

Isosurfaces



Isosurface

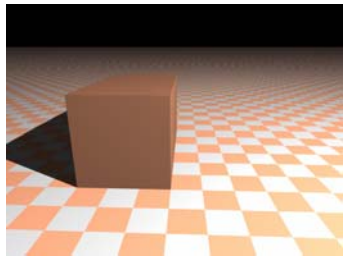


```
isosurface {  
  function { FUNCTION_ITEMS }  
  [contained_by { SPHERE | BOX }]  
  [threshold FLOAT_VALUE]  
  [accuracy FLOAT_VALUE]  
  [max_gradient FLOAT_VALUE]  
  [open]  
}
```

Isosurface

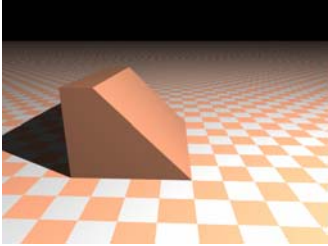


```
isosurface {  
  function { x }  
  contained_by { box {<-3,-1,-3>,<3,2,3>} }  
}
```



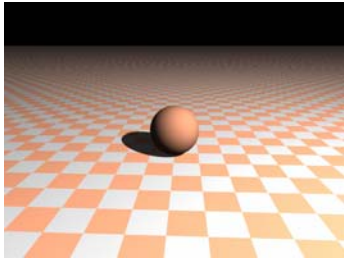
Isosurface

```
isosurface {  
  function { x + y }  
  contained_by { box { <-3,-1,-3>,<3,2,3> } }  
}
```

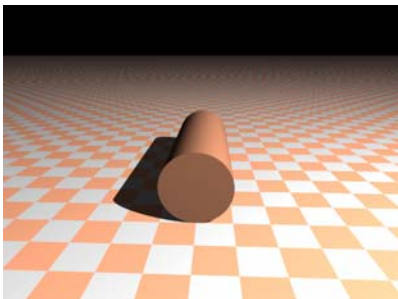


Isosurface

```
isosurface {  
  function { sqrt(x*x + y*y + z*z) - 1 }  
  contained_by { box { <-3,-1,-3>,<3,2,3> } }  
}
```

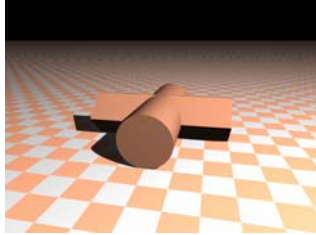


Exercise



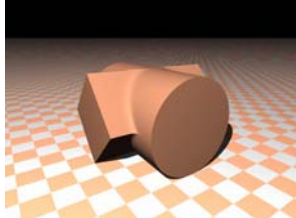
CSG

```
isosurface {  
  function { min(x*x + y*y, abs(z) + abs(y)) - 1 }  
  contained_by { box { <-3,-1,-3>, <3,2,3> } }  
}
```



blobs

```
#declare delta = 0.0001;  
isosurface {  
  function { delta - pow(delta, sqrt(x*x + y*y) - 1)  
    - pow(delta, abs(z) + abs(y) - 1) }  
}
```



f_noise3d

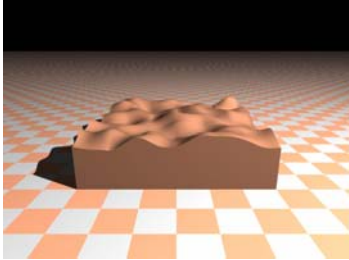
f_noise3d(x,y,z): noise depending on x,y,z



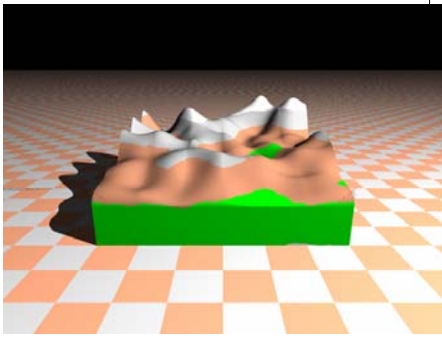
Simple landscape



function { y + f_noise3d (x,0,z) }



Simple landscape



Simple landscape with signs

