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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