Processing To C

translator with library

Structure

() (parentheses) – work like in C++
, (comma)– work like in C++ (probably)
. (dot) – in most cases translated into ->
/* */ (multiline comment) – work like in C++
/** */ (doc comment)
// (comment) – work like in C++
; (semicolon) – work like in C++, but for the end of class declaraion shoud be added manually. Such modification work both in Processing and in C++
= (assign) – work like in C++
[] (array access) – work like in C++, because of library object **array**, **sarray**, **matrix**, **smatrix (**and others)
{} (curly braces) – work like in C++
catch - NOT IMPLEMENTED
class – syntax and meaning is different. Translator always try to make as many translation as possible, but offten manual changes are needed
draw() – function with special meaning translated into **processing_window::draw()**
exit() – function with special meaning translated into **processing_window::exit()**
extends – translated into "**: public**"
false – work like in C++
final - translated into "**const**"
implements - translated into "**: public**" (redundancy with extend are removed)
import – sometimes translated into #include
loop() - library function
new – work like similar C++ because of implementation of Processing::ptr<T>, and sarray etc...
noLoop() - library function
null - - translated into "**nullptr**"
pop() - NOT IMPLEMENTED
popStyle() - NOT IMPLEMENTED
private public - yntax and meaning is different. Translator always try to make as many translation as possible, but offten manual changes are needed
push() - NOT IMPLEMENTED
pushStyle() - NOT IMPLEMENTED
redraw() - library function
return – work like in C++
setup() – function with special meaning translated into **processing_window::setup()**
static – remain in code, bat may not work properly!
super – must be manually translated!
this – All ***this.*** are replaced by **this->**
thread() - there is different philosophy in C++, so NOT IMPLEMENTED!
true – work like in C++
try - NOT IMPLEMENTED
void – work like in C++

Environment

cursor()
delay() - library **function imported from symshell**
displayDensity()
focused
frameCount
frameRate() - translated into **setFrameRate()** library function
frameRate - library variable with **const**
fullScreen()
height - library variable with **const**
noCursor()
noSmooth() - library **function**
pixelDensity()
pixelHeight
pixelWidth
settings()
size() - library **function**
smooth() - library **function**
width - library variable with **const**

Data

Primitive

boolean - translated into **bool**

byte - NOT IMPLEMENTED

char – work like in C++

color - NOT IMPLEMENTED

double – work like in C++

float – work like in C++

int – work like in C++

long – work like in C++

Composite

Array - translated into **array, matrix** library classes

ArrayList

DoubleDict

DoubleList

FloatDict

FloatList

HashMap

IntDict

IntList

JSONArray

JSONObject

LongDict

LongList

Object

String - translated into **String, _param_string** library classes

StringDict

StringList

Table

TableRow

XML

Conversion

binary()

boolean()

byte()

char()

float()

hex()

int()

str()

unbinary()

unhex()

String Functions

join()

match()

matchAll()

nf() nfc() nfp() nfs() - library **functions**

split()

splitTokens()

trim()

Array Functions

append()
arrayCopy()
concat()
expand()
reverse()
shorten()
sort()
splice()
subset()

Control

Relational Operators

!= (inequality) – work like in C++

< (less than) – work like in C++

<= (less than or equal to) – work like in C++

== (equality) – work like in C++

> (greater than) – work like in C++

>= (greater than or equal to) – work like in C++

Iteration

for while – work like in C++

Conditionals

?: (conditional) – work like in C++

break – work like in C++

case – work like in C++

continue – work like in C++

default – work like in C++

else – work like in C++

if – work like in C++

switch – work like in C++

Logical Operators

! (logical NOT) – work like in C++
&& (logical AND) – work like in C++
|| (logical OR) – work like in C++

Color

Setting

background() - NOT IMPLEMENTED

clear() - NOT IMPLEMENTED

colorMode() - NOT IMPLEMENTED

fill() - library **function**

noFill() - library **function**

noStroke() - library **function**

stroke() - library **function**

Creating & Reading

alpha()
blue()
brightness()
color()
green()
hue()
lerpColor()
red()
saturation()

Shape

createShape()

loadShape()

PShape

2D Primitives

arc() - library **function**

circle() - NOT IMPLEMENTED

ellipse() - library **function**

line() - library **function**

point() - library **function**

quad() - NOT IMPLEMENTED

rect() - library **function**

square() - NOT IMPLEMENTED

triangle() - NOT IMPLEMENTED

Curves

bezier()

bezierDetail()

bezierPoint()

bezierTangent()

curve()

curveDetail()

curvePoint()

curveTangent()

curveTightness()

3D Primitives

box() - 3D GRAPHIX NOT IN MY PLAN

sphere() - 3D GRAPHIX NOT IN MY PLAN

sphereDetail() - 3D GRAPHIX NOT IN MY PLAN

Attributes

ellipseMode() - library **function**

rectMode() - library **function**

strokeCap() - library **function**

strokeJoin() - library **function**

strokeWeight() - library **function**

Vertex

beginContour()

beginShape()

bezierVertex()

curveVertex()

endContour()

endShape()

quadraticVertex()

vertex()

Loading & Displaying

shape()
shapeMode()

Input

Mouse

MouseButton

mouseClicked() - empty library **function for reiplementation by user**

mouseDragged() - NOT IMPLEMENTED

mouseMoved() - NOT IMPLEMENTED

mousePressed()

mousePressed

mouseReleased() - NOT IMPLEMENTED

mouseWheel() - NOT IMPLEMENTED

mouseX

mouseY

pmouseX

pmouseY

Keyboard

key

keyCode

keyPressed()

keyPressed

keyReleased() - NOT IMPLEMENTED

keyTyped()

Files

BufferedReader - NOT IMPLEMENTED

createInput() - NOT IMPLEMENTED

createReader() - NOT IMPLEMENTED

launch()

loadBytes()

loadJSONArray()

loadJSONObject()

loadStrings()

loadTable()

loadXML()

parseJSONArray()

parseJSONObject()

parseXML()

selectFolder()

selectInput()

Time & Date

day()
hour()
millis()
minute()
month()
second()
year()

Output

Text Area

print() - library **functions**

printArray()

println() - library **function**

Image

save()

saveFrame()

Files

beginRaw()
beginRecord()
createOutput()
createWriter()
endRaw()
endRecord()
PrintWriter
saveBytes()
saveJSONArray()
saveJSONObject()
saveStream()
saveStrings()
saveTable()
saveXML()
selectOutput()

Transform

applyMatrix() - 3D GRAPHIX NOT IN MY PLAN
popMatrix() - 3D GRAPHIX NOT IN MY PLAN
printMatrix() - 3D GRAPHIX NOT IN MY PLAN
pushMatrix() - 3D GRAPHIX NOT IN MY PLAN
resetMatrix() - 3D GRAPHIX NOT IN MY PLAN
rotate() - 3D GRAPHIX NOT IN MY PLAN
rotateX() - 3D GRAPHIX NOT IN MY PLAN
rotateY() - 3D GRAPHIX NOT IN MY PLAN
rotateZ() - 3D GRAPHIX NOT IN MY PLAN
scale() - 3D GRAPHIX NOT IN MY PLAN
shearX() - 3D GRAPHIX NOT IN MY PLAN
shearY() - 3D GRAPHIX NOT IN MY PLAN
translate() - 3D GRAPHIX NOT IN MY PLAN

Lights, Camera

Lights

ambientLight() - 3D GRAPHIX NOT IN MY PLAN

directionalLight() - 3D GRAPHIX NOT IN MY PLAN

lightFalloff() - 3D GRAPHIX NOT IN MY PLAN

lights() - 3D GRAPHIX NOT IN MY PLAN

lightSpecular() - 3D GRAPHIX NOT IN MY PLAN

noLights() - 3D GRAPHIX NOT IN MY PLAN

normal() - 3D GRAPHIX NOT IN MY PLAN

pointLight() s- 3D GRAPHIX NOT IN MY PLAN

potLight() - 3D GRAPHIX NOT IN MY PLAN

Camera

beginCamera() - 3D GRAPHIX NOT IN MY PLAN

camera() - 3D GRAPHIX NOT IN MY PLAN

endCamera() - 3D GRAPHIX NOT IN MY PLAN

frustum() - 3D GRAPHIX NOT IN MY PLAN

ortho() - 3D GRAPHIX NOT IN MY PLAN

perspective() - 3D GRAPHIX NOT IN MY PLAN

printCamera() - 3D GRAPHIX NOT IN MY PLAN

printProjection() - 3D GRAPHIX NOT IN MY PLAN

Coordinates

modelX()

modelY()

modelZ() - 3D GRAPHIX NOT IN MY PLAN

screenX()

screenY()

screenZ() - 3D GRAPHIX NOT IN MY PLAN

Material Properties

ambient() - 3D GRAPHIX NOT IN MY PLAN
emissive() - 3D GRAPHIX NOT IN MY PLAN
shininess() - 3D GRAPHIX NOT IN MY PLAN
specular() - 3D GRAPHIX NOT IN MY PLAN

Image

createImage()

PImage

Loading & Displaying

image()

imageMode()

loadImage()

noTint()

requestImage()

tint()

Textures

texture() - 3D GRAPHIX NOT IN MY PLAN

textureMode() - 3D GRAPHIX NOT IN MY PLAN

textureWrap() - 3D GRAPHIX NOT IN MY PLAN

Pixels

Blend() -
copy() -
filter() -
get()
loadPixels()
pixels[]
set()
updatePixels()

Rendering

blendMode() - 3D GRAPHIX NOT IN MY PLAN

clip() - 3D GRAPHIX NOT IN MY PLAN

createGraphics() - 3D GRAPHIX NOT IN MY PLAN

noClip() - 3D GRAPHIX NOT IN MY PLAN

PGraphics - 3D GRAPHIX NOT IN MY PLAN

Shaders

loadShader() - 3D GRAPHIX NOT IN MY PLAN
PShader - 3D GRAPHIX NOT IN MY PLAN
resetShader() - 3D GRAPHIX NOT IN MY PLAN
shader() - 3D GRAPHIX NOT IN MY PLAN

Typography

PFont

Loading & Displaying

createFont()

loadFont()

text()

textFont()

Attributes

textAlign()

textLeading()

textMode()

textSize()

textWidth()

Metrics

textAscent()
textDescent()

Math

PVector

Operators

% (modulo) – work like in C++

* (multiply) – work like in C++

*= (multiply assign) – work like in C++

+ (addition) – work like in C++

++ (increment) – work like in C++

+= (add assign) – work like in C++

- (minus) – work like in C++

-- (decrement) – work like in C++

-= (subtract assign) – work like in C++

/ (divide) – work like in C++

/= (divide assign) – work like in C++

Bitwise Operators

& (bitwise AND) – work like in C++

<< (left shift) – work like in C++

>> (right shift) – work like in C++

| (bitwise OR) – work like in C++

Calculation

abs()

ceil() – work like in C++

constrain()

dist()

exp()

floor() – work like in C++

lerp()

log() – work like in C++

mag()

map()

max() – work like in C++

min() – work like in C++

norm()

pow() – work like in C++

round()

sq()

sqrt() – work like in C++

Trigonometry

acos() – work like in C++

asin() – work like in C++

atan() – work like in C++

atan2() – work like in C++

cos() – work like in C++

degrees()

radians()

sin() – work like in C++

tan() – work like in C++

Random

noise()
noiseDetail()
noiseSeed()
random()
randomGaussian()
randomSeed()

Constants

HALF_PI
PI
QUARTER_PI
TAU
TWO_PI