

Basic Shape Elements

Cone

Pyramid

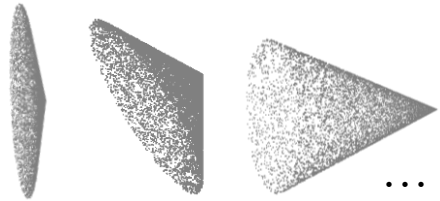
Prism

Polyhedron

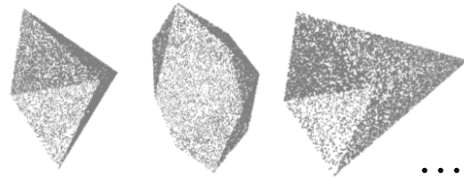
Cylinder

Ellipsoid

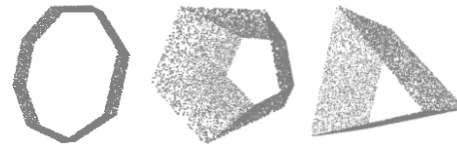
Basic Shape Pool



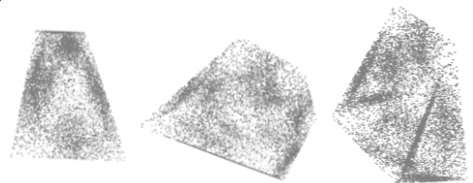
Cone



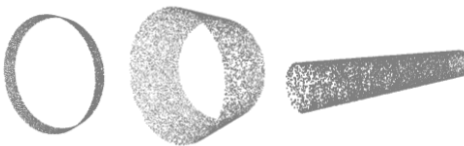
Pyramid



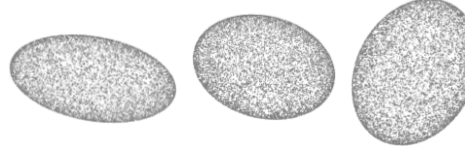
Prism



Polyhedron



Cylinder



Ellipsoid

Basic Shape Dataset



Category 0

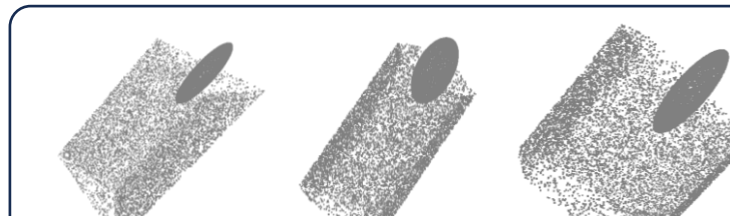


Category 2

...



Category 18



Category 19

...

Shape Transformation Rules

$r_1 \hat{x}_i + r_2$, r_1 : Scaling Factor, r_2 : Offset.
The Rules are with
Different r_1, r_2 Ranges

Rules 1, 3, 5

$R \times \hat{x}_i$, R : Rotation Matrix

Rules 2, 4

No operation

Rule 6

Assemble

with the Same Shape Elements and
Transformation Rules