Handy

Frame Rate

```
frameRate(fps);
```

Canvas Height and Width

```
height; width;
```

Random Number

```
random(low, high);
```

Main Variable Types

null – Returns nothing

int – 32,767 to -32,768

float – Floating point

String – Array of Characters

Basics

Commenting

```
//          Single Line
/* */       Multiple Line
```

First Loop

```
void setup(){

}
```

Continuous Loop

```
void draw(){

}
```

For Loop Example

```
for(int i = 0; i < 10; i++){

}
```

If Example

```
if(x <= 5){

        //do this

}
```

IO

Loading in Text File

```
String lines[] = loadStrings("data.txt");      //Load lines of text
for(int i = 0; i < lines.length; i++){         //Cycle through each line
        String pieces[] = split(lines[i], '\t'); //Split each line into words
```

Loading in Image File

```
PImage img;                          //Declare variable of PImage type
img = loadImage("myImage.jpg");      //Load the image into the program
image(img, x, y, width, height);     //Place the image
```

Writing to Text File

```
PrintWriter output = createWriter("DataOut.txt"); //Create output file
output.println(DataToWrite);                      //Write to file
output.close();                                   //Close write file
```

Print to Console

```
println("string");
```

Text

Text Font Size

```
textSize(Font Size);
```

Text Font Example

```
f = createFont("SourceCodePro-Regular.ttf", 24);
textFont(f);
```

Write Text

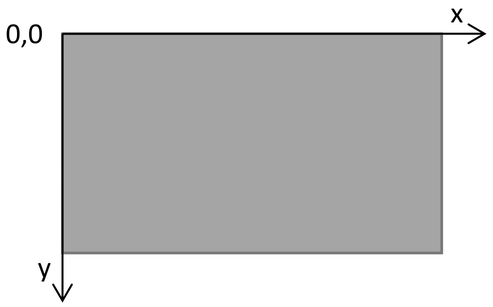
```
Text("String", x, y);
```

Coordinates and Canvas

Set Canvas Size in Pixels

```
size(width, height);
```

Coordinates



Align Text

```
textAlign(horizontal, vertical);
```

horizontal: LEFT or RIGHT or CENTER

vertical: TOP or BOTTOM or CENTER

Align Ellipse

```
ellipseMode(what mode);
```

what mode: RADIUS or CENTER

Align Rectangle

```
rectMode(what mode);
```

what mode: CORNER or CENTER

Logic Statements

```
Operation(logic) {
        //Operations: if, while, else
}
```

and – &&

or – | |

Shapes

Point

```
point(x, y);
```

Line

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

Rectangle

```
rect(x, y, width, height);
```

Triangle

```
triangle(x1, y1, x2, y2, x3, y3);
```

Ellipse

```
ellipse(x, y, width, height);
```

Arc

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

Box

```
box(width, height, depth);
```

Sphere

```
sphere(radius);
```

Interactivity

Keyboard

```
If (key == 'alphanumeric') {
        /*functionality*/
}
```

Special keys

Alphanumeric = 'a-z' and '0-9'

```
If (key == CODED) {
        If (keycode == 'see below') {
        /*Functionality*/
        }
}
```

Keycodes include: ALT, CONTROL, SHIFT, UP, DOWN, LEFT, RIGHT

Mouse Position X and Y

```
mouseX; mouseY;
```

Mouse Positions at previous frame

```
pmouseX; pmouseY;
```

Button Mouse Click (Returns Boolean)

```
If (mousePressed == TRUE) {
        /*functionality*/
}
```

Object Orientated Programming

Class Structure

```
Class Classname {
        //Class Variables
        Var_type Var_name;
        //Constructor
        Classname(Temp Variables) {
                /*Assign value to variable
                From temporary variable*/
                Var_name = Temp_Var;
        }
        //Class Functions
        Return_type func1(/*External Inputs*/) {
        }
}
```

Declare Objects

```
Classname object1;
```

Initialize Objects

```
object1 = new Classname(Temp Values);
```

Call Object Functions

```
object1.func1(/*Other Inputs*/);
```

Colours

Red, green, blue and alpha (transparency) channels that range from 0 to 255

Background Colour

```
background(R, G, B);
```

Fill Colour

```
fill(R, G, B);
```

Remove Fill (Fully Transparent)

```
noFill();
```

Border/Line Colour

```
stroke(R, G, B);
```

Remover Borders

```
noStroke();
```

Chris Tacon and James Brooks

Processing 3 Cheat Sheet