ofGetElapsedTimeMillis ofGetLastFrameTime ofGetLastFrameTimeMillis	- get the actual frame rate of the current window - get the target frame rate of the current window - get the elapsed time in seconds - get the elapsed time in milliseconds - get the last frame time in seconds - get the last frame time in milliseconds
ofGetOrienLock ofGetOrien ofGetFullscreen ofGetFocus ofGetWindowPosX	get the orientation lock state of the current window get the orientation of the current window get the fullscreen state of the current window get the focus state of the current window get the x position of the current window
fGetWindowPosY fGetWindowPos fGetScreenWidth fGetScreenHeight fGetScreenDimen	get the y position of the current window get the position of the current window get the width of the current device's screen get the height of the current device's screen get the dimensions of the current device's screen get the retina scale of the current device's screen
fGetBgColorR fGetBgColorG fGetBgColorB fGetBgColor fGetWindow	get the r value of the background color get the g value of the background color get the b value of the background color get the background color of the current window check if a window exists
fGetFirstRenderOrder fGetLastRenderOrder fTouchListener fMouseListener fScrollListener	- get the first rendering order - get the last rendering order - listen to the touch events - listen to the mouse events - listen to the mouse scroll events - listen to the key events
ofAccelListener ofWindowScaleListener ofOrienListener ofFullscreenListener ofFocusListener	- listen to the accelerometer events - listen to the updated scale of the current window - listen to the updated orientation of the current window - listen to the fullscreen mode of the current window - listen to the focus state of the current window
fWindowPosListener fWindowListener fWindowLoadBang fWindowCloseBang fBackListener	- listen to the updated position of the current window - listen to the creation/destruction of the current window - listen to the creation of the current window - listen to the destruction of the current window - listen to the back button press on android devices
fTranslate fRotateX fRotateY	 the start of a rendering chain move along the coordinate system rotate around the x-axis of the coordinate system rotate around the y-axis of the coordinate system
fRotateZ fRotateXYZ fRotate fScale fPushMatrix	- rotate around the z-axis of the coordinate system - rotate around the xyz-axis of the coordinate system - produce a rotation of angle around the vector - scale along the coordinate system - push the current matrix - pop the current matrix
fGetTranslate fGetRotate fGetScale fSetColor fSetBgColor	get the current translate information get the current rotate information get the current scale information set the draw color set the background color
fSetRectMode fSetTextMode fSetFillMode fSetPolyMode fSetBlendMode	 set the background color set the align mode for drawing rectangular objects set the align mode for drawing texts set the fill mode for drawing shaped objects set the poly winding mode for drawing set the blend mode for drawing set the width of the lined objects
fSetLineSmoothing fSetCircleRes fSetCurveRes fPushStyle fPopStyle	- enable/disable the smoothing for lines - set the resolution for circular objects - set the resolution for curved objects - push the current style - pop the current style
fSepMatrix fSepStyle fSeparator fViewport fSetDepthTest	 pop the current style separate render chains in matrix separate render chains in style separate render chains in matrix and style setup the drawing viewport enable/disable the depth test enable/disable the use of ARB textures
fSetAntiAliasing fSetBgAuto fClear fClearColor	 enable/disable the use of ARB textures enable/disable the anti-aliasing for lines enable/disable the auto background clearing function clear the color and depth bits of current renderer clear the color bits of current renderer clear the depth bits of current renderer
fClearAlpha fBeginShape fEndShape fNextContour fVertex2d	 clear the depth bits of current renderer clear the alpha channel of current renderer start drawing a new shape finish drawing the shape and draw it to the screen draw multiple contours within one shape specify a single 2d point of a shape specify a single 3d point of a shape
fCurveVertex2d fCurveVertex3d fBezierVertex2d fBezierVertex3d fCircle	 specify a single 2d point of a shape specify a single 3d point of a shape describe a bezier curve through three points of a shape describe a bezier curve through three points of a shape draw a circle
fEllipse fArc fSector fLine2d fLine3d	 draw a circle draw an ellipse draw an arc draw a sector draw a 2d line draw a 2d curve
fCurve3d fBezier2d fBezier3d fQuadBezier2d fQuadBezier3d	- draw a 3d curve - draw a 2d bezier curve - draw a 3d bezier curve - draw a 2d quadratic bezier curve - draw a 3d quadratic bezier curve
fTriangle2d fTriangle3d fEqTriangle fIsoTriangle fQuad2d	 draw a 3d quadratic bezier curve draw a 2d triangle draw a 3d triangle draw an equilateral triangle draw an isosceles triangle draw a 2d quadrilateral draw a 3d quadrilateral
fQuad3d fSquare fRectangle fRectRounded fRectRounded4	•
fHeart fMoon fRegPolygon fStar fAxis	- draw a heart - draw a moon - draw a regular polygon - draw a star - draw axes
fBox fCone fCylinder fIcosphere fPlane	 draw axes draw a box draw a cone draw a cylinder draw an icosphere draw a plane draw a sphere
fSphere fArrow fGrid fGridPlane fRotationAxes	·
fLoadPolyline3d fDrawPolyline2d fDrawPolyline3d fDoesPolyline2dNameExist fDoesPolyline3dNameExist	- store an array of polyline3d commands - draw the stored polyline2d - draw the stored polyline3d - check the existence of a polyline2d variable name - check the existence of a polyline3d variable name
fEditPolyline2dPoint fEditPolyline3dPoint fGetPolyline2dPoint fGetPolyline3dPoint fGetPolyline2dPoints	 edit the stored polyline2d point edit the stored polyline3d point get a polyline2d point at the given index get a polyline3d point at the given index get all polyline2d points as a list
fIsPointInsidePolyline2d fIsPointInsidePolyline3d fGetPolyline2dCommand fGetPolyline3dCommand fGetPolyline2dCommands	 get all polyline3d points as a list check if a 2d point is within a closed polyline2d check if a 2d point is within a closed polyline3d get a polyline2d command at the given index get a polyline3d command at the given index get all polyline2d commands as a list
fGetPolyline3dCommands fGetPolyline2dBoundingBox fGetPolyline3dBoundingBox fGetPolyline2dCentroid fGetPolyline3dCentroid	- get all polyline3d commands as a list - get the dimensions of the polyline2d bounding box - get the dimensions of the polyline3d bounding box - get the center position of the polyline2d area - get the center position of the polyline3d area - get the precise area of the polyline2d
fGetPolyline3dArea fGetPolyline2dPerimeter fGetPolyline3dPerimeter fLoadPath2d fLoadPath3d	- get the precise area of the polyline3d - get the size of the perimeter of the polyline2d - get the size of the perimeter of the polyline3d - store an array of path2d commands - store an array of path3d commands
fDrawPath2d fDrawPath3d fDoesPath2dNameExist fDoesPath3dNameExist fGetPath2dPoint	- draw the stored path2d - draw the stored path3d - check the existence of a path2d variable name - check the existence of a path3d variable name - get a path2d point at the given index
fGetPath2dPoints fGetPath3dPoints fIsPointInsidePath2d fIsPointInsidePath3d fGetPath2dCommand	 get a path3d point at the given index get all path2d points as a list get all path3d points as a list check if a 2d point is within a closed path2d check if a 2d point is within a closed path3d get a path2d command at the given index
fGetPath3dCommand fGetPath2dCommands fGetPath3dCommands fGetPath2dTessellation fGetPath3dTessellation	- get a path3d command at the given index - get all path2d commands as a list - get all path3d commands as a list - get the tessellation data to convert path2d to mesh2d - get the tessellation data to convert path3d to mesh3d
fGetPath2dBoundingBox fGetPath3dBoundingBox fGetPath2dCentroid fGetPath3dCentroid fGetPath2dArea	- get the dimensions of the path2d bounding box - get the dimensions of the path3d bounding box - get the center position of the path2d area - get the center position of the path3d area - get the precise area of the path2d - get the precise area of the path3d
fGetPath2dPerimeter fGetPath3dPerimeter fCreateFbo fBindFboTex fDrawFbo	- get the precise area of the path3d - get the size of the perimeter of the path2d - get the size of the perimeter of the path3d - create framebuffer object - bind the stored fbo's texture - draw the stored fbo - check the existence of a fbo variable name
fDoesFboNameExist fIsFboAllocated fGetFboDimen fGetFboType fGetFboMaxSamples	- check the existence of a fbo variable name - check if the fbo is allocated or not - get the dimensions of the fbo - get the type of the fbo - get the maximum number of MSAA samples - create an image
fLoadImage fEditImage fSaveImage fBindImageTex fDrawImage	- store an array of images - edit the stored image - save image to disk - bind the stored image's texture - draw the stored image
fDrawSubImage fDoesImageNameExist fGetImagePath fIsImageAllocated fGetImageDimen	- draw a subsection of the image - check the existence of an image variable name - get the absolute path of the image - check if the image is allocated or not - get the dimensions of the image - get the type of the image
fGetImageColorAt fGetImageTexCoord fGetImageTexCoords fLoadShader fApplyShader	 get the type of the image get the color of a pixel at the specified x, y index get the texture coordinate of the image from 2d vertex get the texture coordinates of the image from 2d vertices store an array of shaders apply the shader check the existence of a shader variable name
fGetShaderPath fIsShaderLoaded fSetShaderUniform1i fSetShaderUniform2i fSetShaderUniform3i	- get the absolute path of the shader - check if the shader is loaded or not - set a int uniform on the shader - set a ivec2 uniform on the shader - set a ivec3 uniform on the shader
fSetShaderUniform4i fSetShaderUniform1f fSetShaderUniform2f fSetShaderUniform3f fSetShaderUniform4f	- set a ivec4 uniform on the shader - set a float uniform on the shader - set a vec2 uniform on the shader - set a vec3 uniform on the shader - set a vec4 uniform on the shader
fSetShaderUniform2iv fSetShaderUniform3iv fSetShaderUniform4iv fSetShaderUniform1fv	- set an array of int uniform on the shader - set an array of ivec2 uniform on the shader - set an array of ivec3 uniform on the shader - set an array of ivec4 uniform on the shader - set an array of float uniform on the shader - set an array of vec2 uniform on the shader
fSetShaderUniform3fv fSetShaderUniform4fv fSetShaderUniformTex fSetShaderAttribute1s fSetShaderAttribute2s	- set an array of vec2 uniform on the shader - set an array of vec4 uniform on the shader - set a texture reference on the shader - set 1 short attribute on the shader - set 2 short attributes on the shader - set 3 short attributes on the shader
fSetShaderAttribute4s fSetShaderAttribute1f fSetShaderAttribute2f fSetShaderAttribute3f fSetShaderAttribute4f	- set 4 short attributes on the shader - set 1 float attribute on the shader - set 2 float attributes on the shader - set 3 float attributes on the shader - set 4 float attributes on the shader
fSetShaderAttribute1d fSetShaderAttribute2d fSetShaderAttribute3d fSetShaderAttribute4d fSetShaderAttribute1fv	- set 4 float attributes on the shader - set 2 double attributes on the shader - set 3 double attributes on the shader - set 4 double attributes on the shader - set an array of 1 float attribute on the shader - set an array of 2 float attributes on the shader
fSetShaderAttribute3fv fSetShaderAttribute4fv fLoadFont fEditFont	- set an array of 2 float attributes on the shader - set an array of 3 float attributes on the shader - set an array of 4 float attributes on the shader - store an array of fonts - edit the stored font - bind the stored font's texture
fDrawText fDrawTextAsShapes fDoesFontNameExist fGetFontPath fGetFontSize	- bind the stored font's texture - draw a text using the stored font - draw a text as shapes using the stored font - check the existence of a font variable name - get the absolute path of the font - get the size of the font - check if the font is loaded or not
fGetTextBoundingBox fGetFontLetterSpacing fGetFontLineHeight fGetFontSpaceSize fGetTextMesh2dCommands	- get the dimensions of the text bounding box - get the letter spacing of the font - get the line height of the font - get the space size of the font - get the mesh2d data based on the font and text
fGetTextMesh3dCommands fLoadMesh2d fLoadMesh3d fDrawMesh2d fDrawMesh3d	- get the mesh3d data based on the font and text - store a set of arrays for a 2d mesh - store a set of arrays for a 3d mesh - draw the stored mesh2d - draw the stored mesh3d - check the existence of a mesh2d variable name
fDoesMesh3dNameExist fEditMesh2dVertex fEditMesh3dVertex fEditMesh2dIndex fEditMesh3dIndex	- check the existence of a mesh2d variable name - check the existence of a mesh3d variable name - edit the stored mesh2d vertex - edit the stored mesh3d vertex - edit the stored mesh2d index - edit the stored mesh3d index - edit the stored mesh2d normal
fEditMesh3dNormal fEditMesh2dTexCoord fEditMesh3dTexCoord fEditMesh2dColor fEditMesh3dColor	- edit the stored mesh3d normal - edit the stored mesh2d texture coordinate - edit the stored mesh3d texture coordinate - edit the stored mesh2d color - edit the stored mesh3d color
fGetMesh2dVertex fGetMesh3dVertex fGetMesh2dIndex fGetMesh3dIndex fGetMesh2dNormal	- get the mesh2d vertex at the given index - get the mesh3d vertex at the given index - get the mesh2d index at the given index - get the mesh3d index at the given index - get the mesh2d normal at the given index - get the mesh3d normal at the given index
fGetMesh2dTexCoord fGetMesh3dTexCoord fGetMesh2dColor fGetMesh3dColor fGetMesh2dVertices	get the mesh2d texture coordinate at the given index get the mesh3d texture coordinate at the given index get the mesh2d color at the given index get the mesh3d color at the given index get all mesh2d vertices as a list
fGetMesh3dVertices fGetMesh2dIndices fGetMesh3dIndices fGetMesh2dNormals fGetMesh3dNormals	 get all mesh2d vertices as a list get all mesh2d indices as a list get all mesh3d indices as a list get all mesh2d normals as a list get all mesh3d normals as a list get all mesh2d texture coordinates as a list
fGetMesh3dTexCoords fGetMesh2dColors fGetMesh3dColors fGetMesh2dCommands	- get all mesh2d texture coordinates as a list - get all mesh3d texture coordinates as a list - get all mesh2d colors as a list - get all mesh3d colors as a list - get all mesh2d commands as a list - get all mesh3d commands as a list
fGetMesh2dBoundingBox fGetMesh3dBoundingBox fGetMesh2dCentroid fGetMesh3dCentroid fEasyCam	- get the dimensions of the mesh2d bounding box - get the dimensions of the mesh3d bounding box - get the centroid of all the vetices in the mesh2d - get the centroid of all the vetices in the mesh3d - a simple camera for interacting with objects in 3d space
fPointLight fSpotlight fDirectionalLight fMaterial	- a basic camera for interacting with objects in 3d space - a light that spreads outward evenly in all directions - a light that spreads outward in a cone - a light that comes evenly from a given direction - set the material of the object
fEditFloat fDoesFloatNameExist fGetFloat	store an array of floatsedit the stored floatcheck the existence of a float variable nameget a float element at the given index
fGetFloats fGetFloatAverage fLoadVec2f fEditVec2f fDoesVec2fNameExist	- get all float elements as a list - get the average value of float elements - store an array of two dimensional vectors - edit the stored vec2f - check the existence of a vec2f variable name - get a vec2f element at the given index
fGetVec2fs fGetVec2fAverage fGetVec2fAngle fGetVec2fAngleRad fGetVec2fDist	- get all vec2f elements as a list - get the average value of vec2f elements - get the angle in degrees between two vec2fs - get the angle in radians between two vec2fs - get the distance between two vec2fs
fGetVec2fDistSquared fGetVec2fDot fGetVec2fLength fGetVec2fLengthSquared fLoadVec3f	- get the squared distance between two vec2fs - get the dot product of two vec2fs - get the length of the vec2f element - get the squared length of the vec2f element - store an array of three dimensional vectors - edit the stored vec3f
fDoesVec3fNameExist fGetVec3f fGetVec3fs fGetVec3fAverage fGetVec3fAngle	 check the existence of a vec3f variable name get a vec3f element at the given index get all vec3f elements as a list get the average value of vec3f elements get the angle in degrees between two vec3fs
fGetVec3fAngleRad fGetVec3fDist fGetVec3fDistSquared fGetVec3fDot fGetVec3fLength	get the angle in radians between two vec3fs get the distance between two vec3fs get the squared distance between two vec3fs get the dot product of two vec3fs get the length of the vec3f element get the squared length of the vec3f element
fLoadVec4f fEditVec4f fDoesVec4fNameExist fGetVec4f fGetVec4fs	- store an array of four dimensional vectors - edit the stored vec4f - check the existence of a vec4f variable name - get a vec4f element at the given index - get all vec4f elements as a list
fGetVec4fAverage fGetVec4fDist fGetVec4fDistSquared fGetVec4fDot fGetVec4fLength	- get all vec4f elements as a list - get the average value of vec4f elements - get the distance between two vec4fs - get the squared distance between two vec4fs - get the dot product of two vec4fs - get the length of the vec4f element - get the squared length of the vec4f element
fGetVec4fLengthSquared fLoadColor fEditColor fDoesColorNameExist fGetColor	
fLoadSymbol fEditSymbol fDoesSymbolNameExist fGetSymbol	 get all color elements as a list store an array of symbols edit the stored symbol check the existence of a symbol variable name get a symbol element at the given index get all symbol elements as a list
fAngleDifferenceDegrees fAngleDifferenceRadians fDegToRad fRadToDeg	 calculate the difference between two angles in degrees calculate the difference between two angles in radians convert degrees to radians convert radians to degrees
fDist2d fDist3d fDistSquared2d fDistSquared3d fInRange	 convert radians to degrees calculate the 2d distance between two points calculate the 3d distance between two points calculate the squared 2d distance between two points calculate the squared 3d distance between two points determine if a number is inside of a given range clamp a value between min and max
fClamp fNormalize fLerp fLerpDegrees fLerpRadians	
fRandomf fRandomuf fSeedRandom fWrap fWrapDegrees	- get a random floating point number between -1 and 1 - get a random floating point number between 0 and 1 - seed the random number generator with a unique value - wrap a value if it overflows a given range - wrap a value within the angle in degrees
fWrapRadians fMap fNextPow2 fNoise fSignedNoise	- wrap a value within the angle in radians - map the value to a new value - calculate the next larger power of 2 - calculate a simplex noise value between 0 and 1 - calculate a simplex noise value between -1 and 1 - get the sign of a value
fAppend fPrepend fPack	- append a symbol to an incoming message - prepend a symbol to an incoming message - combine several atoms into one message
fListFind fFindList fListInsert fInsertList fListFill	 combine several atoms into one message get indices of sublists found in a list get indices of sublists found in a list insert a list into a list insert a list into a list fill a list with element fill a list with element
fFillList fListReplace fReplaceList fListRemove fRemoveList	 fill a list with element replace sublists in a list remove sublists in a list remove sublists in a list remove a range of elements from a list
fEraseList fListSort fListUnique fListReverse fListShuffle	 remove a range of elements from a list sort a list in ascending or descending order remove duplicates from a list reverse the order of a list randomly change the order of a list
fListToSymbol fSymbolToList fHexToHsb fHexToRgb fHsbToHex	- convert a list into a symbol - convert a symbol into a list - convert hex color values to hsb color values - convert hex color values to rgb color values - convert hsb color values to hex color values
fHsbToRgb fRgbToHex fRgbToHsb fValue fSend	- convert his cotor values to hex cotor values - convert his color values to hex color values - convert rgb color values to his color values - convert rgb color values to his color values - nonlocal shared value - send messages without patch cords - receive messages without patch cords
fReceive fExpr fDefine fPatch fGetCanvasName	
fGetDollarZero fGetDollarArgs fError fFile fSaveURL	- get the \$0 value of the patch - get the arguments of the patch - print an error to the pd console - create/remove/rename/copy/move files - save a file from a url - check the existence of a file
fGetDirectoryFileNames fGetDirectoryFilePaths fDirectory fGetPatchDirectory fGetHomeDirectory	- get the list of file names in a directory - get the list of file paths in a directory - create/remove/rename/copy/move directories - get the directory of the patch - get the user home directory on desktop platforms
fGetDocumentsDirectory fGetLibraryDirectory fGetTemporaryDirectory fDoesDirectoryExist	get the documents directory on ios devices get the library directory on ios devices get the temporary directory on ios devices check the existence of a directory get a list of all available input/output audio devices set input/output audio device, sample rate and block size
fSetAudioDevices	 set input/output audio device, sample rate and block size get a list of all available input/output midi devices set input/output midi device count over a range count over a range at once
fGetMidiDevices fSetMidiDevices fCount fCountUntil fStep	- increase or decrease a value in steps
fGetMidiDevices fSetMidiDevices fCount fCountUntil fStep fAnimate fSwitch fGate fGetMinFloat fGetMaxFloat	-
fGetMidiDevices fSetMidiDevices fCount fCountUntil fStep fAnimate fSwitch fGate fGetMinFloat fGetPlatform fGetDate fGetTime AUDIO	- increase or decrease a value in steps - smoothly change a value over time - pass messages from a specific inlet - route a message to an outlet - get the lowest possible float - get the highest possible float - get the OS platform being used - get the day/month/year - get the time in seconds/minutes/hours
ofGetMidiDevices ofCount ofCount ofCountUntil ofStep ofAnimate ofSwitch ofGate ofGetMinFloat ofGetPlatform ofGetDate ofGetTime ofSine~ ofTriangle~ ofSquare~ ofBlTriangle~	- increase or decrease a value in steps - smoothly change a value over time - pass messages from a specific inlet - route a message to an outlet - get the lowest possible float - get the highest possible float - get the OS platform being used - get the day/month/year - get the time in seconds/minutes/hours