

```

implicitplot3d(f, coords, grids) :=
  (nx ny nz) ← gridsT
  (xmax ymax zmax
   xmin ymin zmin) ← coords
  (Δx Δy Δz) ← ( (xmax - xmin) / nx, (ymax - ymin) / ny, (zmax - zmin) / nz )
  valsnx·ny·nz-1 ← 0
  for k ∈ 0..nz-1
    for m ∈ 0..ny-1
      for n ∈ 0..nx-1
        valsn+m·ny+k·nx·ny ← f(n·Δx + xmin, m·Δy + ymin, k·Δz + zmin)
  dllimplicitplot3d((coords grids vals)T)

```

```

xmin := -4   ymin := -4   zmin := -4
xmax := 4    ymax := 4    zmax := 4

```

```

coords := (xmax ymax zmax
           xmin ymin zmin)
(nx ny nz) := (80 80 80)
grids := (nx ny nz)T

```

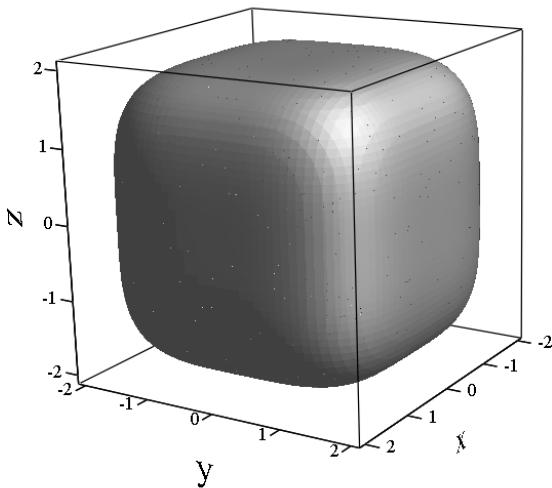
$$T := \frac{1 + \sqrt{5}}{2}$$

```
f1(x, y, z) := x4 + y4 + z4 - 16
```

```
f2(x, y, z) := 2 - (cos(x + T·y) + cos(x - T·y) + cos(y + T·z) ...
                  + cos(y - T·z) + cos(z - T·x) + cos(z + T·x))
```

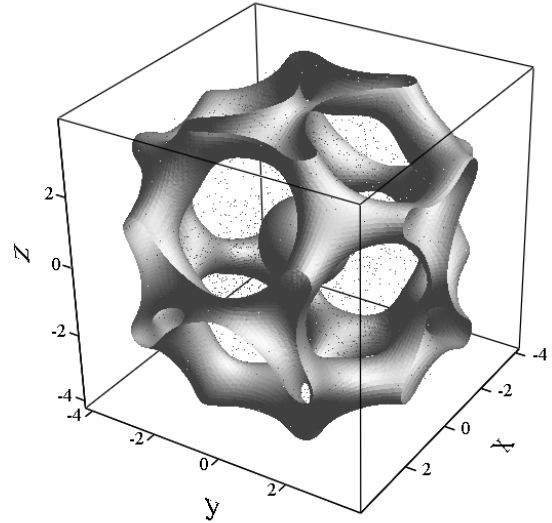
```
start := time(0)   S1 := implicitplot3d(f1, coords, grids)
```

```
S2 := implicitplot3d(f2, coords, grids)
```



S1

$$S1 = \begin{pmatrix} \{2,69728\} \\ \{2,69728\} \\ \{2,69728\} \end{pmatrix}$$



S2

$$S2 = \begin{pmatrix} \{2,285024\} \\ \{2,285024\} \\ \{2,285024\} \end{pmatrix}$$

```
stop := time(0)   total := stop - start   total = 11.453
```