

openscad-test



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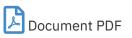


## 1. Document information

Links to Document



Document Source



test repo for building openscad files into different outputs

This is still work in progress but can already build a png and stl of each stl file in the opescad directory.

# 2. Objects

## 2.1. Object - Library-container





Figure 1. image

#### Listing 1. Openscad source

```
module nibLeft(x,y,z,nibR) {
    translate([x,y/10,0]) cylinder(h=z,r=nibR);
    translate([x,9*(y/10),0]) cylinder(h=z,r=nibR);
3
module nibRight(x,y,z,nibR) {
    translate([0,y/10,0]) cylinder(h=z,r=nibR);
    translate([0,9*(y/10),0]) cylinder(h=z,r=nibR);
3
module nibBottom(x,y,z,nibR) {
    translate([x/10,0,0]) cylinder(h=z,r=nibR);
    translate([9*(x/10),0,0]) cylinder(h=z,r=nibR);
3
module nibTop(x,y,z,nibR) {
    translate([x/10,y,0]) cylinder(h=z,r=nibR);
    translate([9*(x/10),y,0]) cylinder(h=z,r=nibR);
module containerOpenLid(x,y,z,rimThick,bottomThick,nibYN,nibR) {
rimR=rimThick/2;
```



```
//all 8 corners defined first
//corners should be AROUND the contained cube defined by x y z
corner000=[0,0,0];
corner0=[-rimR,-rimR,-(rimR+bottomThick)];
corner0x=[x+rimR,-rimR,-(rimR+bottomThick)];
cornerOy=[-rimR,y+rimR,-(rimR+bottomThick)];
corner0xy=[x+rimR,y+rimR,-(rimR+bottomThick)];
corner0z=[-rimR,-rimR,z];
corner0xz=[x+rimR,-rimR,z];
corner0yz=[-rimR,y+rimR,z];
corner0xyz=[x+rimR,y+rimR,z]; //draw the debug contents
translate([0,0,-bottomThick]) cube([x,y,bottomThick]);
module corner0() {
   translate(corner0) sphere(r=rimR);
module corner0x() {
   translate(corner0x) sphere(r=rimR);
3
module corner0y() {
    translate(corner0y) sphere(r=rimR);
module corner0xy() {
    translate(corner0xy) sphere(r=rimR);
module corner0z() {
    translate(corner0z) sphere(r=rimR);
module corner0xz() {
    translate(corner0xz) sphere(r=rimR);
module corner0yz() {
    translate(corner0yz) sphere(r=rimR);
3
module corner0xyz() {
   translate(corner0xyz) sphere(r=rimR);
3
if (nibYN=="nibY") {
    nibBottom(x,y,z,nibR);
    nibLeft(x,y,z,nibR);
    nibRight(x,y,z,nibR);
    nibTop(x,y,z,nibR);
3
union(){
    //floor
    hull(){
        cornerO();
        corner0x();
        cornerOy();
        corner0xy();
    3
```



```
//left
        hull(){
            cornerO();
            corner0z();
            corner0y();
            corner0yz();
        //right
        hull(){
            corner0x();
            corner0xy();
            corner0xyz();
            corner0xz();
        3
        //top
        hull(){
            corner0y();
            cornerOyz();
            corner0xyz();
            corner0xy();
        3
        //bottom
        hull(){
            cornerO();
            corner0z();
            corner0x();
            corner0xz();
        3
    3
3
// example
//caseRim=1.5;
//$fn=100;
//odH=10;
//odW=156;
//odD=73;
//odJSH=6;
//#containerOpenLid(odW,odD,odH,caseRim,odJSH-caseRim,"nibY",.6);
//cube([odW,odD,odH]);
module containerVertSlot(x,y,z,rimThick,bottomThick,nibYN,nibR) {
    rimR=rimThick/2;
    //all 8 corners defined first
    //corners should be AROUND the contained cube defined by x y z
    corner000=[0,0,0];
    corner0=[-rimR,-rimR,-(rimR+bottomThick)];
    corner0x=[x+rimR,-rimR,-(rimR+bottomThick)];
    cornerOy=[-rimR,y+rimR,-(rimR+bottomThick)];
    corner0xy=[x+rimR,y+rimR,-(rimR+bottomThick)];
```



```
corner0z=[-rimR,-rimR,z];
corner0xz=[x+rimR,-rimR,z];
corner0yz=[-rimR,y+rimR,z];
corner0xyz=[x+rimR,y+rimR,z]; //draw the debug contents
translate([0,0,-bottomThick]) cube([x,y,bottomThick]);
module corner0() {
    translate(corner0) sphere(r=rimR);
module corner0x() {
    translate(corner0x) sphere(r=rimR);
module cornerOy() {
    translate(corner0y) sphere(r=rimR);
module corner0xy() {
    translate(corner0xy) sphere(r=rimR);
module corner0z() {
    translate(corner0z) sphere(r=rimR);
3
module corner0xz() {
    translate(corner0xz) sphere(r=rimR);
3
module cornerOyz() {
    translate(corner0yz) sphere(r=rimR);
3
module corner0xyz() {
    translate(corner0xyz) sphere(r=rimR);
3
if (nibYN=="nibY") {
    nibLeft(x,y,z,nibR);
    nibRight(x,y,z,nibR);
3
union(){
    //floor
    hull(){
        cornerO();
        corner0x();
        corner0y();
        corner0xy();
    }
    //left
    hull(){
        cornerO();
        corner0z();
        cornerOy();
        corner0yz();
    //right
    hull(){
```



```
corner0x();
            corner0xy();
            corner0xyz();
            corner0xz();
        3
    3
// example
//caseRim=1.5;
//$fn=100;
//odH=10;
//odW=15;
//odD=73;
//odJSH=6;
//containerVertSlot(odW,odD,odH,caseRim,odJSH-caseRim,"nibY",.6);
//cube([odW,odD,odH]);
if (library) {} else {
    echo("trying to compile a library!");
    linear_extrude(height = 4) {
        text("trying to compile a library!");
    3
```

### 2.2. Object - case



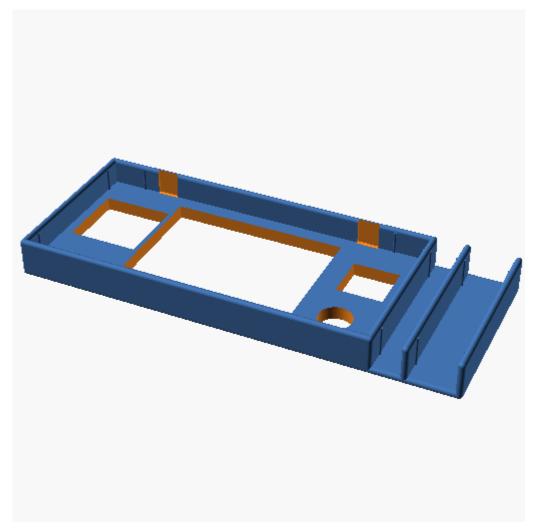


Figure 2. image

### Listing 2. Openscad source

```
include <Library-container.scad>
caseRim=3;
holdersR=.7;
$fn=100;
kbD=82;
kbW=210;
kbH=7;
library=true;

odH=10;
odW=156;
odD=73;

odJSW=28-13;
odJSR=odJSW/2;
odJSoffX=13;
odJSoffY=11;
```



```
odJSH=6;
odBRW=118-38;
odBRD=12-5;
odBRoffX=38;
odBRoffY=5;
odCRW=28-7;
odCRD=58-37;
odCRoffX=7;
odCRoffY=37;
odTBW=152-120;
odTBD=61-27;
odTBoffX=120;
odTBoffY=27;
odTLoffX=23;
odTLoffY=odD;
odTLW=33-23;
odTLD=2;
odTH=20;
odTRoffX=123;
odTRoffY=odD;
odTRW=odTLW;
odTRD=odTLD;
odDPW=odBRW;
odDPD=67-14;
odDPoffY=14;
odDPoffX=odBRoffX;
//the odroid travel case with cutouts for buttons etc
difference(){
    //the container itself
    translate([caseRim/2,caseRim/2,odJSH])
containerOpenLid(odW,odD,odH,caseRim,odJSH-caseRim,"nibY",.6);
    offset=.01;
    //the cutouts
    translate([1.5,.75,-offset/2]) union() {
        translate([odW-odJSR*2-odJSoffX,odJSoffY,0]+[odJSR,odJSR,0])
cylinder(h=odJSH+offset,r=odJSR);
        translate([odW-odBRW-odBRoffX,odBRoffY,0])
cube([odBRW,odBRD,odJSH+offset]);
        translate([odW-odCRW-odCRoffX,odCRoffY,0])
cube([odCRW,odCRW,odJSH+offset]);
        translate([odW-odTBW-odTBoffX,odTBoffY,0])
cube([odTBW,odTBW,odJSH+offset]);
        translate([odW-odTLW-odTLoffX,odTLoffY,odJSH-.1])
cube([odTLW,odTLD,odTH+offset]);
        translate([odW-odTRW-odTRoffX,odTRoffY,odJSH-.1])
cube([odTRW,odTRD,odTH+offset]);
        translate([odW-odDPW-odDPoffX,odDPoffY,0])
cube([odDPW,odDPD,odJSH+offset]);
    3
```



```
}
//add on some slots for peripherals
floorDepth=0;
//microuter slot
translate([caseRim/2+caseRim+odW,caseRim/2,floorDepth])
    containerVertSlot(12,odD,odH+odJSH,caseRim,floorDepth-caseRim,"nibY",.6);
//micro USB 3 Port Hub
translate([caseRim/2+2*caseRim+odW+12,caseRim/2,floorDepth])
    containerVertSlot(19.5,odD,odH+odJSH,caseRim,floorDepth-caseRim,"nibY",.6);
```

## 2.3. Object - test

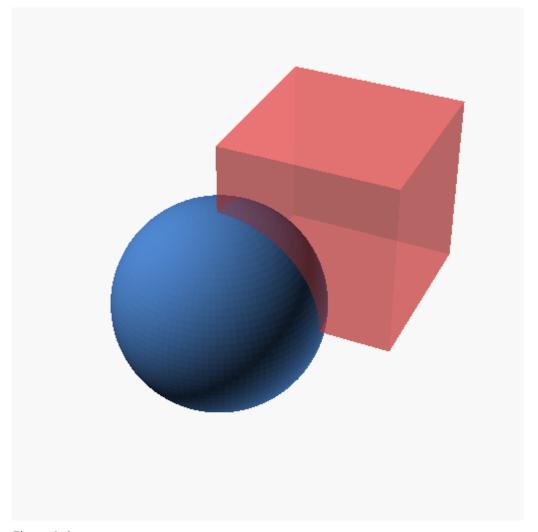


Figure 3. image

#### Listing 3. Openscad source

```
$fn=100;
#cube([10,10,10]);
sphere(d=12);
```



# 2.4. Object - test2

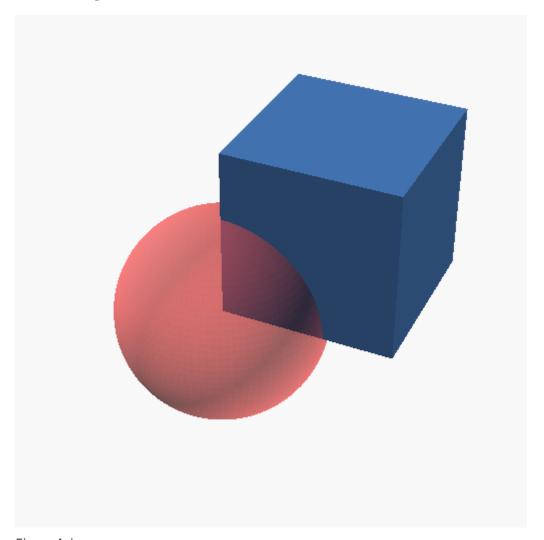


Figure 4. image

### Listing 4. Openscad source

```
$fn=100;
cube([10,10,10]);
#sphere(d=12);
```