Processing Cheatsheet

Processing is a programming language and development environment designed for creating visual and interactive applications. Here is an overview of its features, code blocks, and resources.

Features

- Processing is designed for creating visual and interactive applications, such as generative art, data visualization, and games.
- It is based on Java and can be used for both desktop and web applications.
- Processing provides a simplified syntax and a library of functions for working with graphics, sound, and input.
- Processing is open source and has a large community of users and contributors.

Code Blocks

Setup and Draw

Processing programs are organized into two main code blocks: `setup()` and `draw()`. `setup()` is called once at the beginning of the program, and `draw()` is called repeatedly to update the display.

```
void setup() {
    // code to be executed once at the beginning of the program
}

void draw() {
    // code to be executed repeatedly to update the display
}
```

Variables

Variables are used to store data that can be used later in the program.

```
int variableName = value;
```

Functions

Functions are code blocks that perform a specific task. They can be called by other parts of the program.

```
void functionName(parameter1, parameter2) {
    // code to be executed
}
```

Conditionals

Conditionals allow the program to make decisions based on certain conditions.

```
if (condition) {
    // code to be executed if condition is true
} else if (otherCondition) {
```

```
    // code to be executed if otherCondition is true
} else {
    // code to be executed if neither condition is true
}
```

Loops

Loops allow the program to repeat a set of instructions.

```
for (int i = 0; i < 10; i++) {
    // code to be executed
}
```

Objects

Objects are a fundamental part of Processing and are used to store and manipulate data.

```
class ClassName {
    int property1;
    float property2;

    ClassName(int p1, float p2) {
    property1 = p1;
    property2 = p2;
    }

    void method() {
    // code to be executed
    }
}

ClassName objectName = new ClassName(1, 2.0);
```

Graphics

Processing provides a library of functions for working with graphics, including drawing shapes, colors, and images.

```
// set the background color
background(255, 255, 255);

// draw a rectangle
rect(x, y, width, height);

// draw an ellipse
ellipse(x, y, width, height);

// load an image
PImage img = loadImage("image.png");
```

```
// display an image
image(img, x, y);
```

Resources

Here are some resources for learning and using Processing:

- Processing Documentation
- Processing subreddit
- Processing Tutorial
- Processing on Stack Overflow