

p5.js : Processing(Java)を js へ移植

Processing (<https://processing.org/>)

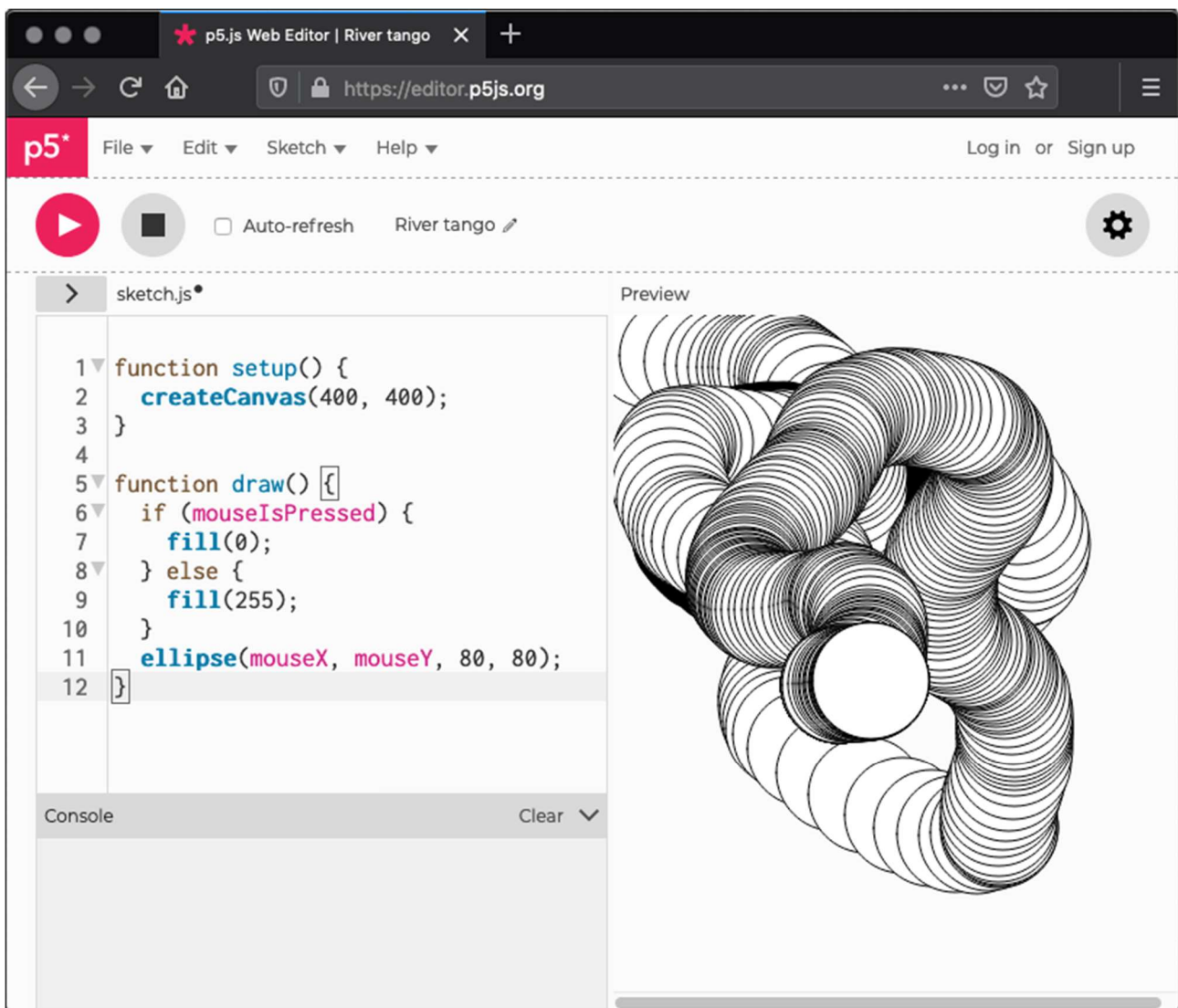
Processing is a flexible **software sketchbook** and a language for learning how to code within the context of the **visual arts**.

p5.js (<https://p5js.org/>)

p5.js is a JavaScript library for creative coding, with a focus on making coding accessible and inclusive **for artists, designers, educators, beginners, and anyone else!**

Web Editor: <https://editor.p5js.org/>

Get Started (<https://p5js.org/get-started/>)



```

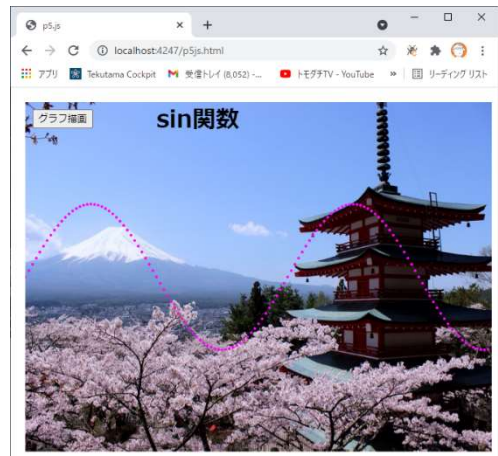
<!DOCTYPE html>
<html lang="ja">
  <head>
    <script src="https://cdn.jsdelivr.net/npm/p5@1.2.0/lib/p5.js"></script>
    <script src="./sketch-1.js"></script>
  </head>
  <body></body>
</html>

```

sketch-1.js : プログラム

```
let myColor, isGraph;
```

```
function preload() { // preload() runs once
  img = loadImage('fuji.jpg');
}
```



```
function setup(){ // 初期化関数 : runs only once when the program starts.
```

```

  isGraph = false;
  myCanvas = createCanvas(640, 480);
  // createCanvas( 640, 480, WebGL); // default は P2D
  myCanvas.position(20,20);

```

```

  h1 = createElement('h1', 'sin 関数');
  h1.position(200, 0);

```

```

  startBtn = createButton('グラフ描画');
  startBtn.position(30, 30);
  startBtn.mousePressed(drawGraph);
  // mouseReleased(), mouseMoved(), keyPressed(), keyReleased()
  myColor = color(0);
  // framerate(30) ; // default 60fps

```

```
}
```

```

function drawGraph(){
  myColor = color( random(255), random(255), random(255) );
  isGraph = true;
}

```

```
function draw(){ // runs in loop (デフォルト frameRate : 60fps)
```

```
  const fr = frameRate(); // frameRate 取得
```

```
  print(fr); // console に表示
```

```

  background(220);
  background(img);

```

```

if(isGraph){
  for( let x = 0; x < 640; x += 5){
    y = 100*sin(x*PI/180);
    fill(myColor);

    noStroke(); // 線無し noFill()

    //stroke(0,255, 0); 線の色

    ellipse(x, 240 - y, 4, 4);
    ellipse(mouseX, mouseY, 50, 50);
  }
}
}

```

Reference <https://p5js.org/reference/>

canvas サイズ	width, height
マウスボタンが押されているか	mouseIsPressed
マウスの座標	mouseX, mouseY
1 フレーム前の mouse の座標	pmouseX, pmouseY
前のフレームからのマウスの変異	movedX, movedY
colorMode(RGB)	default
colorMode(HSB, 360, 100, 100)	H(色相 : 色味)、S(彩度 : 鮮やかさ)、B(輝度)
colorMode(0)	

Web カメラ

```
let capture;
```

```
function setup() {
```

```
  createCanvas(100, 100);
```

```
  capture = createCapture(VIDEO);
```

```
  capture.hide();
```

```
}
```

```
function draw() {
```

```
  image(capture, 0, 0, width, width * capture.height / capture.width);
```

```
  filter(INVERT);
```

```
}
```