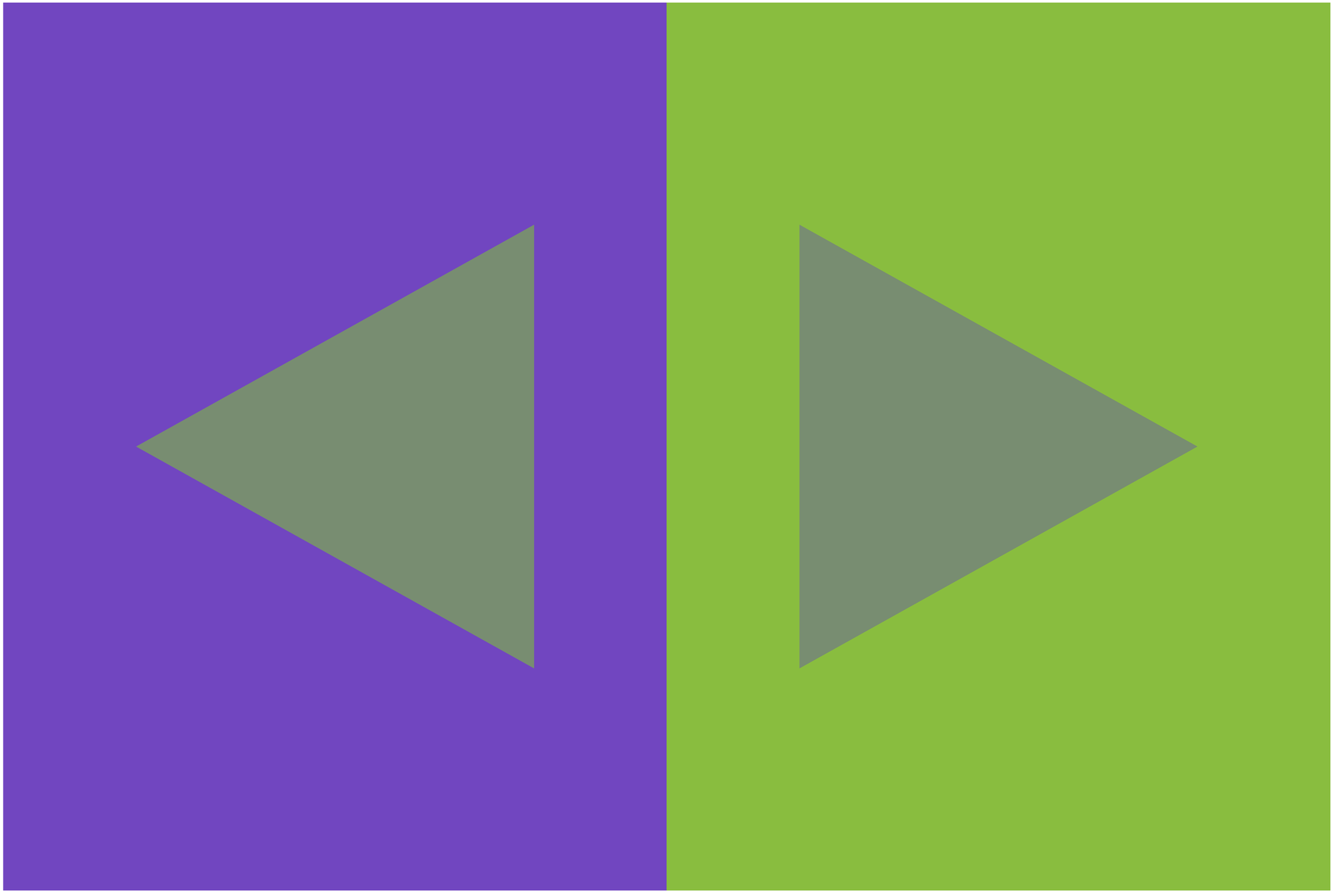
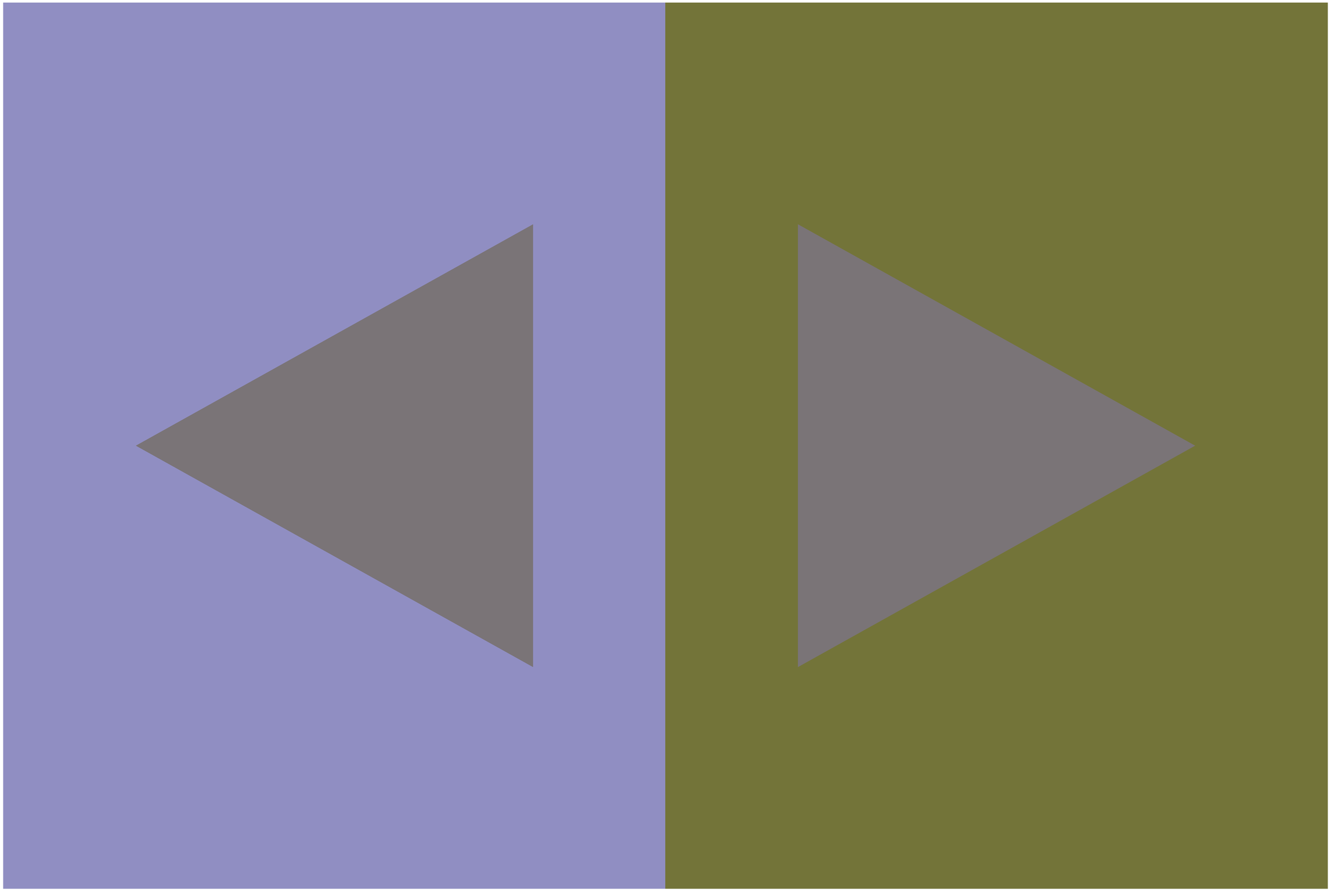
THE COLORIST COOKBOOK

"ALL COLORS ARE THE FRIENDS OF THEIR NEIGHBORS AND THE LOVERS OF THEIR OPPOSITES."

0xFF7146C0 0xFF89BD3F 0xFF788D71



0xFF908EC2 0xFF737439 0xFF7A7477

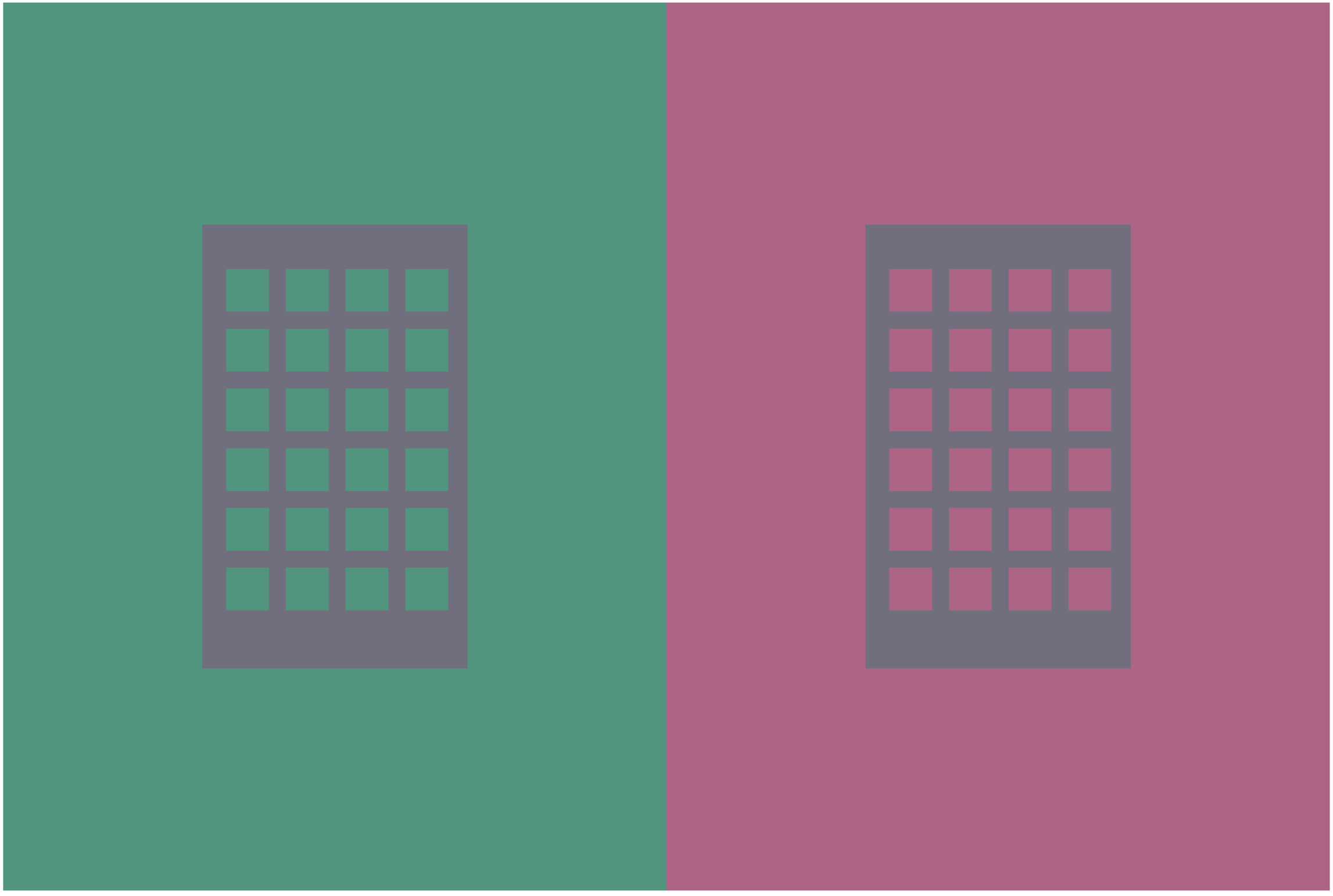


0xFF7BA55F 0xFF7F5EA3 0xFF6F7A8C

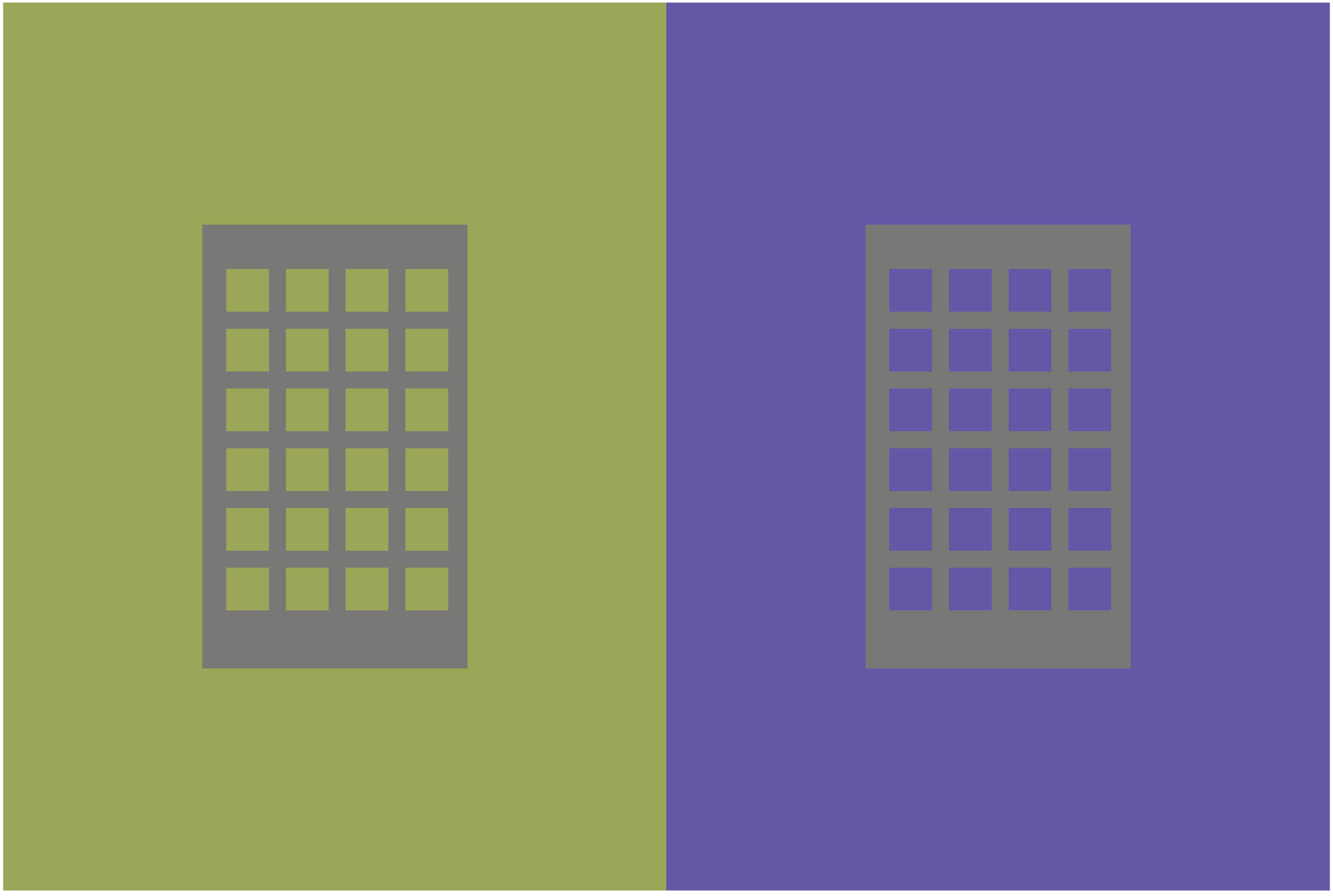
```
// recipe for simple simultaneous contrast

// prepare the first color
float r_col1 = random(2,84) + random(2,84) + random(2,84);
float g_col1 = random(2,84) + random(2,84) + random(2,84);
float b_col1 = random(2,84) + random(2,84) + random(2,84);

color col1 = color(r_col1, g_col1, b_col1);

// prepare the color opposite to the first color
// season with a touch of randomness
color col2 = color(255 - r_col1 + random(-7,7),
                   255 - g_col1 + random(-7,7),
                   255 - b_col1 + random(-7,7));

// evenly mix the first two colors to create
// the 'middle' color
// (recommended) season with randomness
color mid = color((r_col1+red(col2))/2f + random(-15,15),
                  (g_col1+green(col2))/2f + random(-15,15),
                  (b_col1+blue(col2))/2f + random(-15,15)) ;

// pre-translate the transformation matrix
// to the size of your margins
pushMatrix();
translate(margin, margin);

rectMode(CORNER);

// arrange opposing colors beside each other
```

```
fill(col1);
stroke(col1);
rect(0,0,pgwidth/2f,pgheight);
fill(col2);
stroke(col2);
rect(pgwidth/2f,0,pgwidth/2f,pgheight);

// top with the middle color
fill(mid);
noStroke();

triangle(pgwidth*0.1,pgheight/2f,pgwidth*0.4,pgheight/4f, pgwidth*0.4,pgheight*0.75);
triangle(pgwidth*0.9,pgheight/2f,pgwidth*0.6,pgheight/4f, pgwidth*0.6,pgheight*0.75);

popMatrix();
```

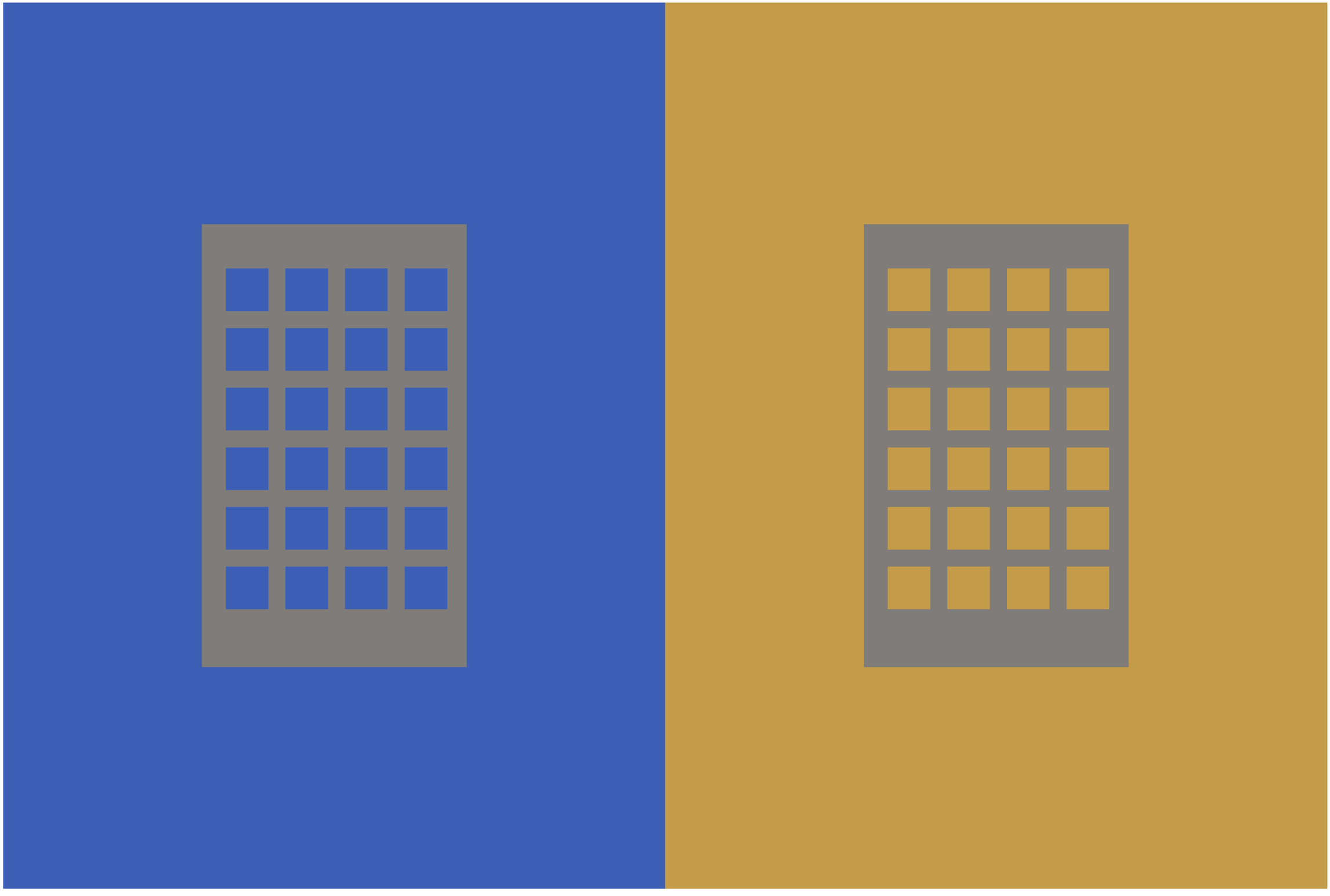
0xFF51957E 0xFFAC6585 0xFF716F7E



0xFF9CA658 0xFF6457A6 0xFF797877



0xFF3C5FB5 0xFFC39B49 0xFF7F7C7A

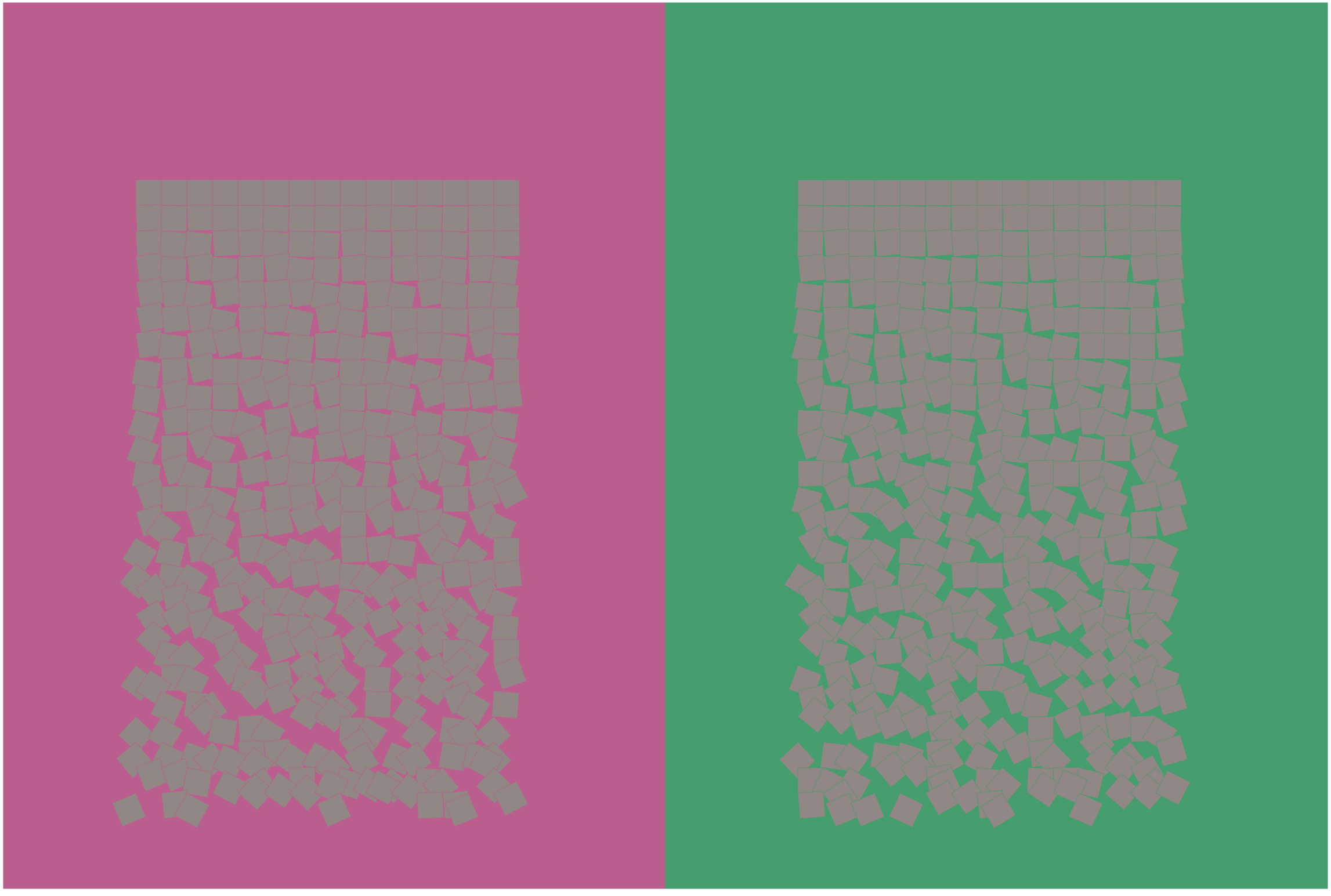


```
// recipe for holed simultaneous contrast

// prepare the first color
float r_col1 = random(2,84) + random(2,84) + random(2,84);
float g_col1 = random(2,84) + random(2,84) + random(2,84);
float b_col1 = random(2,84) + random(2,84) + random(2,84);

color col1 = color(r_col1, g_col1, b_col1);

// prepare the 'opposite' color to the first color
// season with a touch of randomness
color col2 = color(255 - r_col1 + random(-7,7),
                   255 - g_col1 + random(-7,7),
                   255 - b_col1 + random(-7,7));

  // evenly mix the first two colors to create
  // the 'middle' color
  // (recommended) season with randomness
  color mid = color((r_col1+red(col2))/2f + random(-15,15),
                    (g_col1+green(col2))/2f + random(-15,15),
                    (b_col1+blue(col2))/2f + random(-15,15)) ;

  // pre-translate the transformation matrix
  // to the size of your margins
  pushMatrix();
  translate(margin, margin);

  rectMode(CORNER);

  // arrange opposing colors beside each other
```

```
fill(col1);
stroke(col1);
rect(0,0,pgwidth/2f,pgheight);
fill(col2);
stroke(col2);
rect(pgwidth/2f,0,pgwidth/2f,pgheight);

// top with the middle color
rectMode(CENTER);
fill(mid);
noStroke();
rect((pgwidth)/4f,pgheight/2f,pgwidth/5f,pgheight/2f);
rect((pgwidth*3f)/4f,pgheight/2f,pgwidth/5f,pgheight/2f);

// slice holes in the middle for a more dramatic effect
// waffle aesthetic
rectMode(CORNER);
fill(col1);
for(int rows = 0; rows < 6; rows++) {
  for(int cols = 0; cols < 4; cols++) {
    rect(pgwidth * 0.168 + 140*cols, pgheight * 0.3 + 140*rows,100,100);
  }
}

fill(col2);
float rand3 = random(-350,350);
float rand4 = random(-250,250);
pushMatrix();
```

```
  for(int cols = 0; cols < 4; cols++) {
    rect(pgwidth * 0.668 + 140*cols, pgheight * 0.3 + 140*rows,100,100);
  }
}
popMatrix();

popMatrix();
```

0xFFBA5F8D 0xFF469D6E 0xFF918784

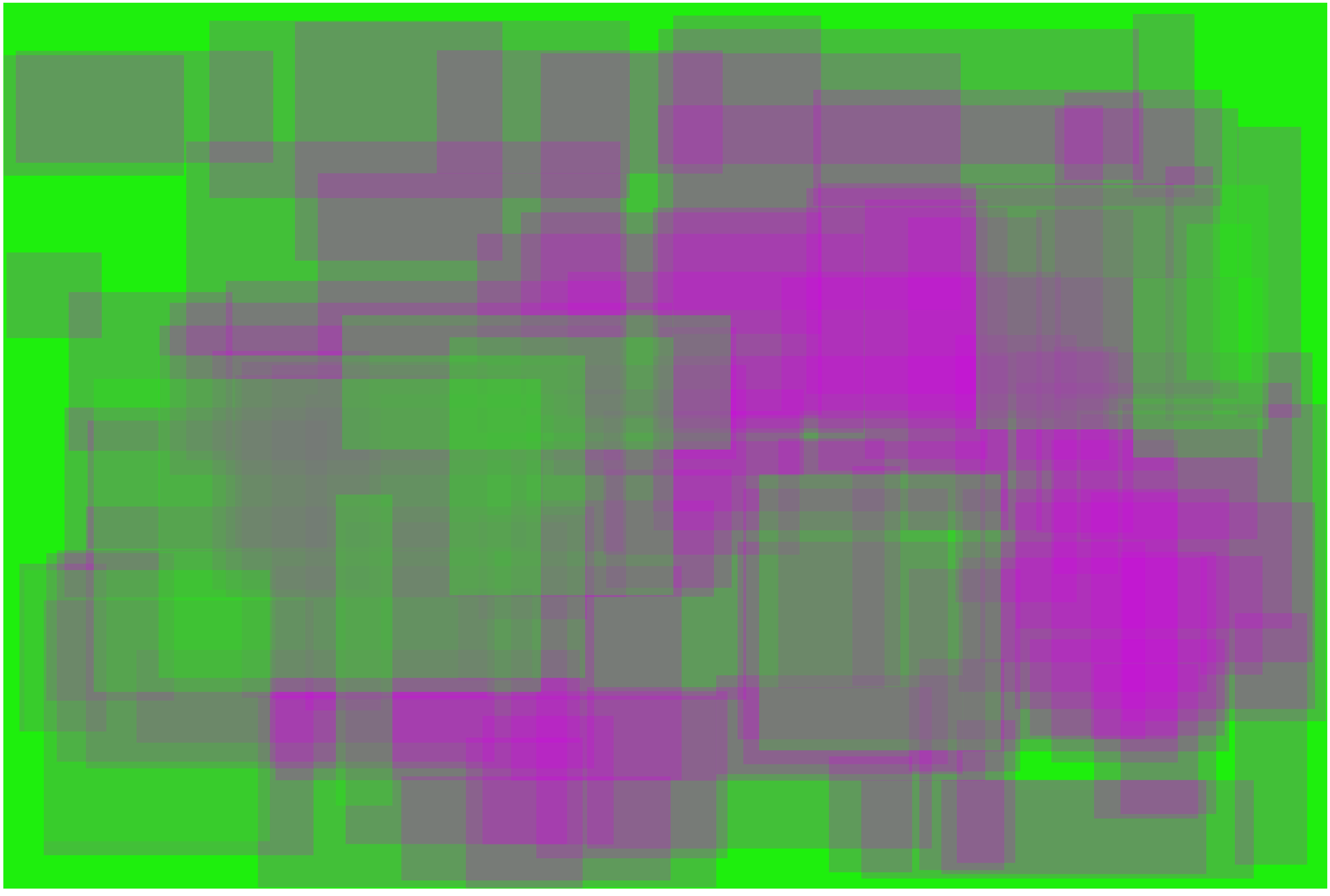


```
// recipe for schotter simultaneous contrast

// prepare the first color
float r_col1 = random(2,84) + random(2,84) + random(2,84);
float g_col1 = random(2,84) + random(2,84) + random(2,84);
float b_col1 = random(2,84) + random(2,84) + random(2,84);

color col1 = color(r_col1, g_col1, b_col1);

// prepare the 'opposite' color to the first color
// season with a touch of randomness
color col2 = color(255 - r_col1 + random(-7,7),
                   255 - g_col1 + random(-7,7),
                   255 - b_col1 + random(-7,7));

  // evenly mix the first two colors to create
  // the 'middle' color
  // (recommended) season with randomness
  color mid = color((r_col1+red(col2))/2f + random(-20,20),
                    (g_col1+green(col2))/2f + random(-20,20),
                    (b_col1+blue(col2))/2f + random(-15,15)) ;

  // pre-translate the transformation matrix
  // to the size of your margins
  pushMatrix();
  translate(margin, margin);

  rectMode(CORNER);

  // arrange opposing colors beside each other
```

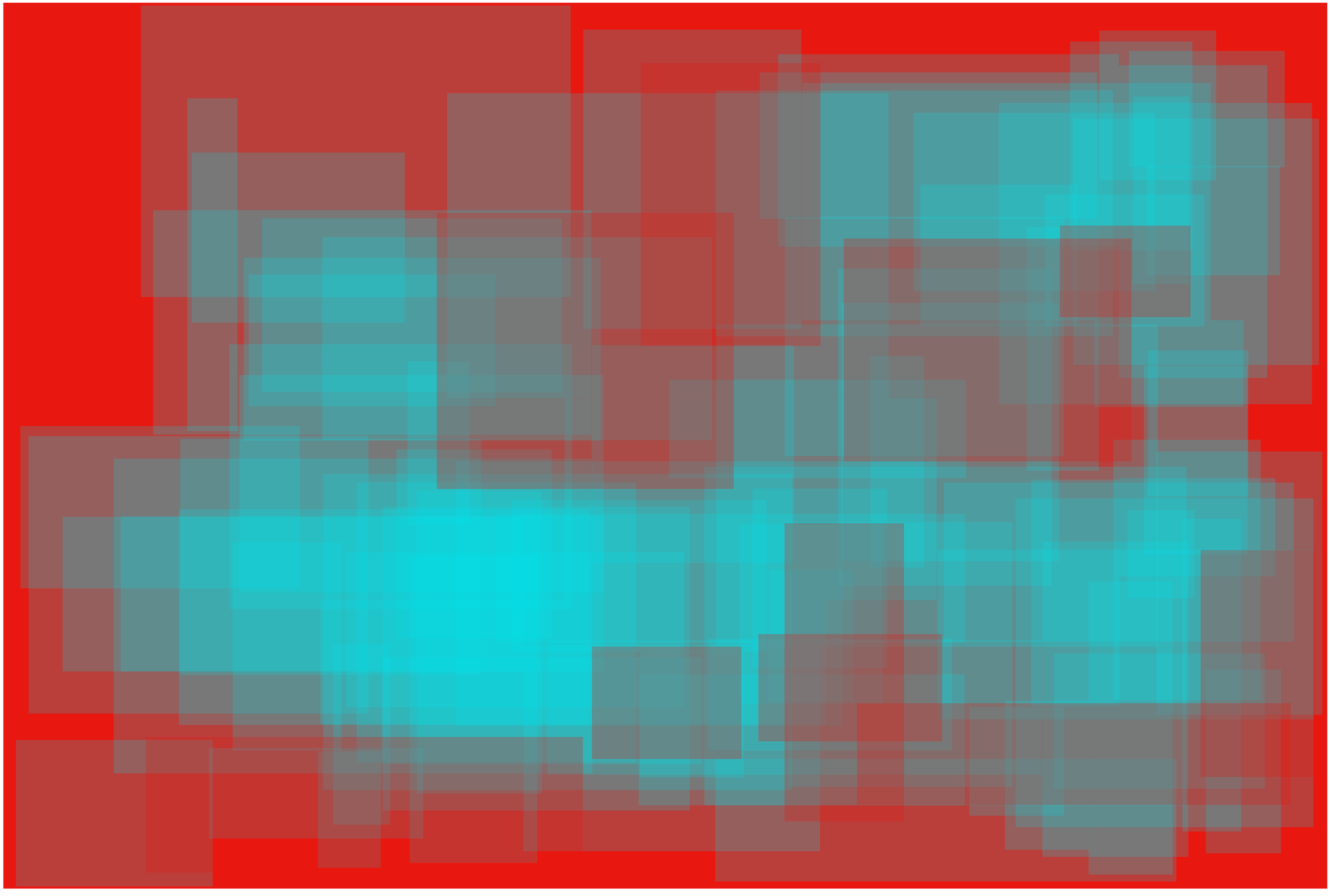
```
fill(col1);
stroke(col1);
rect(0,0,pgwidth/2f,pgheight);
fill(col2);
stroke(col2);
rect(pgwidth/2f,0,pgwidth/2f,pgheight);

// arrange squares in a Georg Nees fashion
rectMode(CORNER);
fill(mid);
stroke(col1);
for(int rows = 0; rows < 25; rows++) {
  for(int cols = 0; cols < 15; cols++) {
    pushMatrix();
    translate(pgwidth * 0.1 + 60*cols, pgheight * 0.2 + 60*rows);
    // let squares scatter more near the bottom
    float rotamnt = random(-rows*0.05,rows*0.05);
    rotate(rotamnt);
    rect(0,0,60,60);
    popMatrix();

  }
}
// repeat previous step
rectMode(CORNER);
fill(mid);
stroke(col2);
for(int rows = 0; rows < 25; rows++) {
  for(int cols = 0; cols < 15; cols++) {
```

```
    translate(pgwidth * 0.6 + 60*cols, pgheight * 0.2 + 60*rows);
    float rotamnt = random(-rows*0.05,rows*0.05);
    rotate(rotamnt);
    rect(0,0,60,60);
    popMatrix();

  }
}

popMatrix();
```

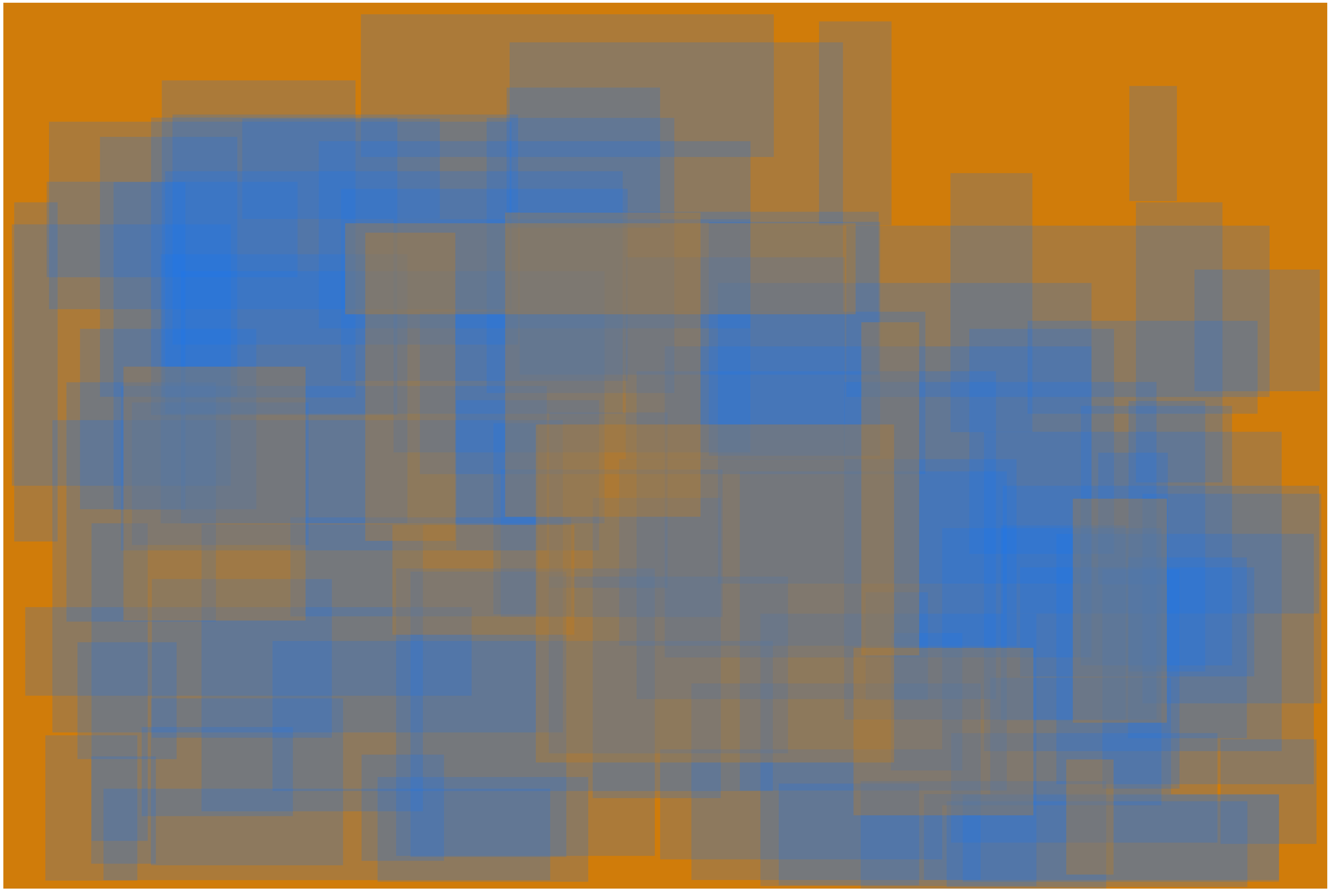
0xFFDA00EC 0xFF1EEF0D



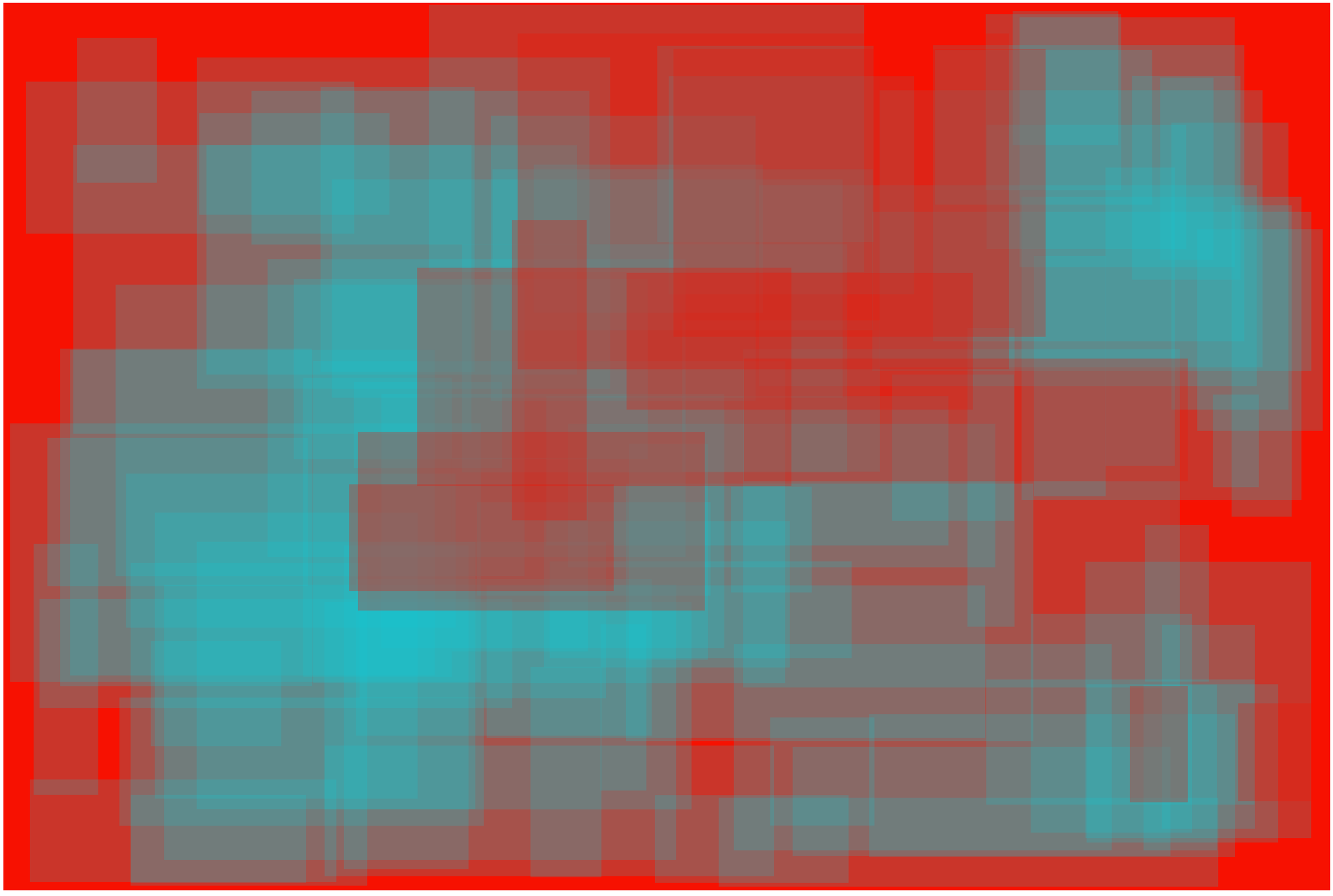
0xFF02E3EB 0xFFE81811



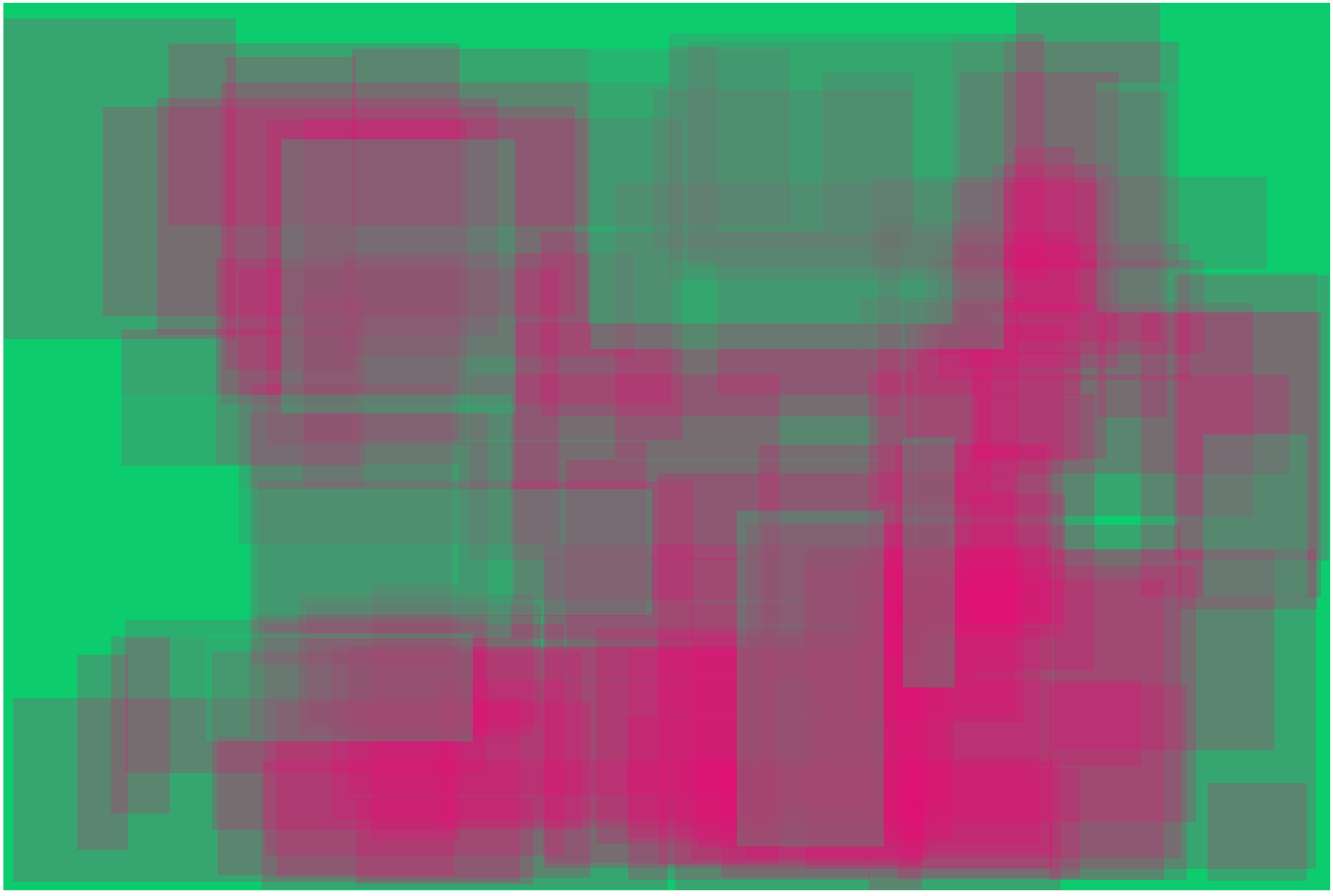
0xFF1576FA 0xFFD07C0A



0xFF13CAD6 0xFFF71101



0xFFEC0978 0xFF0CCC6E



```
// recipe for using bridging colors

// switch working color mode to HSB
// before preparing the foreground color
colorMode(HSB,360,100,100);
color col1 = color(random(0,360), random(90,100), random(80,100));

rectMode(CORNER);
pushMatrix();
translate(margin, margin);
noStroke();

// glaze with the background color, which is opposite from the foreground color
// add a touch of randomness
color bg = color((hue(col1)+180)%360, random(90,100), random(80,100));
fill(bg);
rect(0, 0, pgwidth,pgheight);

// randomly add 90 slices of the foreground color
for(int i = 0; i < 90; i++) {
  float posX = random(0, pgwidth-200);
  float posY = random(0, pgheight-200);

  float rectw = random(100, min(1200, pgwidth-posX));
  float recth = random(200, min(800, pgheight-posY));

  // the slices can overlap with each other,
  // but they must be thin
  // like prosciutto
```

```
    rect(posX, posY, rectw,recth);

  }

  // for balance, top with a few thin slices of the background color
  for(int i = 0; i < 10; i++) {
    float posX = random(0, pgwidth-200);
    float posY = random(0, pgheight-200);

    float rectw = random(100, min(1200, pgwidth-posX));
    float recth = random(200, min(800, pgheight-posY));

    fill(bg,70);
    rect(posX, posY, rectw,recth);
  }

  popMatrix();
```

0xFF100A0C
0xFF44161F
0xFF732D33
0xFF994542
0xFFC97761
0xFFF1636D
0xFFFEE991
0xFF576867

0xFF9B908C
0xFFB7D3C8
0xFFDBD7CE
0xFF67A0C1
0xFF85E9C8
0xFFF07D9C
0xFFFCF4F7
0xFF7E555B
0xFF543C3F
0xFF300F47
0xFFC961AC
0xFF0C0618

0xFFC8B8A8

0xFF9FBDB8

0xFF7BAAAA

0xFFEBD9CA

0xFF5299B6

0xFF2B95B9

0xFF0A7BA9

0xFF475E4C

0xFFEE7B5D

0xFF6C5A56

0xFFB27457

0xFF914A33

0xFFDCC6B8

0xFFB39C8E

0xFF8E7066

0xFF63463B

0xFF3C221A

0xFF1A0402

0xFFFCEFE7

0xFF835B00
0xFFA58202
0xFFC7AC03
0xFFE9DA03
0xFF604304
0xFF3D2501
0xFF19130A
0xFF917E70
0xFF33795C
0xFF65926E

0xFF492D39
0xFF26616E
0xFF03817D
0xFF4A948C
0xFE84C5B5
0xFFACE6D3
0xFFD2FFE1
0xFFF8FFC1
0xFF8A5D6E
0xFF1D0E09
0xFFAC4F48
0xFFCD6973
0xFFE82F25
0xFF6D262D

```
// recipe for palette grabber

// prepare initial ingredients
ArrayList<Pixel> colors = new ArrayList<Pixel>();
float tolerance = 50.0;
int totalCount = 0;
float proptolerance = 0.005;
PImage[] images = new PImage[6];

public class Pixel {
  public color pixelcolor;
  public int count;
}

float colorDist(color c1, color c2) {
  float r = red(c1) - red(c2);
  float g = green(c1) - green(c2);
  float b = blue(c1) - blue(c2);

  return sqrt(sq(r) + sq(g) + sq(b));
}

void addPixel(color currpix) {
  Pixel p = new Pixel();
  p.pixelcolor = currpix;
  p.count = 1;
  colors.add(p);
  totalCount++;
}
```

```
boolean notBlackorWhite(color col)  {
  return ((col != 0.0) && (col != 255.0));
}

void palettePage(int imgindex)  {
  totalCount = 0;

  // rinse palette before use
  for(int i = colors.size()-1; i >= 0 ; i--)  {
     colors.remove(i);
  }

  int iwidth = images[imgindex].width;
  int iheight = images[imgindex].height;
  images[imgindex].resize(0,  (int)pgheight);
  float palettepos = images[imgindex].width + 50;

// extract colors from image
// and add them to the palette
for(int i = 0; i < iheight; i++)  {
  for(int j = 0; j < iwidth; j++)  {
    color currpix = images[imgindex].get(i,j);

    if(notBlackorWhite(currpix))  {
      if(colors.size()  == 0)  {
        addPixel(currpix);
      }

      else  {
```

```
boolean foundMatch = false;
int prevIdx = 0;
float minDist = 0.0;

// look through existing colors in the palette
for(idx = 0; idx < colors.size(); idx++) {
  float currDist = colorDist(currpix, colors.get(idx).pixelcolor);
  // if the color is in the palette
  if(currDist < tolerance) {
        // increase the count for the palette color closest to
        // the current pixel
        if(foundMatch && (currDist < minDist)) {
          colors.get(idx).count++;
          colors.get(prevIdx).count--;
          prevIdx = idx;
          minDist = currDist;
        }
        else if(!foundMatch) {
          colors.get(idx).count++;
          totalCount++;
          foundMatch = true;
          prevIdx = idx;
          minDist = currDist;
        }
      }
}

if(!foundMatch) {
```

```
        }

      }
    }
  }
}

int netCount = totalCount;
for(int idx = 0; idx < colors.size(); idx++) {
  float prop = colors.get(idx).count / ((float)totalCount);

  if(prop < proptolerance) {
    netCount -= colors.get(idx).count;
  }
}
rectMode(CORNER);
float ypos = 0f;

pushMatrix();
// place image a little to the right of your margins
translate(margin + 700, margin);
image(images[imgindex], 0,0);

// place palette beside image
for(int idx = 0; idx < colors.size(); idx++) {
  float prop = colors.get(idx).count / ((float)netCount);
  if(prop >= proptolerance) {
    float rheight = pgheight*prop;
```

```
    color paletteColor = colors.get(idx).pixelcolor;

    stroke(paletteColor);
    fill(paletteColor);
    rect(palettepos, ypos, 300, rheight);

    // top it off with the hex value for the colors
    textFont(mainFont, 40);
    fill(paletteColor);
    text("0x"+hex(paletteColor), palettepos + 350, ypos+30);

    ypos += rheight;

  }
}
```

```
  popMatrix();

}
```