

openscad-test



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1. Document information

Links to Document



Document online



Document Source



Document PDF

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);
}
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);
}
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);
}
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)];
corner0y=[-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 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);
}
module corner0xyz() {
    translate(corner0xyz) sphere(r=rimR);
}
if (nibYN=="nibY") {
    nibBottom(x,y,z,nibR);
    nibLeft(x,y,z,nibR);
    nibRight(x,y,z,nibR);
    nibTop(x,y,z,nibR);
}
union(){
    //floor
    hull(){
        corner0();
        corner0x();
        corner0y();
        corner0xy();
    }
}
```

```

    //left
    hull(){
        corner0();
        corner0z();
        corner0y();
        corner0yz();
    }
    //right
    hull(){
        corner0x();
        corner0xy();
        corner0xyz();
        corner0xz();
    }
    //top
    hull(){
        corner0y();
        corner0yz();
        corner0xyz();
        corner0xy();
    }
    //bottom
    hull(){
        corner0();
        corner0z();
        corner0x();
        corner0xz();
    }
}

// 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)];
    corner0y=[-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 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);
}
module corner0xyz() {
    translate(corner0xyz) sphere(r=rimR);
}
if (nibYN=="nibY") {
    nibLeft(x,y,z,nibR);
    nibRight(x,y,z,nibR);
}
union(){
    //floor
    hull(){
        corner0();
        corner0x();
        corner0y();
        corner0xy();
    }
    //left
    hull(){
        corner0();
        corner0z();
        corner0y();
        corner0yz();
    }
    //right
    hull(){

```

```
        corner0x();
        corner0xy();
        corner0xyz();
        corner0xz();
    }
}
}
// 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!");
    }
}
```

2.2. Object - case

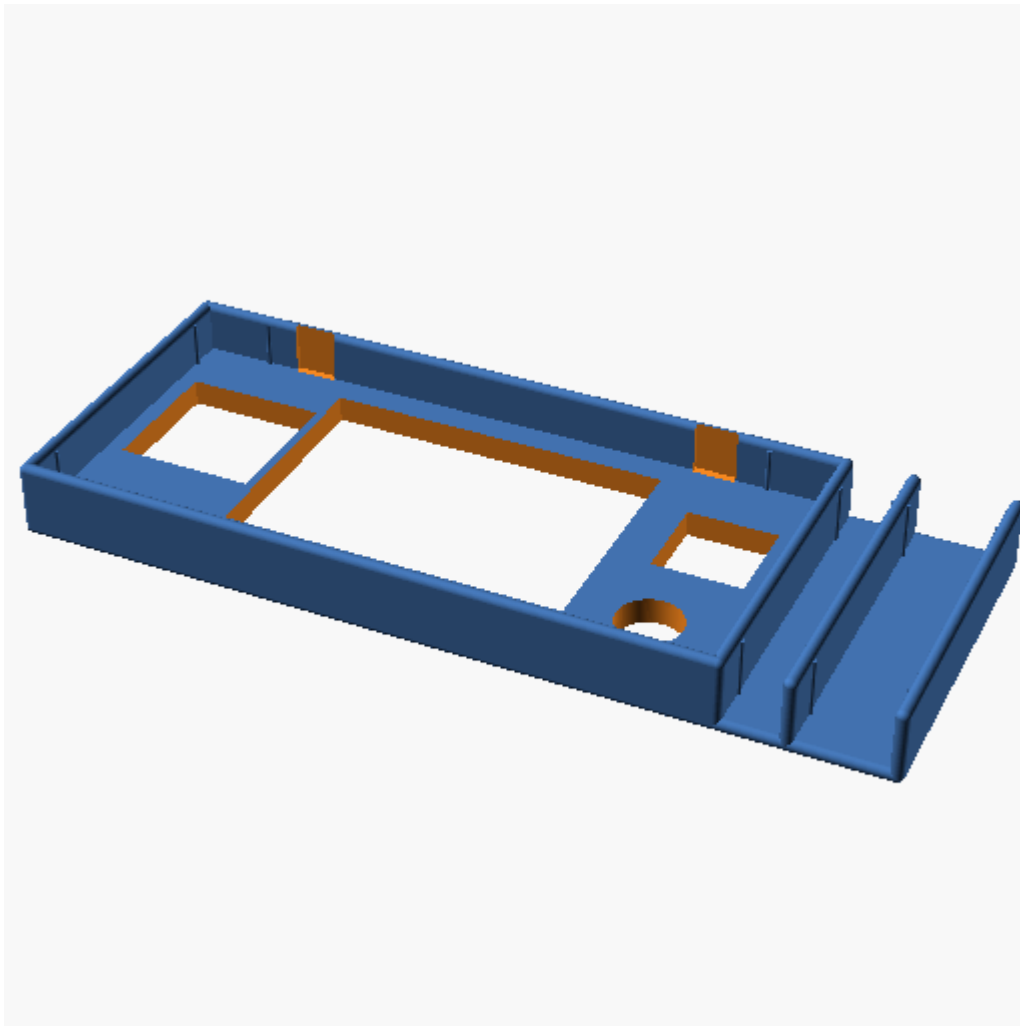


Figure 2. image

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]);
    }
}

```

```

}
//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

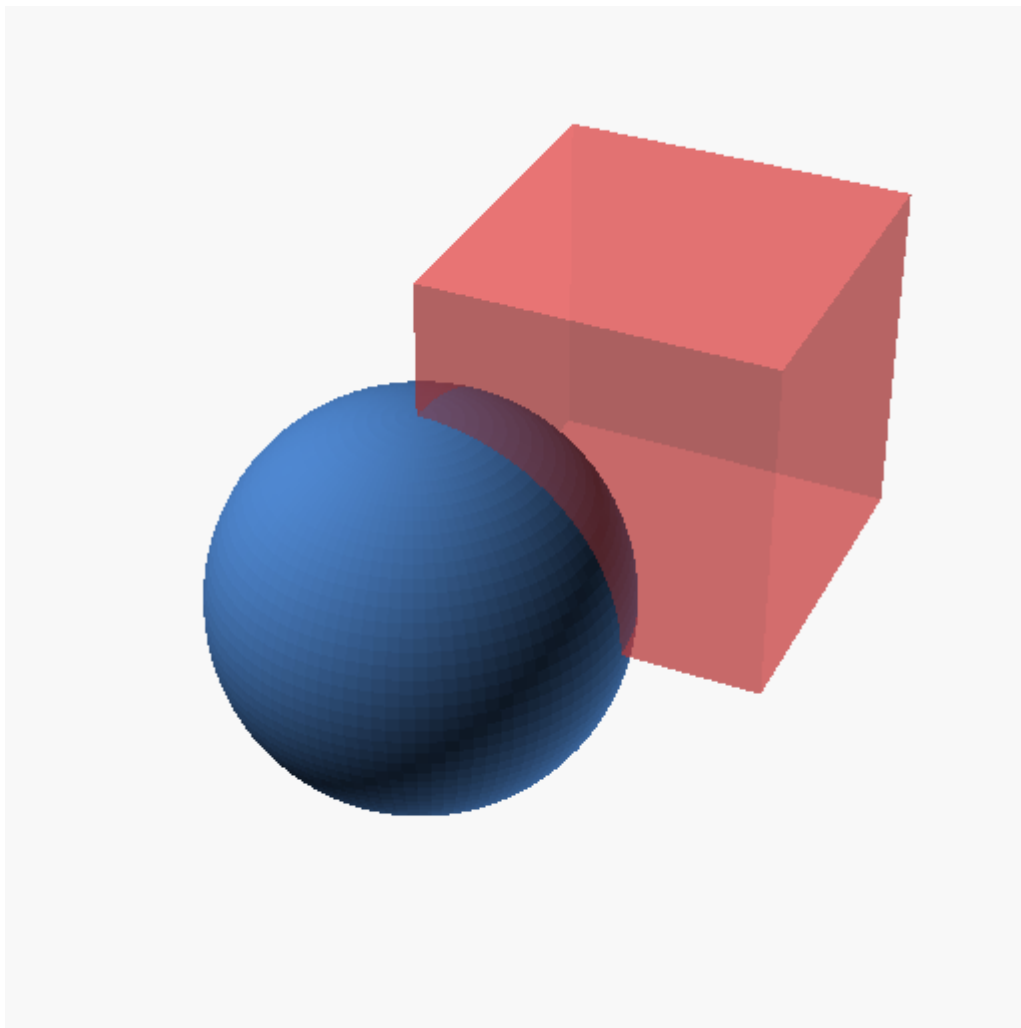


Figure 3. image

Listing 3. Openscad source

```

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

```

2.4. Object - test2

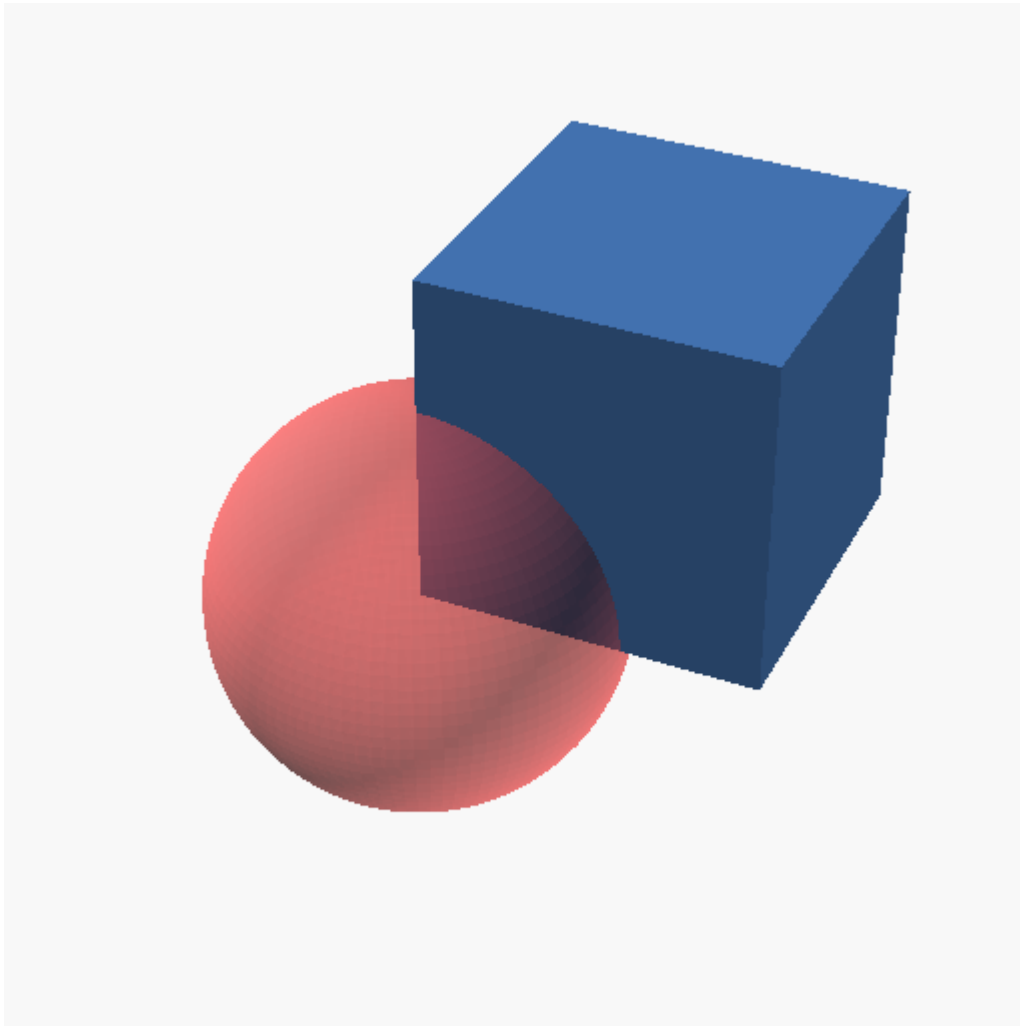


Figure 4. image

Listing 4. Openscad source

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