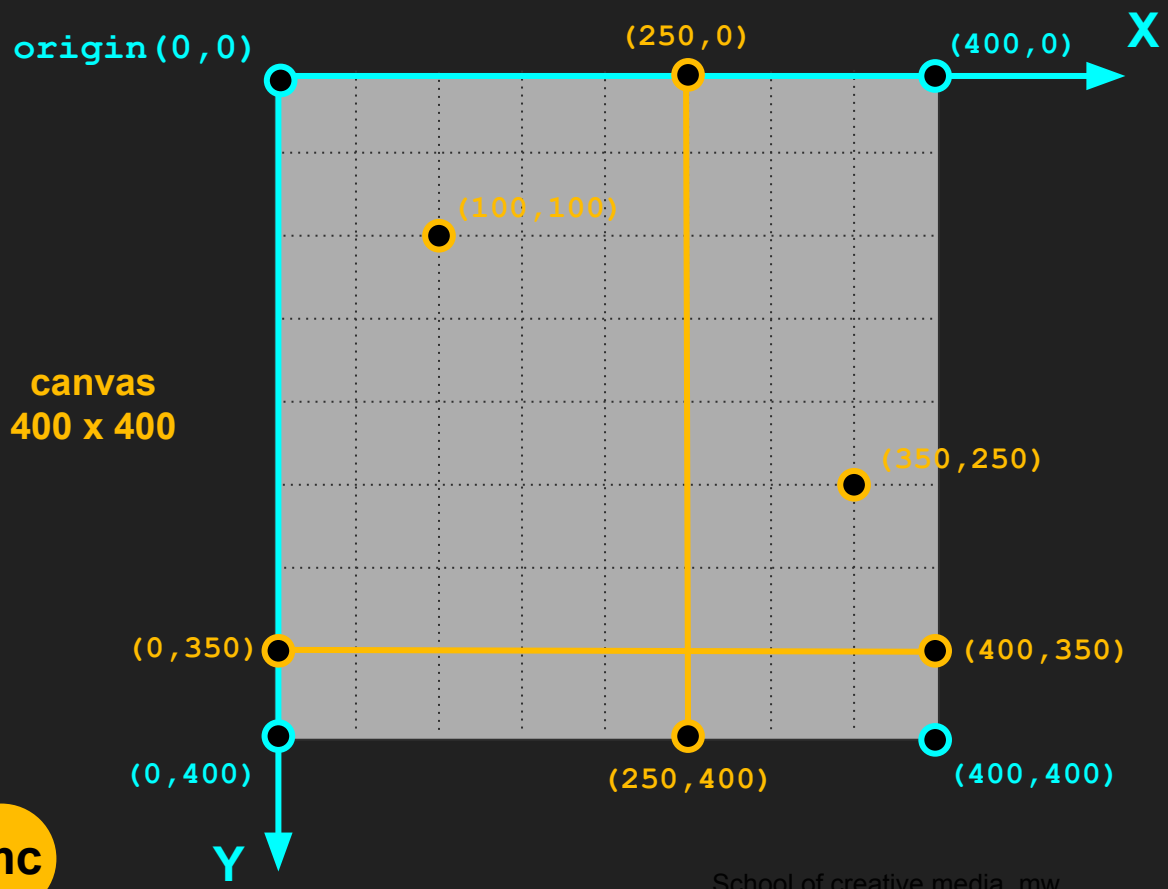
p5.js Shapes Reference

p5.js coordinate system



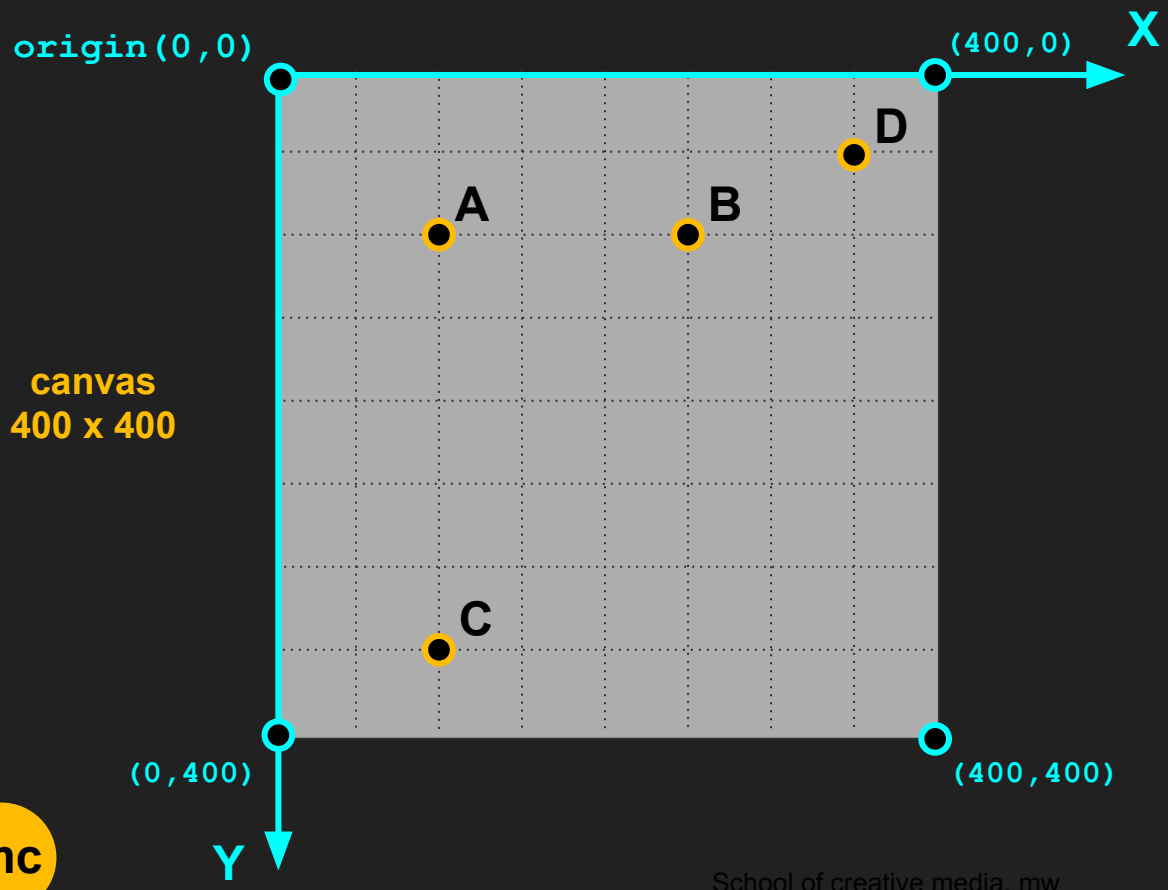
Position of a POINT ○ on a p5.js canvas is defined by a pair of numbers which we call a `coordinate (x,y)`

`x` = horizontal distance from the origin

`y` = vertical distance from the origin

The `origin (0,0)` of a p5.js canvas is at the UPPER LEFT CORNER.

point(x,y);



point(x,y)

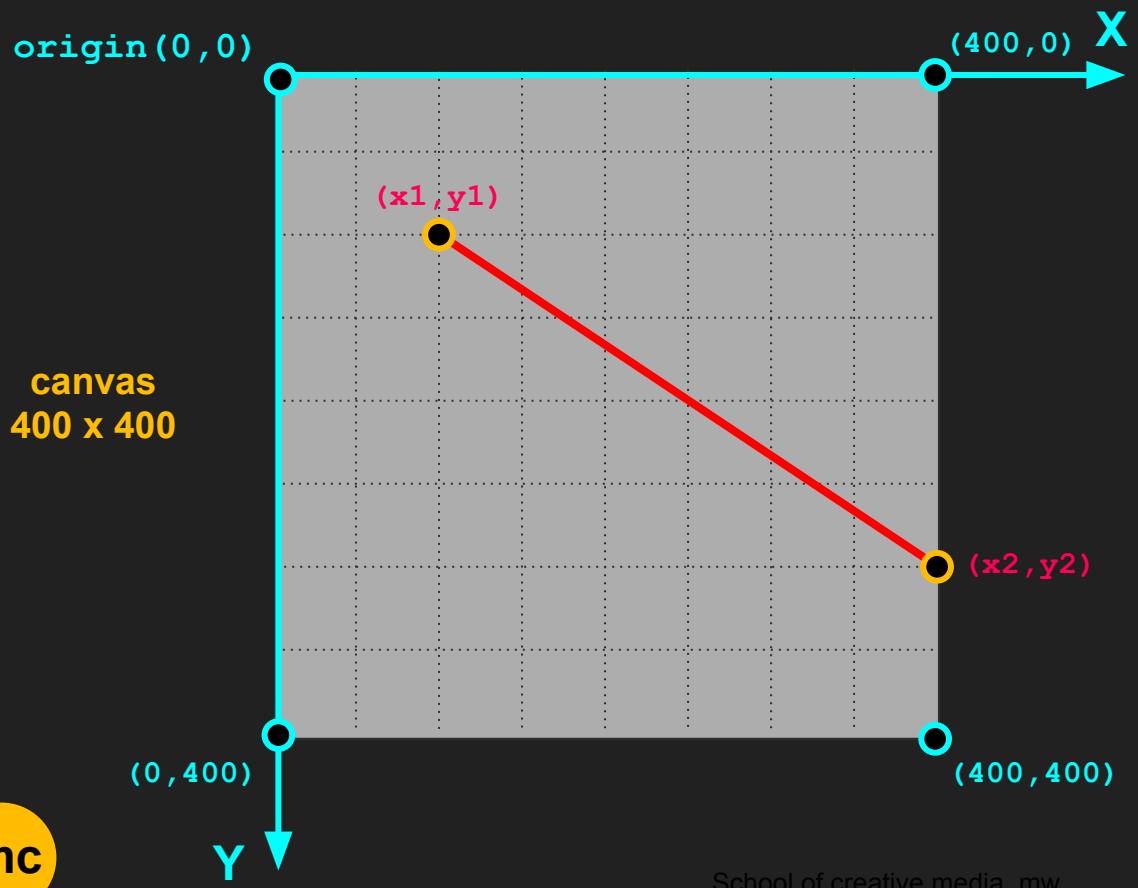
Draws a one-pixel point at the given position (x,y).

color by: stroke()

Example:

```
let x0 = 100;
let y0 = 100;
point(x0, y0);    // point A
point(250, y0);   // point B
point(x0, 350);   // point C
point(350, 50);   // point D
```

line(x1,y1,x2,y2);



canvas
400 x 400

line(x1,y1,x2,y2)

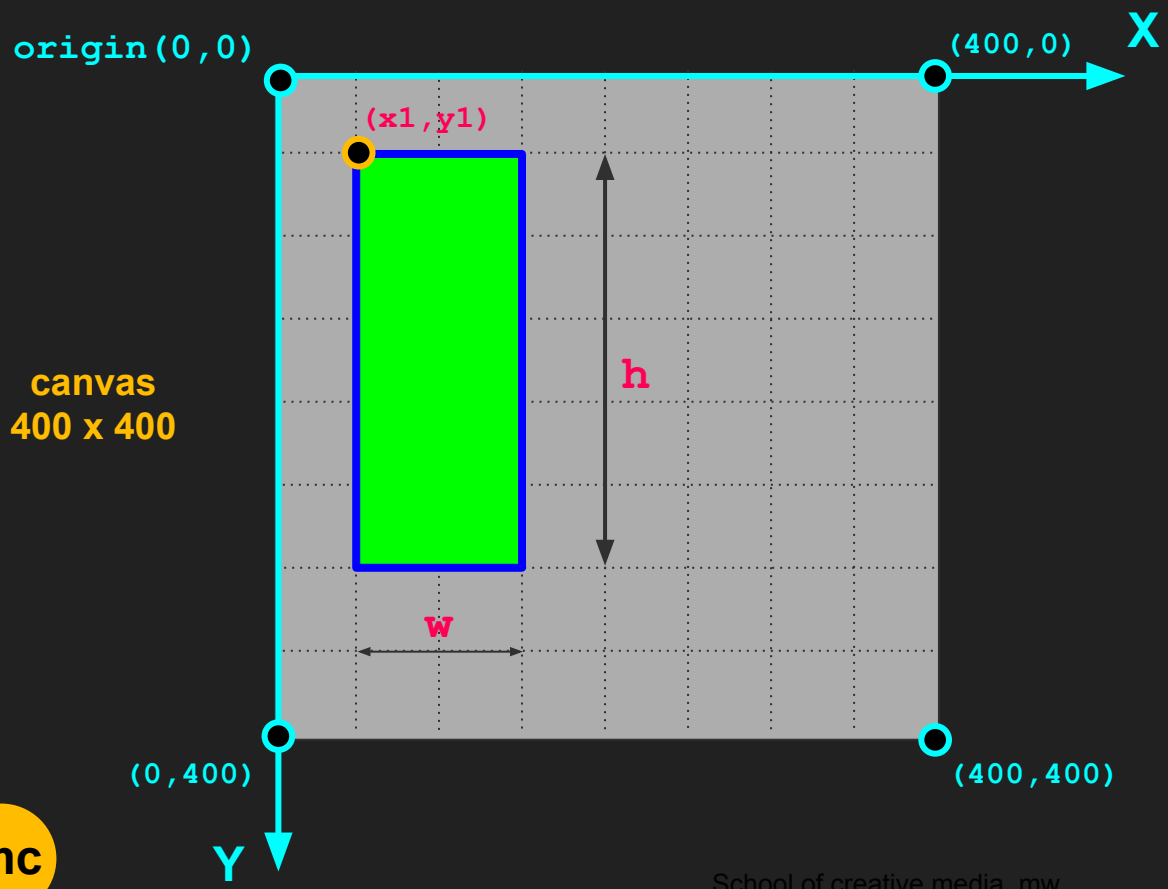
Draws a line defined by two points, (x1,y1) and (x2,y2)

color by: stroke()
thickness by: strokeWeight()

Example:

```
let my_x = 100;
let my_y = 100;
stroke(255, 0, 0);
strokeWeight(4);
line(my_x, my_y, 400, 300);
```

rect(x1,y1,w,h,[r]);



canvas
400 x 400

rect(x1,y1,w,h,[r]);

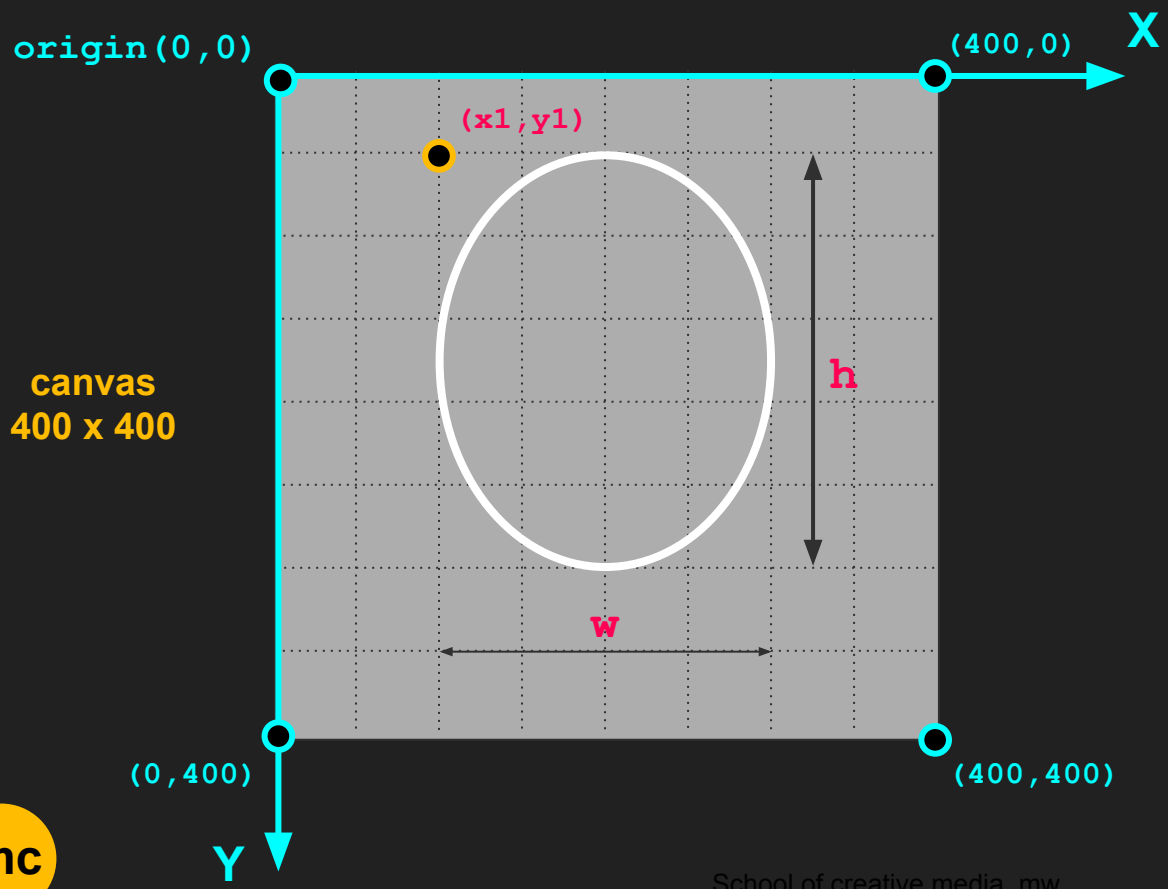
Draws a rectangle defined by a location point* (x1,y1), and the size (w,h) where w = width, and h = height. r is an optional parameter which defines the corner roundness radius in pixel.

location point:	**upper left corner**
outline color by:	stroke()
outline thickness by:	strokeWeight()
fill color by:	fill()

Example:

```
let w1 = 100;
let h1 = 250;
stroke(0, 0, 255);
strokeWeight(4);
fill(0, 255, 0);
rect(50, 50, w1, h1);
```

ellipse(x1,y1,w,[h]);



canvas
400 x 400

ellipse(x1,y1,w,[h]);

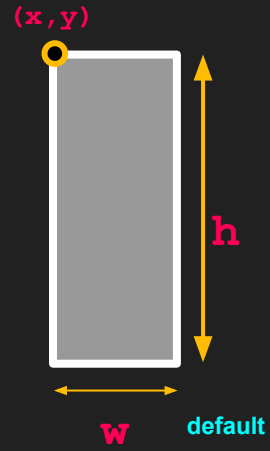
Draws a ellipse defined by a location point* (x1,y1), and the size (w,h) where w = width, and h = height. If h is not given, it draws a circle of width w.

location point:	**upper left corner**
outline color by:	stroke()
outline thickness by:	strokeWeight()
fill color by:	fill()

```
let w1 = 350;
let h1 = 250;
stroke(255);
strokeWeight(4);
noFill();
ellipse(100, 50, w1, h1);
```

rectMode(<mode>);

Defines how a rectangle shape `rect(x,y,w,h)` should be drawn.

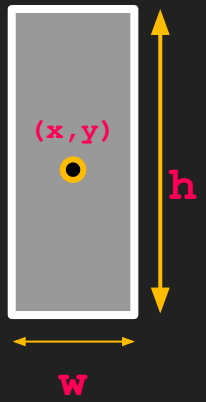


`rectMode(CORNER);`

`(x,y)` rectangle's upper left corner.

`w` weight

`h` height

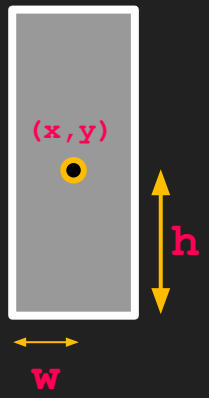


`rectMode(CENTER);`

`(x,y)` rectangle's center.

`w` weight

`h` height

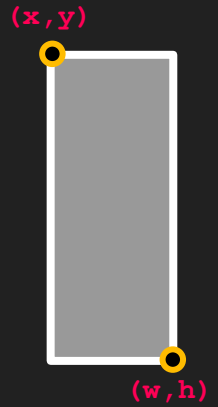


`rectMode(RADIUS);`

`(x,y)` rectangle's center.

`w` half-width (radius).

`h` half-height (radius).



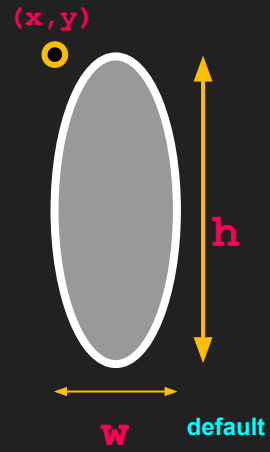
`rectMode(CORNERS);`

`(x,y)` rectangle's upper left corner.

`(w,h)` rectangle's lower right corner.

ellipseMode(<mode>);

Defines how a ellipse shape `ellipse(x,y,w,h)` should be drawn.



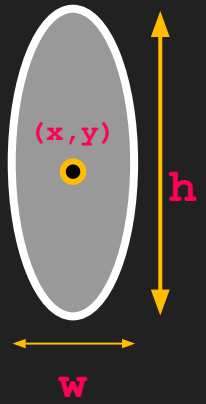
default

`ellipseMode(CORNER);`

`(x,y)` ellipse's upper left corner.

`w` weight

`h` height

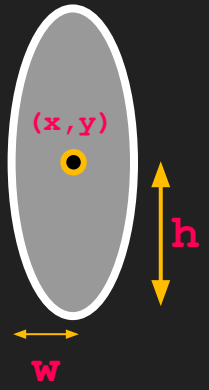


`ellipseMode(CENTER);`

`(x,y)` ellipse's center.

`w` weight

`h` height

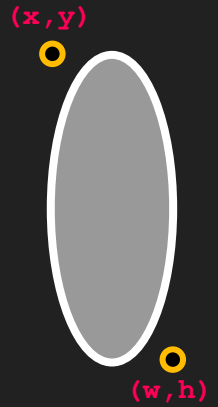


`ellipseMode(RADIUS);`

`(x,y)` ellipse's center.

`w` half-width (radius).

`h` half-height (radius).



`ellipseMode(CORNERS);`

`(x,y)` ellipse's upper left corner.

`(w,h)` ellipse's lower right corner.