OpenSCAD CheatSheet v2015.03

Syntax

```
var = value;
module name(…) { … }
name();
function name(…) = …
name();
include <….scad>
use <….scad>
```

2D

```
circle(radius | d=diameter)
square(size,center)
square([width,height],center)
polygon([points])
polygon([points],[paths])
text(t, size, font,
     halign, valign, spacing,
     direction, language, script)
```

3D

```
sphere(radius | d=diameter)
cube(size, center)
cube([width,depth,height], center)
cylinder(h,r|d,center)
cylinder(h,r1|d1,r2|d2,center)
polyhedron(points, triangles, convexity)
```

Transformations

```
translate([x,y,z])
rotate([x,y,z])
scale([x,y,z])
resize([x,y,z],auto)
mirror([x,y,z])
multmatrix(m)
color("colorname")
color([r,g,b,a])
offset(r|delta,chamfer)
hull()
minkowski()
```

Boolean operations

```
union()
difference()
intersection()
```

Modifier Characters

*	disable
!	show only
#	highlight / debug
%	transparent / background

Mathematical

- abs
- sign
- sin
- cos
- tan
- acos
- asin
- atan
- atan2
- floor
- round
- ceil
- ln
- len
- let
- log
- pow
- sqrt
- exp
- rands
- min
- max

Functions

- concat
- lookup
- str
- chr
- search
- version
- version_num
- norm
- cross
- parent_module(idx)

Other

```
echo(…)
for (i = [start:end]) { … }
for (i = [start:step:end]) { … }
for (i = […,…,…]) { … }
intersection_for(i = [start:end]) { … }
intersection_for(i = [start:step:end]) { … }
intersection_for(i = […,…,…]) { … }
if (…) { … }
assign (…) { … }
import("….stl")
linear_extrude(height,center,convexity,twist,slices)
rotate_extrude(angle,convexity)
surface(file = "….dat",center,convexity)
projection(cut)
render(convexity)
children([idx])
```

List Comprehensions

Generate	[for (i = *range*|*list*) i]
Conditions	[for (i = …) if (condition(i)) i]
Assignments	[for (i = …) let (assignments) a]

Special variables

$fa	minimum angle
$fs	minimum size
$fn	number of fragments
$t	animation step
$vpr	viewport rotation angles in degrees
$vpt	viewport translation
$vpd	viewport camera distance
$children	number of module children

Links: Official website | Code | Issues | Manual | MCAD library | Forum | Other links

Edit me on GitHub!

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