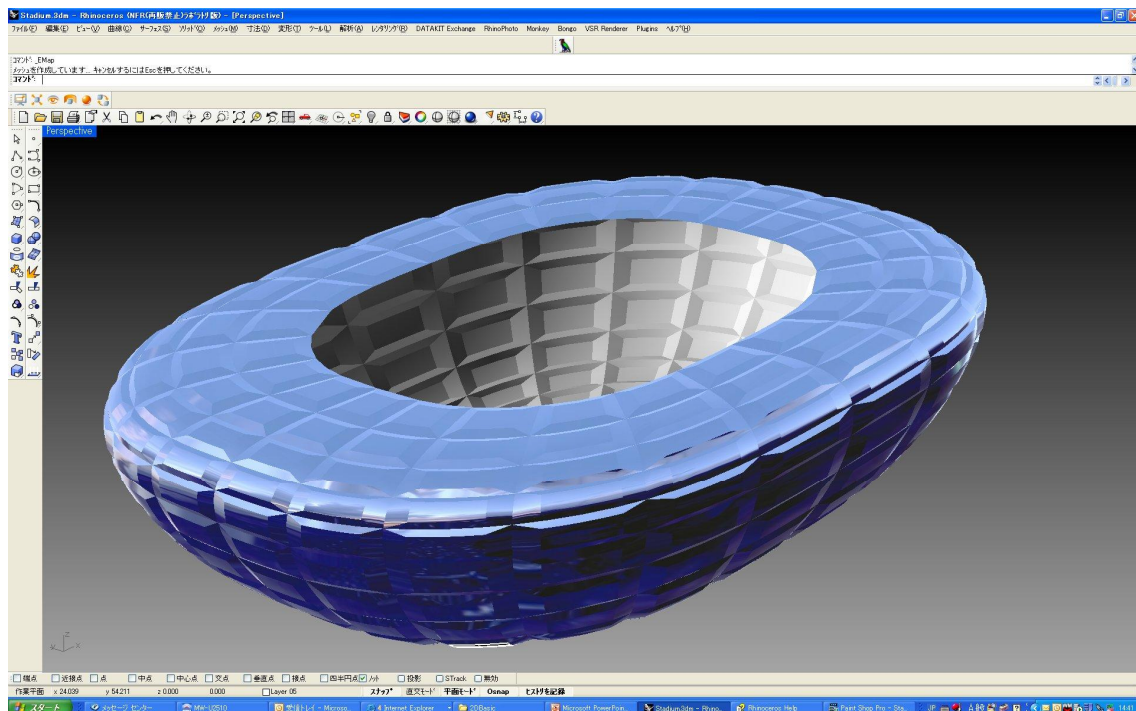


# Introduction to Grasshopper

GH 0.6.0059

2010/4/2



This Grasshopper GH here after example is used for GH seminar on April 2<sup>nd</sup>, 2010/04/16 at AppliCraft Co., Ltd in Japan

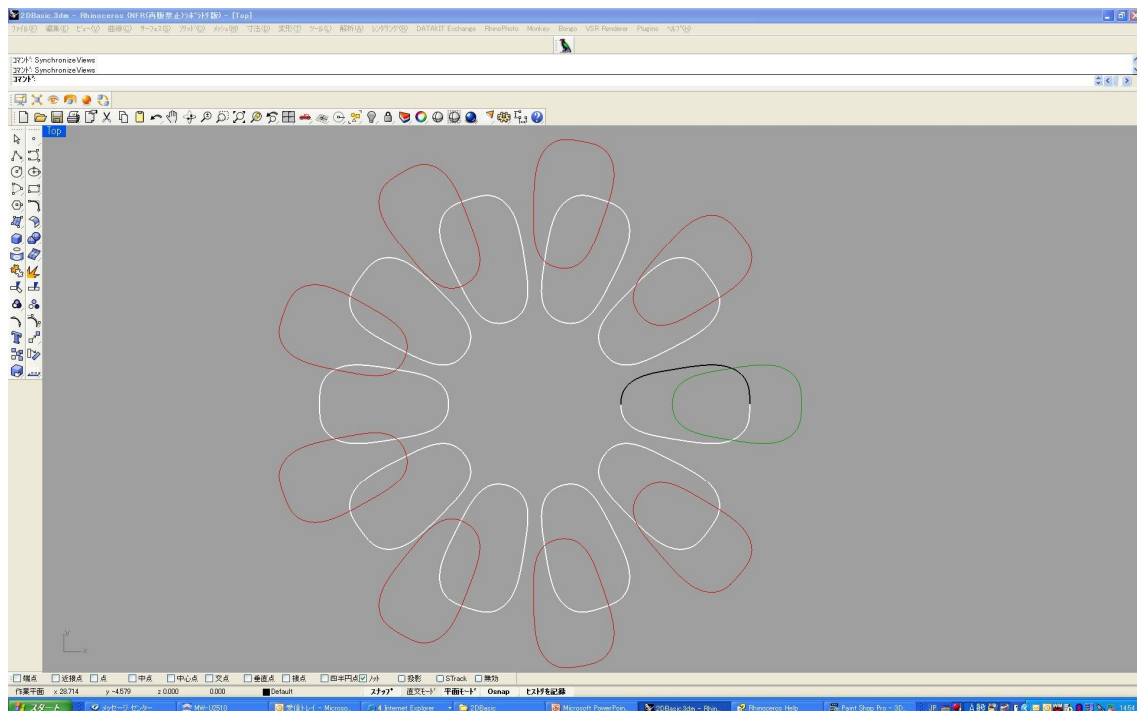
You example is for GH beginner, you can learn more in detail from 3D Grasshopper Primer 2nd  
<http://www.grasshopper3d.com/page/tutorials-1>

## 1.2D Basic.ghx

### Operation on 2D

#### 2DBasic

- 3DBasic.3dm
- 2DBasic.ghx      Grasshopper Version    0.6.0059



### GH Operation

Create 2D freeform curve on Rhino then, mirror, rotate, and move.

Change degree to radian for rotation.

#### In put parameter

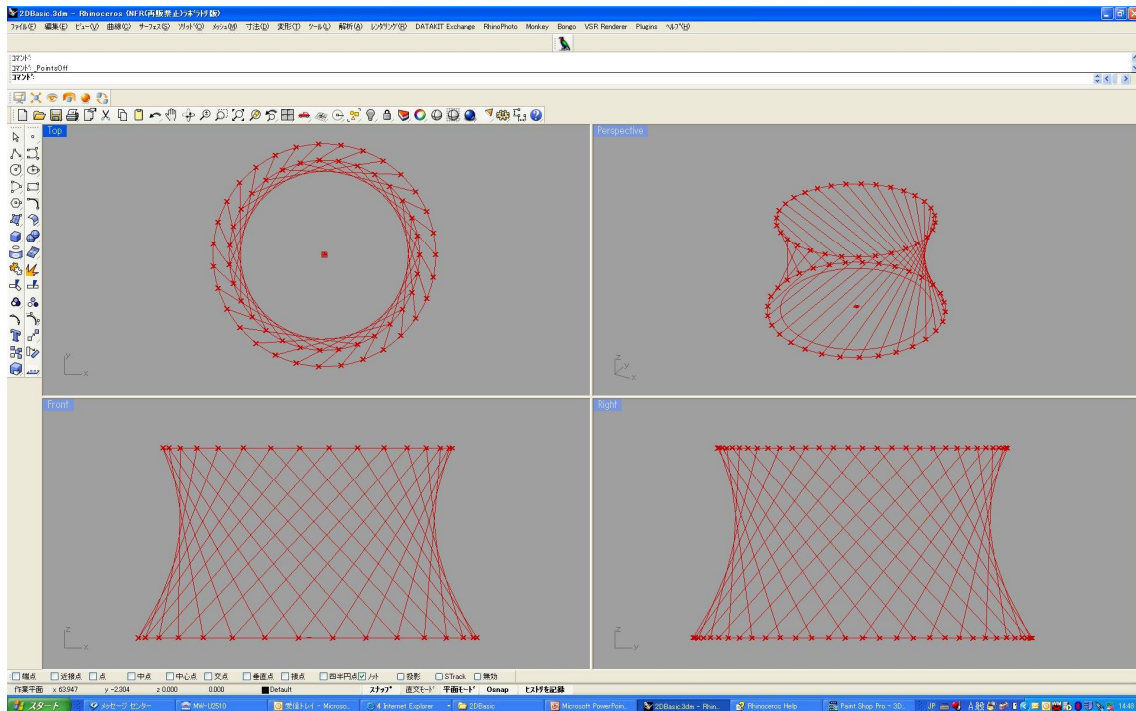
- 1)Specify angle with radian
- 2)Specify angle with degree
- 3)Specify number to rotate and copy
- 4)Specify distance to move to X-direction

## 2.3D Basic1.ghx

Basic operations in 3D space.

3DBasic Folder

- 3D Basic1.ghx Grasshopper Version 0.6.0059



### GH Operation

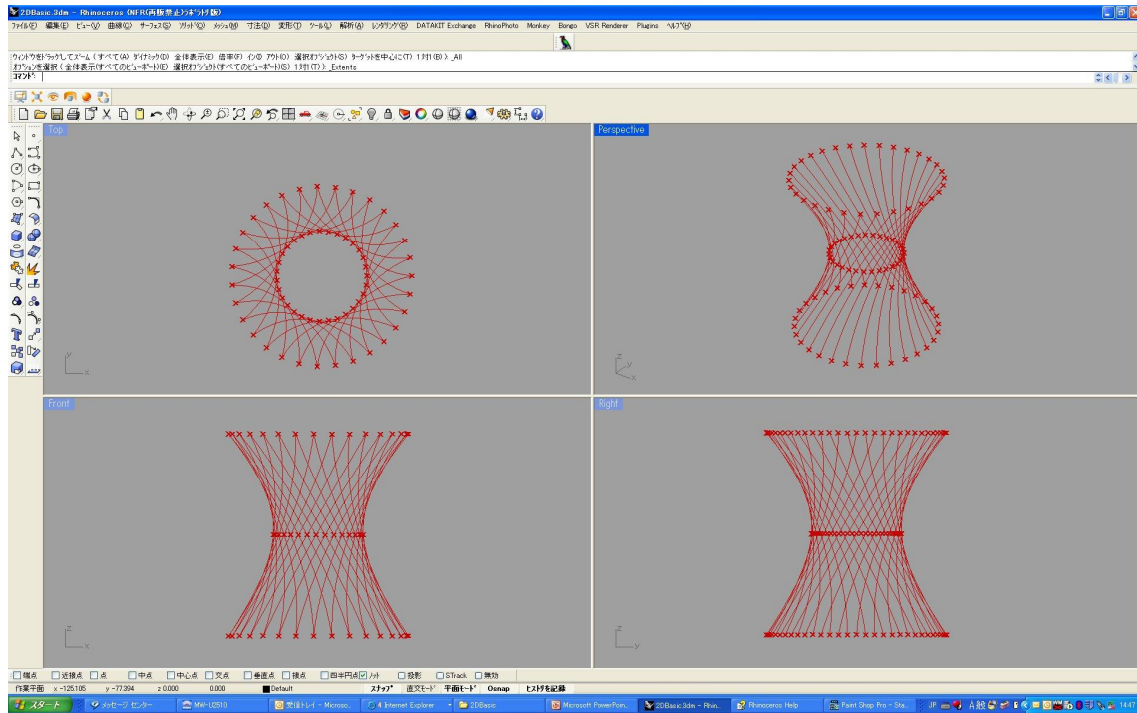
Create GH circle, then offset and move and copy to Z-direction.

Divide two circles then create lines.

Use shift component then specify points to draw lines.

### Input parameters

- 1) Specify offset distance
- 2) Specify distance to move to Z-direction
- 3) Specify number of division
- 4) Specify number to be shift
- 5) Specify Boolean (True/False)



## GH Operation

Same as previous example, but create three circles and interpolate 3 points on circles with arc.

## Input parameters

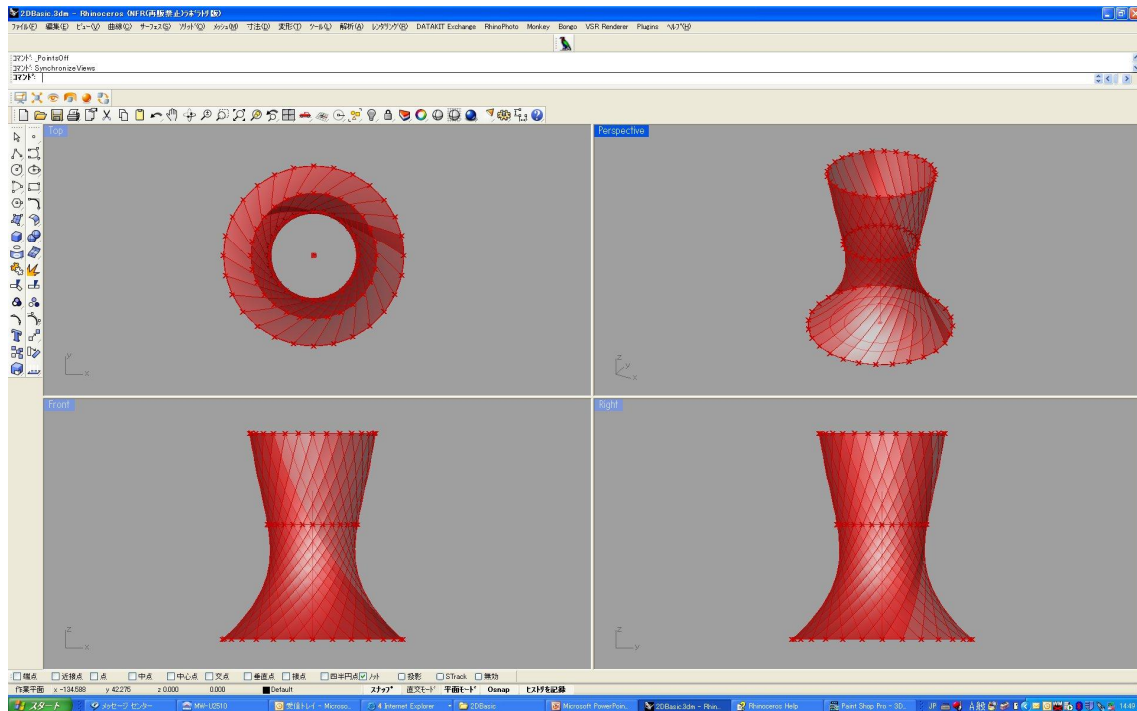
- 1) Specify offset distance
- 2) Specify distance to move to Z-direction
- 3) Specify number of division
- 4) Specify number to be shift
- 5) Specify Boolean (True/False)

### 3.3D Basic1A.ghx

Basic operations in 3D space.

3DBasic Folder

- 3D Basic1A.ghx Grasshopper Version 0.6.0059



### GH Operation

In addition to 3D Basic1.ghx, create surface with loft component and rotate and copy it.

Input parameters

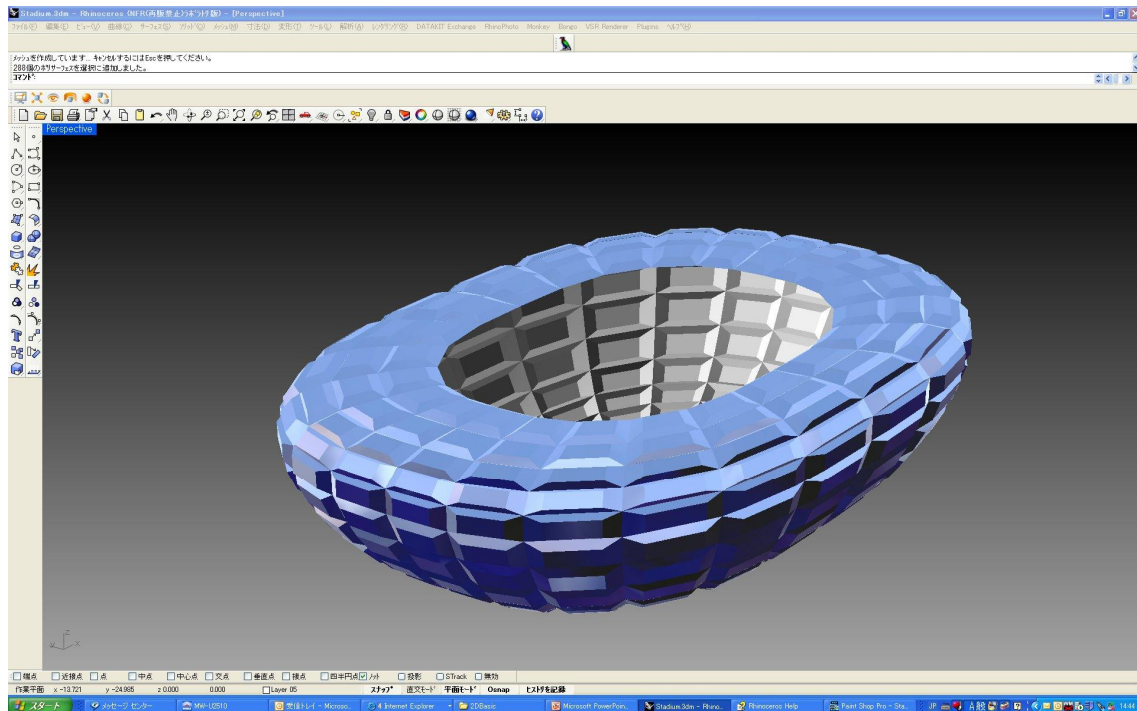
- 1) Specify offset distance
- 2) Specify distance to move to Z-direction
- 3) Specify number of division
- 4) Specify number to be shift
- 5) Specify Boolean (True/False)

#### 4.Stadium.ghx

Create Stadium with using Rhino freeform surface.

3DBasic folder

- Stadium.3dm
- Stadium.ghx    Grasshopper    Version    0.6.0059



#### GH Operation

- 1) Divide one Rhino surface with specifying the number s to UV direction.
- 2) Offset Rhino surface then divide as 1)
- 3) Extract vertices and Edge curves from divided surfaces.
- 4) Create Surface with 4pt surface

#### Input parameters

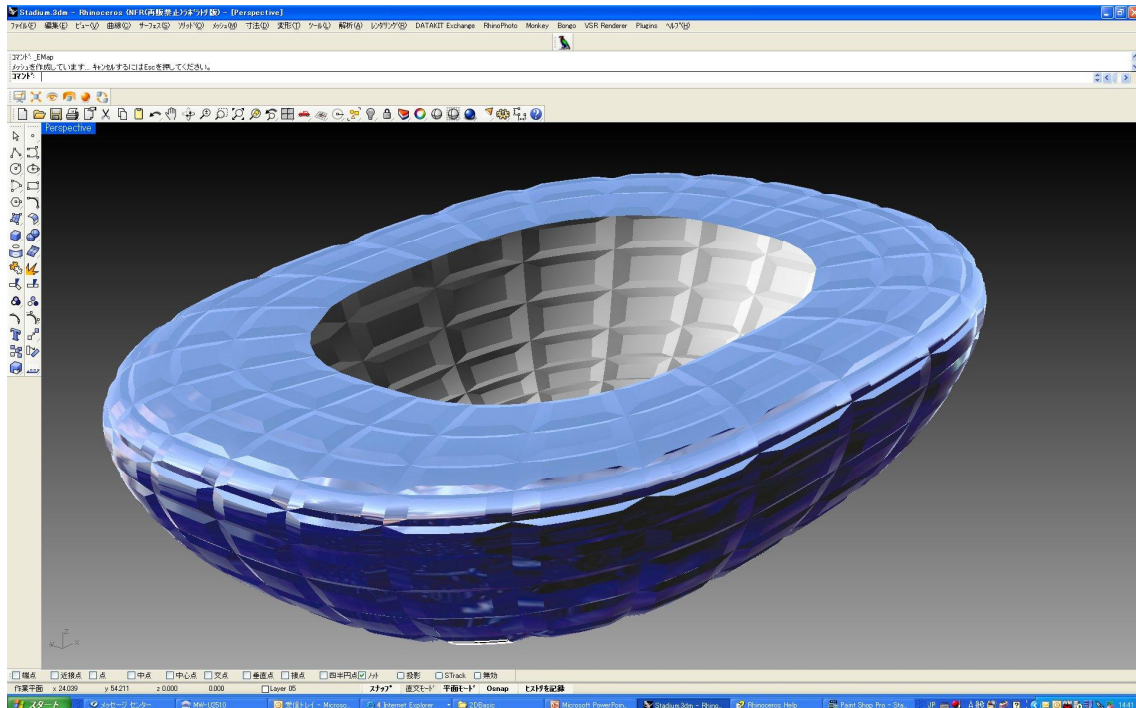
- 1) Specify division numbers to UV direction
- 2) Specify UV domain numbers to each surface which offset and divided.
- 3) Specify offset distance

## 5.Stadium2.ghx

Create Stadium with using Rhino freeform surface.

3DBasic folder

- Stadium.3dm
- Stadium2.ghx Grasshopper Version 0.6.0059



## GH Operation

- 1) Divide one Rhino surface with specifying the number s to UV direction.
- 2) Offset Rhino surface then divide as 1)
- 3) Extract vertices and Edge curves from divided surfaces.
- 4) Create Surface with 2RailSweep component from 4 Edge curves

## Input parameters

- 1) Specify division numbers to UV direction
- 2) Specify UV domain numbers to each surface which offset and divided.
- 3) Specify offset distance

## Input parameters

- 1) Specify division numbers to UV direction
- 2) Specify UV domain numbers to each surface which offset and divided.
- 3) Specify offset distance

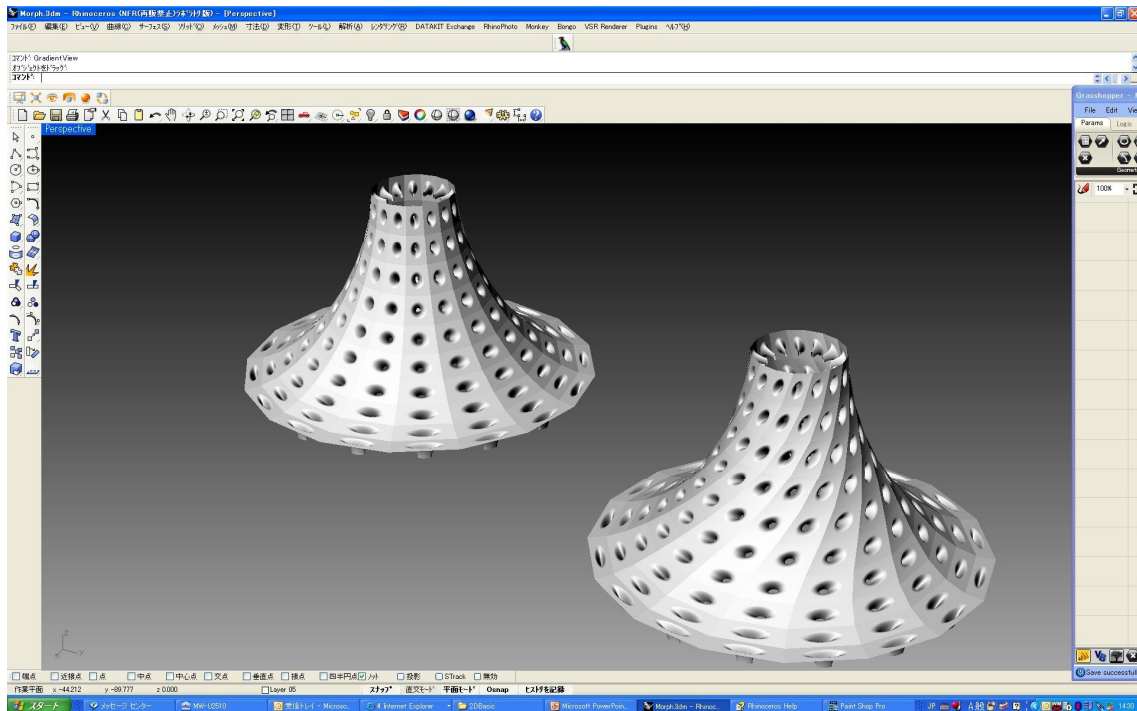


## 6.morph.ghx

Create complex shape with using Rhino freeform surface.

3DBasic folder

- morph.3dm
- morph.ghx    Grasshopper Version    0.6.0059



## GH operation

- 1) Divide one targeted Rhino surface with specifying the number s to UV direction.
- 2) Select brep to be morphed and allocated

## Input parameter

- 1) Specify division numbers to UV direction

## Other samples

Also see ðRefChronograph folderö about Watch model and ðRefGHBottleö about Bottle.