# P5.js Resource Sheet

# Javascript

## Data Types

```
"string"      ...      ...     //string
10            ...      ...     //number
true, false            ...    //boolean
null, undefined        ...    //no value
[1, 2, "a", false]     ...    //list
{var1: value, var2: value} //object
```

## Variables and Output

```
//let variableName = Information
let x = 0;

console.log(x) //prints value of x
```

## If/Then

```
if(Condition){
    //code run when Condition is true
}
else {
    //code run when Condition is false
}
== !=  //equal, not equal to
>  <   //greater than, less than
>= <=  //greater, less than or equal
&& ||  //and, or
```

## Objects

```
//initializing an object
let name = new ObjectName()

//access object variable
objectName.variableName

//run object function
objectName.functionName()

//setting object properties
objectName.property = variable/function
```

## Functions

```
//defining functions
function name(var1, var2){
    //code
}
//calling functions
name(var1, var2)
```

## Loops

```
// (start;    end;     countBy)
for(let i = 0; i < 10; i += 1){
    //code
}
while(true){
    //code
}
```

## Lists

```
let name = []     //declaring a list
name.push(item)   //adding to a list
name[index]       //getting an item from a list
```

# Processing

## Structure

```
//runs once when program starts
function setup(){
    createCanvas(800,600); //width, height
}
//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 x / y of mouse position
```

## Color

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

## Images
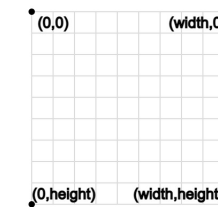
```
let img;
function preload() {
    img = loadImage('fileName.jpg/png');
}
function draw() {
    image(img, x, y, w, h);
}
```
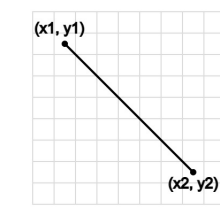
## Canvas and Shapes

```
line(x1, y1, x2, y2);
ellipse(x, y, width, height);
rect(x, y, width, height);

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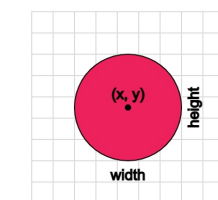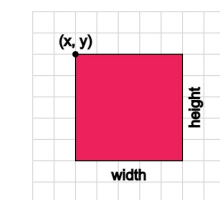
### Grid


### Line


### Ellipse


### Rectangle


Inspired by: https://bmoren.github.io/p5js-cheat-sheet/