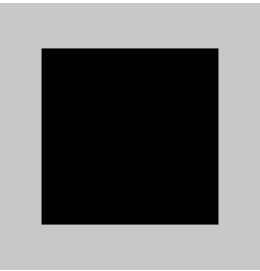
An array containing the color of each pixel in the image.

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 $100 \times 100 \times 4 = 40,000$ 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);

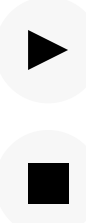
  // Load the image's pixels.
  img.loadPixels();

  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.

p5.js

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