

CM1005 - Introduction to Programming I

BSc Computer Science

Nathan Donovan



University of London

April 2024

1 p5.js - JavaScript Library for Creative Coding

Tools used: p5.js, Brackets.io, JavaScript

p5.js

- Projects / programs must be opened at the folder level in Brackets.io / other IDE for live preview to work.
- Work on sketch.js file only.
 - index.html is boilerplate for the sketch to run as a web page.
 - p5.min.js is the p5.js library code.

Function used to set up the sketch, width and height are specified in pixels with the origin (0,0) at the top left hand corner of the browser window:

```
function setup() {  
  createCanvas(width, height);  
}
```



Origin pixel highlighted in red at (0, 0), example canvas is 20 x 20 pixels.

Function used to contain the drawing commands in the sketch:

```
function draw() {  
  // Various commands available as part of the p5.js library  
}
```

Example p5.js shape functions used:

```
// rect syntax  
rect(x, y, width, height, [tl], [tr], [br], [bl]);  
/*  
  tl = top-left radius  
  tr = top-right radius  
  br = bottom-right radius  
  bl = bottom-left radius  
*/  
  
// ellipse syntax  
ellipse(x, y, width, [height]); // height is optional  
  
// point syntax  
point(x, y); // point() is a single pixel unless modified with strokeWeight()  
             // Can only be colored with stroke(), not fill()  
  
// triangle syntax  
triangle(x1, y1, x2, y2, x3, y3);  
  
// vertex syntax  
vertex(x, y); // Can be used to construct complex shapes  
             // Used exclusively with beginShape() and endShape()  
  
// Example:  
beginShape(); // fill(), stroke() etc. to be used before beginShape() called  
vertex(x1, y1);  
vertex(x2, y2);  
vertex(x3, y3);  
endShape();  
  
// beginShape syntax  
beginShape([kind]);  
/*  
  kind = POINTS, LINES, TRIANGLES, TRIANGLE_FAN, TRIANGLE_STRIP, QUADS, QUAD_STRIP or TESS  
  
  examples shown in p5.js reference documentation  
*/
```