

OpenSCAD CheatSheet

Syntax

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

2D

```
circle(radius)  
square(size,center)  
square([width,height],center)  
polygon([points])  
polygon([points],[paths])
```

3D

```
sphere(radius)  
cube(size)  
cube([width,height,depth])  
cylinder(h,r,center)  
cylinder(h,r1,r2,center)  
polyhedron(points, triangles, convexity)
```

Examples

```
cylinder(10,5,5);  
cylinder(h=10,r=5);
```

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])  
hull()  
minkowski()
```

Boolean operations

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

Modifier Characters

```
*   disable  
!   show only  
#   highlight  
%   transparent
```

Mathematical

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

Other

```
echo(...)  
str(...)  
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 (...) { ... }  
search(...)  
import("...stl")  
linear_extrude(height,center,convexity,twist,slices)  
rotate_extrude(convexity)  
surface(file = "...dat",center,convexity)  
projection(cut)  
render(convexity)
```

Special variables

```
$fa minimum angle  
$fs minimum size  
$fn number of fragments  
$t animation step
```