p5.js

a cheat sheet for beginners!

program structure

```
//runs once when program starts
function setup(){
  createCanvas(800,600); //width,height in pixels
}

//run continuously after setup
function draw(){
  //rendering loop
}
```

system variables

```
windowWidth / windowHeight
//width / height of window

width / height
//width / height of canvas

mouseX / mouseY
//current horizontal / vertical mouse position
```

non-visual feedback

```
print();
//report data to the output console

//double slash to comment code (program skips it)
```

color

```
fill(120); //gray: 0-255
fill(100,125,255); //r, g, b: 0-255
fill(255, 0, 0, 50); //r, g, b, alpha
fill('red'); //color string
fill('#ccc'); //3-digit hex
fill('#222222'); //6-digit hex fill
color(0, 0, 255); //p5.Color object
```

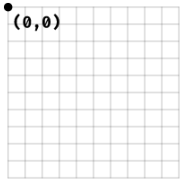
math

```
+ - / *  //basic math operators

random(low,high); //ranged random number

map(value, in1, in2, out1, out2);
//map a value from input range to output range
```

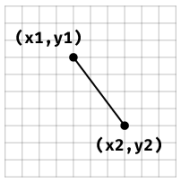
2d primitives

```
line(x1, y1, x2, y2);

ellipse(x, y, width, height);

rect(x, y, width, height);

arc(x, y, width, height, start, stop);

beginShape();
  vertex(x1, y1);
  vertex(x2, y2);
  vertex(x3, y3);
  //add more vertex
endShape(CLOSE);

text("string", x, y, boxwidth, boxheight);
```

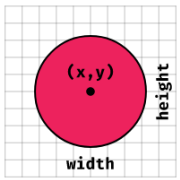
grid system



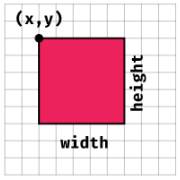
line()



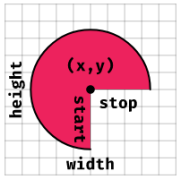
ellipse()



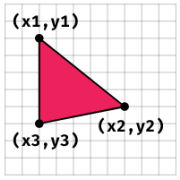
rect()



arc()



vertex()

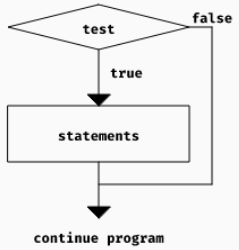


attributes

```
background(color);
//set the background color

fill(color);
//set the fill color

noFill();
//disables fill

stroke(color);
//set the stroke color

strokeWeight(weight);
//set the stroke's width in pixels

noStroke();
//disables stroke

ellipseMode(MODE);
rectMode(MODE);
//CENTER,CORNER

textSize(pixels);
```

if/then logic

```
if(test){
  //statements
}

===  //equal to
!=   //not equal
>    //greater than
<    //less than
>=   //greater than or equal
<=   //less than or equal
```



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Translation by Ben Moren