

Potato Print Programming

Processing P5 in editor.p5js.org



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Draw!

The screenshot displays the p5.js web editor interface. At the top, there's a browser address bar showing 'editor.p5js.org'. Below it is a menu bar with 'File', 'Edit', 'Sketch', and 'Help'. On the right of the menu bar, it says 'Hello, stevebattle!' and 'My Account'. Below the menu bar is a toolbar with a play button, a square button, a checkbox for 'Auto-refresh', the text 'one potato' with a pencil icon and 'by stevebattle', and a settings gear icon. The main workspace is divided into two panels: a code editor on the left and a preview window on the right. The code editor shows a file named 'sketch.js' with the following code:

```
1 // setup() is run once when the program starts
2 // the draw() is run repeatedly
3
4 // create a drawing area with
5 // createCanvas(screen width, screen height)
6
7 function setup() {
8   createCanvas(400, 400);
9 }
10
11 // Draw a circle, specifying centre and diameter
12 // screen coordinates start at x=0,y=0 for the top-left
13 // They go up to x=width, y=height at the bottom-right
14 // circle(x, y, diameter)
15
16 function draw() {
17   circle(200, 200, 100);
18 }
19
```

The preview window on the right shows a white circle centered on a light gray background. At the bottom of the interface is a console panel with the label 'Console' and a 'Clear' button with a dropdown arrow.

Painting in colour

The screenshot displays the p5.js web editor interface. At the top, the browser address bar shows 'editor.p5js.org'. The p5.js logo is on the left, and the user 'stevebattle!' is logged in on the right. Below the navigation bar, there are icons for running the sketch (a play button), a black square, and a checked 'Auto-refresh' option. The sketch title is 'two potato' by 'stevebattle'. The main workspace is divided into two panels: a code editor on the left and a preview window on the right. The code editor shows a sketch.js file with the following code:

```
1 function setup() {  
2   createCanvas(400, 400);  
3 }  
4  
5 // What colour paint did you use?  
6 // Set the fill colour of the next shape to be drawn  
7 // You can also add noStroke() to remove the outline  
8  
9 function draw() {  
10   fill('red');  
11   noStroke();  
12   circle(200, 200, 100);  
13 }  
14
```

The preview window on the right shows a large red circle centered on a white background, which is the result of the code executed. At the bottom of the code editor, there is a 'Console' panel with a 'Clear' button and a dropdown arrow.

Dare to be square

The screenshot shows the p5.js editor interface. The browser address bar displays `editor.p5js.org`. The p5.js logo is in the top left, and the user is logged in as 'stevebattle!'. The sketch is named 'three potato' and is by 'stevebattle'. The code in `sketch.js` is as follows:

```
1 function setup() {  
2   createCanvas(400, 400);  
3 }  
4  
5 // A square is a rectangle with equal width and height  
6 // A square's x,y 'anchor point' is its top-left corner  
7 // rect(x, y, width, height)  
8  
9 // You can draw many shapes  
10  
11 function draw() {  
12   circle(200,200,100);  
13   rect(0, 0, 100, 100);  
14 }  
15
```

The preview area shows a square and a circle. The square is located in the top-left corner of the canvas, and the circle is located in the center. The console is empty.

Triangulate

editor.p5js.org


p5* File Edit Sketch Help Hello, stevebattle! | My Account

Auto-refresh four potato by stevebattle

sketch.js Saved: just now Preview

```
1 function setup() {
2   createCanvas(400, 400);
3 }
4
5 // Work out the coordinates of each vertex(x,y)
6 // using a ruler or graph-paper
7 // e.g. The x,y vertices below are:
8 // 200,200
9 // 300,200
10 // 250,120
11
12 function draw() {
13   triangle(200,200,300,200,250,120);
14 }
15
```

Console Clear



Origin story

The screenshot shows the p5.js editor interface. The browser address bar displays `editor.p5js.org`. The p5.js logo is in the top left, and the user is logged in as `stevebattle!`. The sketch is titled `five potato` by `stevebattle`. The code in `sketch.js` is as follows:

```
1 function setup() {  
2   createCanvas(400, 400);  
3 }  
4  
5 // We can translate the origin 0,0 to the centre  
6 // We can also move the x,y anchor point of the  
7 // square to its CENTER - US spelling only :(  
8 // (the default mode is CORNER)  
9 // This draws a square dead centre 0,0  
10  
11 function draw() {  
12   translate(200,200);  
13   rectMode(CENTER);  
14   rect(0,0,100,100);  
15 }  
16
```

The preview window shows a white square centered on a light gray background. The console at the bottom is empty and has a 'Clear' button.

Turn squares into diamonds

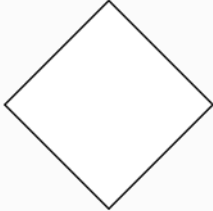
editor.p5js.org

p5* File Edit Sketch Help & Feedback Hello, stevebattle! My Account

Auto-refresh six potato by stevebattle

sketch.js Saved: about 1 hour ago Preview

```
1 function setup() {  
2   createCanvas(400, 400);  
3 }  
4  
5 // We can rotate the canvas before drawing a square  
6 // Invisibly rotate the canvas 45 degrees anti-clockwise  
7 // It rotates about the origin 0,0 (now in the centre)  
8 // (Imagine rotating your head 45 degrees to the left)  
9 // The square appears to rotate 45 degrees clockwise  
10 // The angle mode is RADIANS by default  
11 // A circle is 360 degrees, or 2 * PI = TAU radians  
12  
13 function draw() {  
14   translate(200,200);  
15   angleMode(DEGREES);  
16   rotate(45);  
17   rectMode(CENTER);  
18   rect(0,0,100,100);  
19 }  
20
```



Console Clear

The circle dance

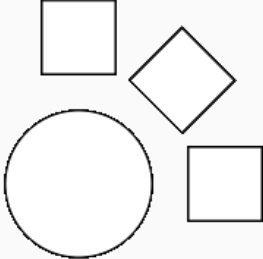
editor.p5js.org

p5* File Edit Sketch Help Hello, stevebattle! | My Account

Auto-refresh seven potato by stevebattle

sketch.js Saved: 34 minutes ago Preview

```
1 function setup() {
2   createCanvas(400, 400);
3 }
4
5 // We can rotate the canvas around the centre
6 // to draw shapes at a series of angles
7 // Each square is offset x=0, y=-100 (100 upwards)
8 // from the centre of rotation
9
10 function draw() {
11   translate(200,200);
12   angleMode(DEGREES);
13   rectMode(CENTER);
14   circle(0,0,100);
15   rect(0,-100,50,50);
16   rotate(45);
17   rect(0,-100,50,50);
18   rotate(45);
19   rect(0,-100,50,50);
20 }
21
```



Console Clear

Going loopy

editor.p5js.org

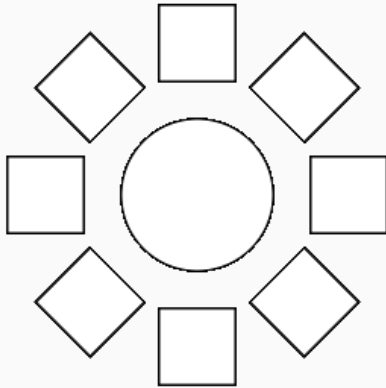
p5* File Edit Sketch Help Hello, stevebattle! | My Account

Auto-refresh eight potato by stevebattle

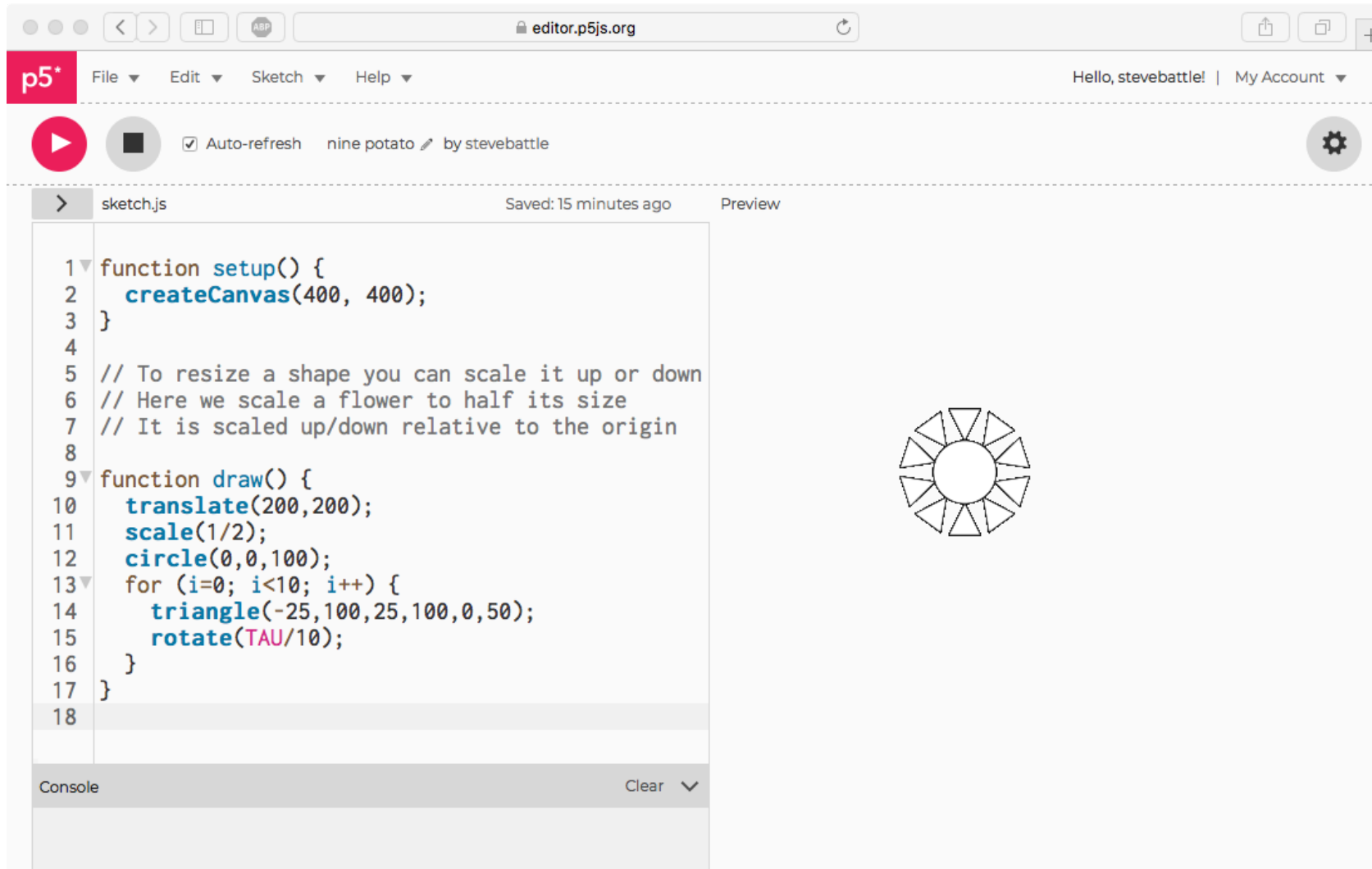
sketch.js Saved: 16 minutes ago Preview

```
1 function setup() {
2   createCanvas(400, 400);
3 }
4
5 // Instead of repeating identical code
6 // you can make a (for) loop
7 // The loop variable, i, counts up from 0 to 7
8 // That's 8 squares in total, drawn in 45 degree steps
9
10 function draw() {
11   translate(200,200);
12   rectMode(CENTER);
13   circle(0,0,100);
14   for (i=0; i<8; i++) {
15     rect(0,100,50,50);
16     rotate(TAU/8);
17   }
18 }
19
```

Console Clear



Scale it back



The screenshot shows the p5.js editor interface. The top bar includes the p5.js logo, a menu (File, Edit, Sketch, Help), and a user profile (Hello, stevebattle! | My Account). Below the menu, there's a play button, a black square, and a checkbox for "Auto-refresh" which is checked. The sketch is titled "nine potato" by "stevebattle".

The code in the editor is as follows:

```
1 function setup() {  
2   createCanvas(400, 400);  
3 }  
4  
5 // To resize a shape you can scale it up or down  
6 // Here we scale a flower to half its size  
7 // It is scaled up/down relative to the origin  
8  
9 function draw() {  
10  translate(200,200);  
11  scale(1/2);  
12  circle(0,0,100);  
13  for (i=0; i<10; i++) {  
14    triangle(-25,100,25,100,0,50);  
15    rotate(TAU/10);  
16  }  
17 }  
18
```

The preview window shows a circular shape with 10 triangular petals, each pointing outwards from the center. The petals are drawn with a black outline and a white fill. The entire shape is centered on a white background.

At the bottom of the editor, there is a console area with the text "Console" and a "Clear" button.

Flower function

editor.p5js.org

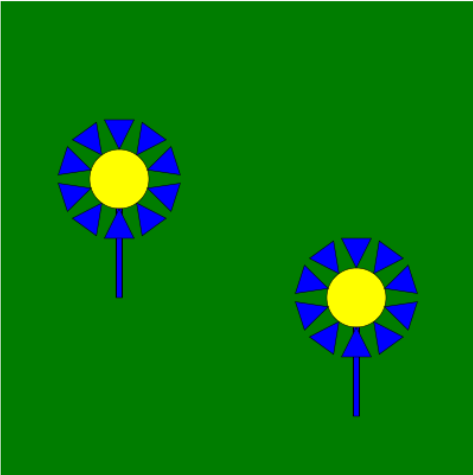
p5 File Edit Sketch Help Hello, stevebattle! My Account

Auto-refresh ten potato by stevebattle

sketch.js Saved: 25 seconds ago Preview

```
1 function setup() {
2   createCanvas(400, 400);
3 }
4
5 // push() and pop() keep the effects of translate(),
6 // scale(), and rotate() local.
7 // Make a flower 'stamp' function.
8
9 function flower(x,y) {
10  push();
11  translate(x,y);
12  scale(0.5);
13  fill('yellow');
14  circle(0,0,100);
15  fill('blue');
16  rect(-5,50,10,150);
17  for (i=0; i<10; i++) {
18    triangle(-25,100,25,100,0,50);
19    rotate(TAU/10);
20  }
21  pop();
22 }
23
24 function draw() {
25   background('green');
26   flower(100,150);
27   flower(300,250);
28 }
29
```

Console Clear



Animated

editor.p5js.org

p5* File Edit Sketch Help Hello, stevebattle! My Account

Auto-refresh animated by stevebattle

sketch.js Saved: 1 minute ago Preview

```
1 var p = 10; // number of petals
2
3 function setup() {
4   createCanvas(400, 400);
5   frameRate(10); // frames per second
6 }
7
8 // frameCount counts frames displayed
9 // '%' is remainder after division (modulo)
10
11 function flower(x,y,a) {
12   push();
13   translate(x,y);
14   scale(0.5);
15   fill('yellow');
16   circle(0,0,100);
17   fill('blue');
18   rect(-5,50,10,150);
19   rotate(a);
20   var n = frameCount % (2*p);
21   for (i=0; i<p; i++) {
22     if (n>i && i>=n-p) {
23       triangle(-25,100,25,100,0,50);
24     }
25     rotate(TAU/p);
26   }
27   pop();
28 }
29
30 function draw() {
31   background('green');
32   flower(100,150,0);
33   flower(300,250,PI);
34 }
```

Console Clear

