

Processing 1 - Introduction

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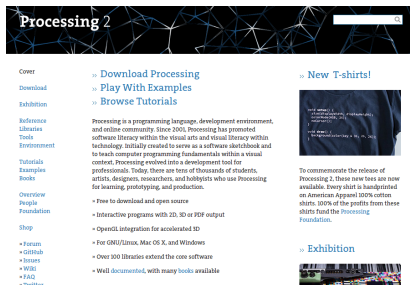
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Processing



- ▶ Free/open source project
- ▶ Initiated by Casey Reas and Ben Fry in 2005
- ▶ For learning programming in visual context
- ▶ Based on Java, but simplified
- ▶ Sketchbook metaphor

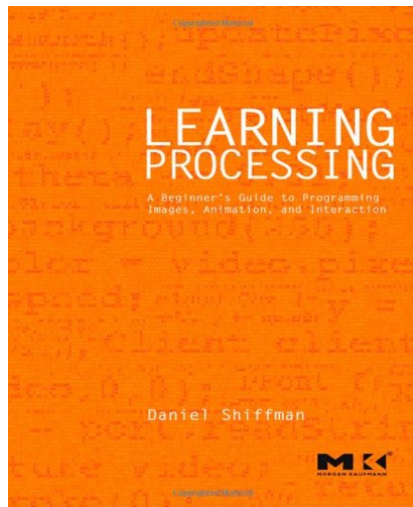
On-line documentation



<https://processing.org/>

- ▶ Reference, Tutorials, Forum
- ▶ Off-line from UI:
 - ▶ Help -> reference
 - ▶ Right click on code -> find in reference

Further reading



Video lectures: <http://icm.shiffman.net/>

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Processing is a programming language, development environment, and online community. Since 2001, Processing has promoted software literacy within the visual arts and visual literacy within technology. Initially created to serve as a software sketchbook and to teach computer programming fundamentals within a visual context, Processing evolved into a development tool for professionals. Today, there are tens of thousands of students, artists, designers, researchers, and hobbyists who use Processing for learning, prototyping, and production.

» Free to download and open source

» Interactive programs with 2D, 3D or PDF output


» OpenGL integration for accelerated 3D

» For GNU/Linux, Mac OS X, and Windows

» Over 300 libraries extend the core software

» Well documented, with many books available


» New T-shirts!



```
void setup() {  
  size(400, 400, P2D);  
  background(0);  
}  
  
void draw() {  
  // something to do  
}
```

To commemorate the release of Processing 2, these new tees are now available. Every shirt is handprinted on American Apparel 100% cotton shirts. 100% of the profits from these shirts fund the [Processing Foundation](#).

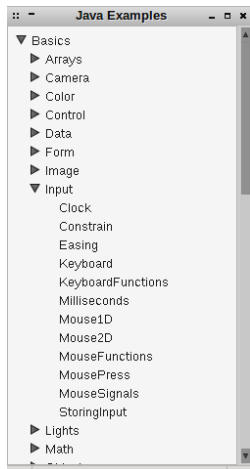
» Exhibition



<https://openprocessing.org/>

Examples

File -> Examples



Lets get programming

- ▶ Draw a circle
- ▶ Play a sound

Draw a circle

Use the ellipse function call

Reference: Ellipse

```
// x, y, width, height  
ellipse(10,10,10,10);
```

Understand:

- ▶ Cartesian coordinates and origins
- ▶ <http://processing.org/tutorials/drawing/>

Make a sound

Add the minim library to your sketch.

Draw ten circles

In different positions, using copy and paste

```
ellipse(10,10,10,10);
```

```
ellipse(20,20,10,10);
```

```
ellipse(30,30,10,10);
```

and so on...

Draw a hundred circles

Time to use variables and loops.

```
// Initialise variable, this will be our loop counter  
int i = 0;  
  
// repeat until test fails  
while (i < 100) {  
    ellipse(i*10, i*10, 10, 10);  
    // increment  
    i = i + 1;  
}
```

Draw a hundred circles

Alternative loop form, with `for` you initialise, test and increment in one line:

```
for (int i = 0; i < 100; i = i + 1) {  
    line(i*10, i*10, 10, 10);  
}
```

Shorthand for incrementing, this is the same as `i = i + 1`:

```
++i;
```

Draw infinite circles

Make the canvas a bit bigger in the setup phase

```
void setup() {  
  size(400,400);  
}
```

Draw a circle in a random position in the draw phase

```
void draw() {  
  ellipse(random);  
}
```

- ▶ Randomise position
- ▶ Randomise colour
- ▶ Repeat (draw phase)