### Quil 1.7.0

Creating & Reading

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alpha blend-color blue brightness color color-mode green hue lerp-color red saturation

Loading & Displaying

Pixels

Setting

blend

Setting

background background-float background-image background-int fill fill-float fill-int no-fill no-stroke stroke stroke-float stroke-int

#### Data

Conversion binary hex unbinary unhex

### **Environment**

current-frame-rate cursor cursor-image focused frame-count frame-rate height no-cursor screen-height screen-width width

### **Image**

create-image

Loading & Displaying image image-mode load-image

mask-image request-image tint

tint-float tint-int

Pixels copy display-filter get-pixel

load-pixels pixels set-image
set-pixel update-pixels

### Input

Files create-input create-input-raw load-bytes

load-strings

Keyboard key-code key-pressed? raw-key

Mouse mouse-button mouse-state mouse-x mouse-y

pmouse-x pmouse-y

Time & Date day hour millis minute month seconds year

## Lights, Camera

Camera begin-camera camera end-camera frustum ortho perspective print-camera print-projection

Coordinates model-x model-y model-z screen-x screen-y screen-z

Lights ambient-light directional-light light-falloff light-specular

spot-light

Material Properties ambient ambient-float ambient-int

 ${\tt emissive-emissive-float\ emissive-int}$ 

lights no-lights normal point-light

shininess specular

### Math

Calculation abs abs-float abs-int ceil constrain constrain-float constrain-int dist exp lerp log mag map-range norm pow round

sq sqrt

Random noise noise-detail noise-seed random

random-seed

Trigonometry acos asin atan atan2 cos degrees

radians sin tan

Trig Constants PI HALF-PI THIRD-PI QUARTER-PI TWO-PI

DEG-TO-RAD RAD-TO-DEG

# Output

Files begin-raw begin-record create-output end-raw

end-record save save-frame

# Image sa

create-graphics hint

Shape	
2D Primitives	arc ellipse line point quad rect triangle
3D Primitives	box sphere sphere-detail
Attributes	ellipse-mode no-smooth rect-mode smooth stroke-cap stroke-join stroke-weight
Curves	bezier bezier-detail bezier-point bezier-tangent curve curve-detail curve-point curve-tangent curve-tightness
Loading & Displaying	load-shape shape-mode
Vertex	begin-shape bezier-vertex curve-vertex end-shape texture texture-mode vertex

### State

set-state! state

### **Structure**

delay-frame exit no-loop pop-style push-style redraw start-loop

### **Transform**

apply-matrix pop-matrix print-matrix push-matrix reset-matrix rotate rotate-x rotate-y rotate-z scale shear-x shear-y

translate

Utility Macros with-rotation with-translation

with-scale

# **Typography**

Attributes text-align text-leading text-mode text-size text-width

Loading & Displaying available-fonts create-font font-available? load-font text text-char text-font text-num

Metrics text-ascent text-descent

### Sketch

Creation sketch defsketch Control sketch-stop sketch-start sketch-close State sketch-state Config Keywords :title :size :renderer Draw Callback Keywords :setup :draw Mouse Callback Keywords :mouse-pressed :mouse-released :mouse-moved :mouse-dragged :mouse-entered :mouse-exited :mouse-clicked Keyboard Callback Keywords :key-pressed :key-released :key-typed Window Callback Keywords :focus-gained :focus-lost

# Reflection

API Exploration show-cats show-fns show-meths

Version processing-version

# Helper Namespaces (not included by default)

 quil.helpers.calc
 mul-add mode-range

 quil.helpers.drawing
 line-join-points

 quil.helpers.seqs
 range-incl indexed-range-incl indexed-range steps cycle-between

tap seq->stream tally
perlin-noise-seq

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