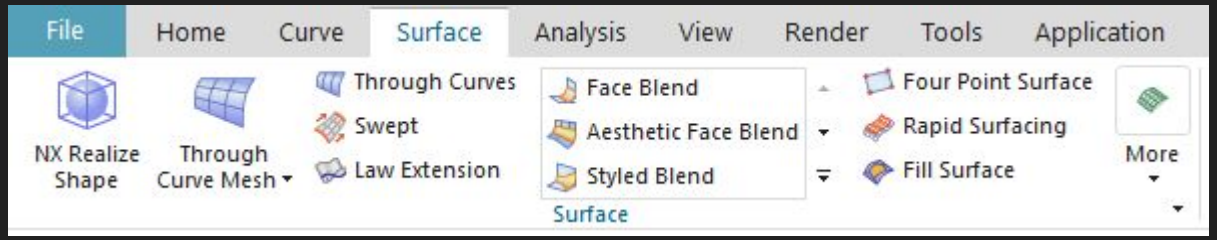
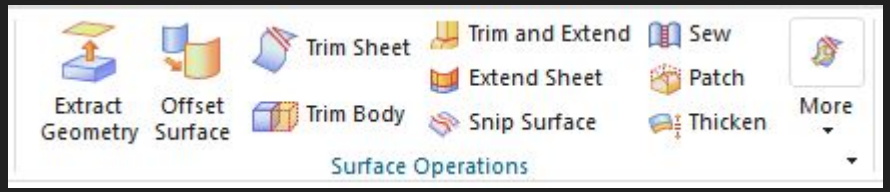
3D Modeling with NX 12

Surfacing Modeling

Wenjin Tao

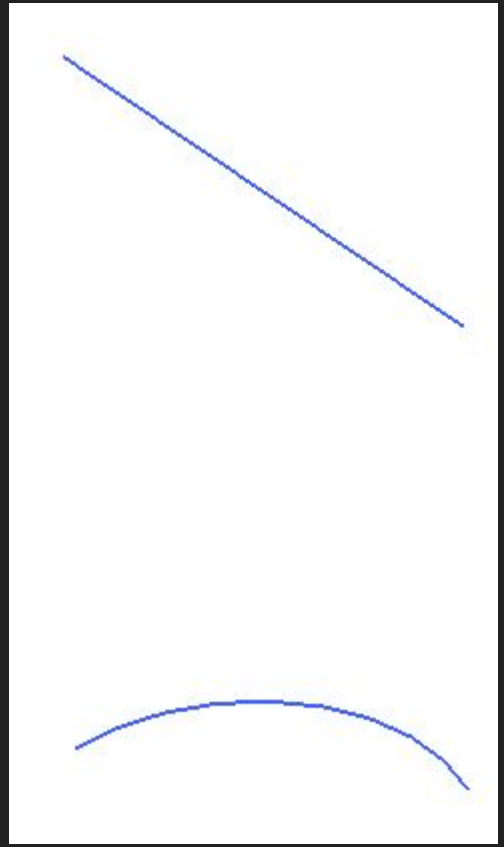
Surface and Surface Operations

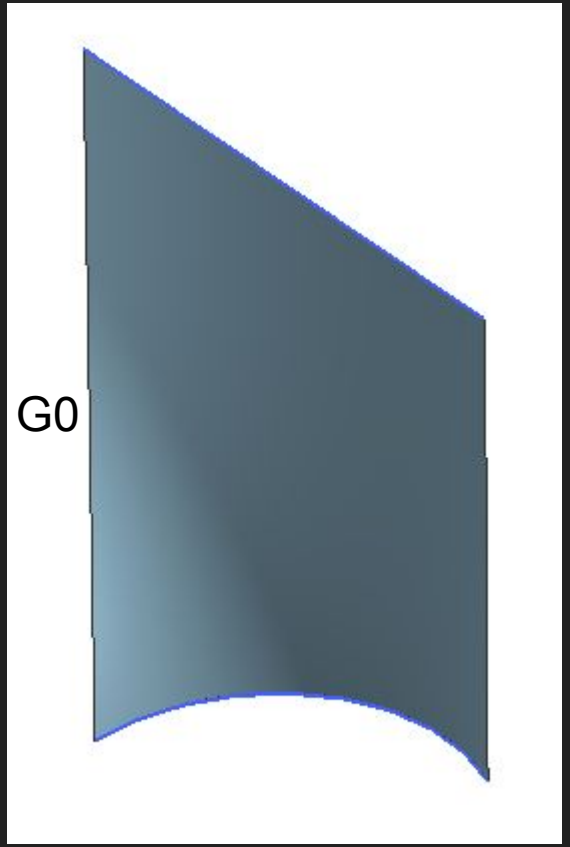




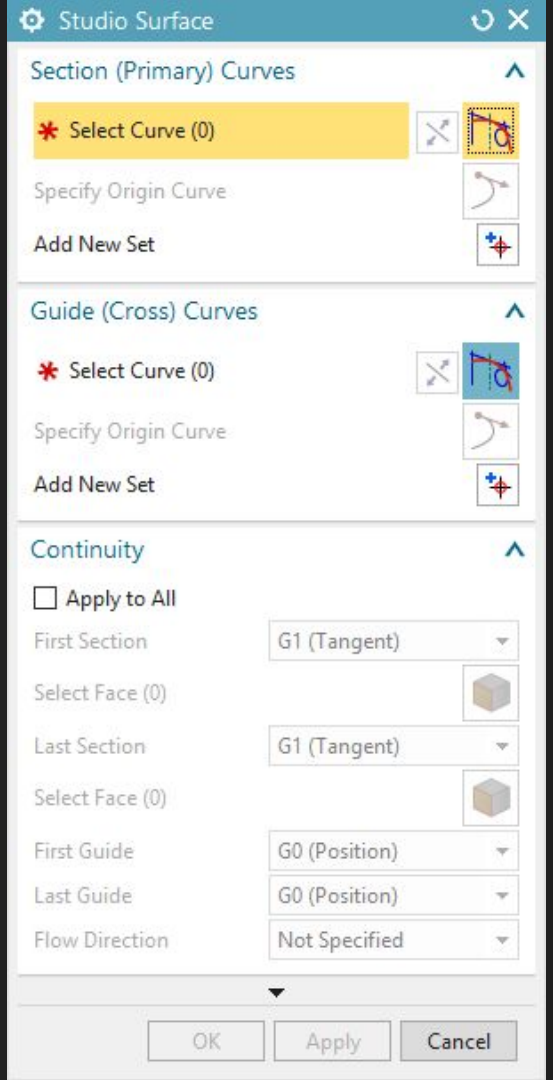
Ruled Surface

Linear transition between sections

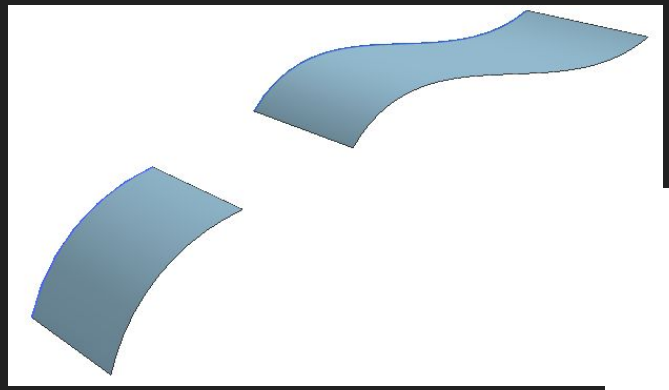




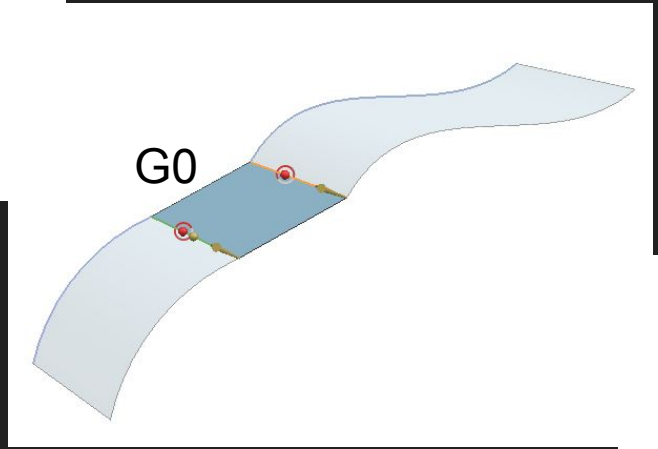
Studio Surface

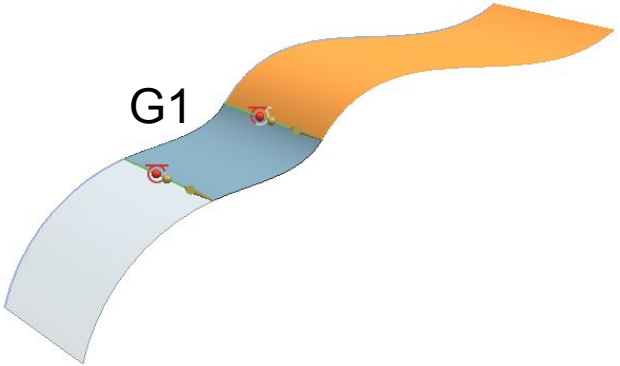


Studio Surface

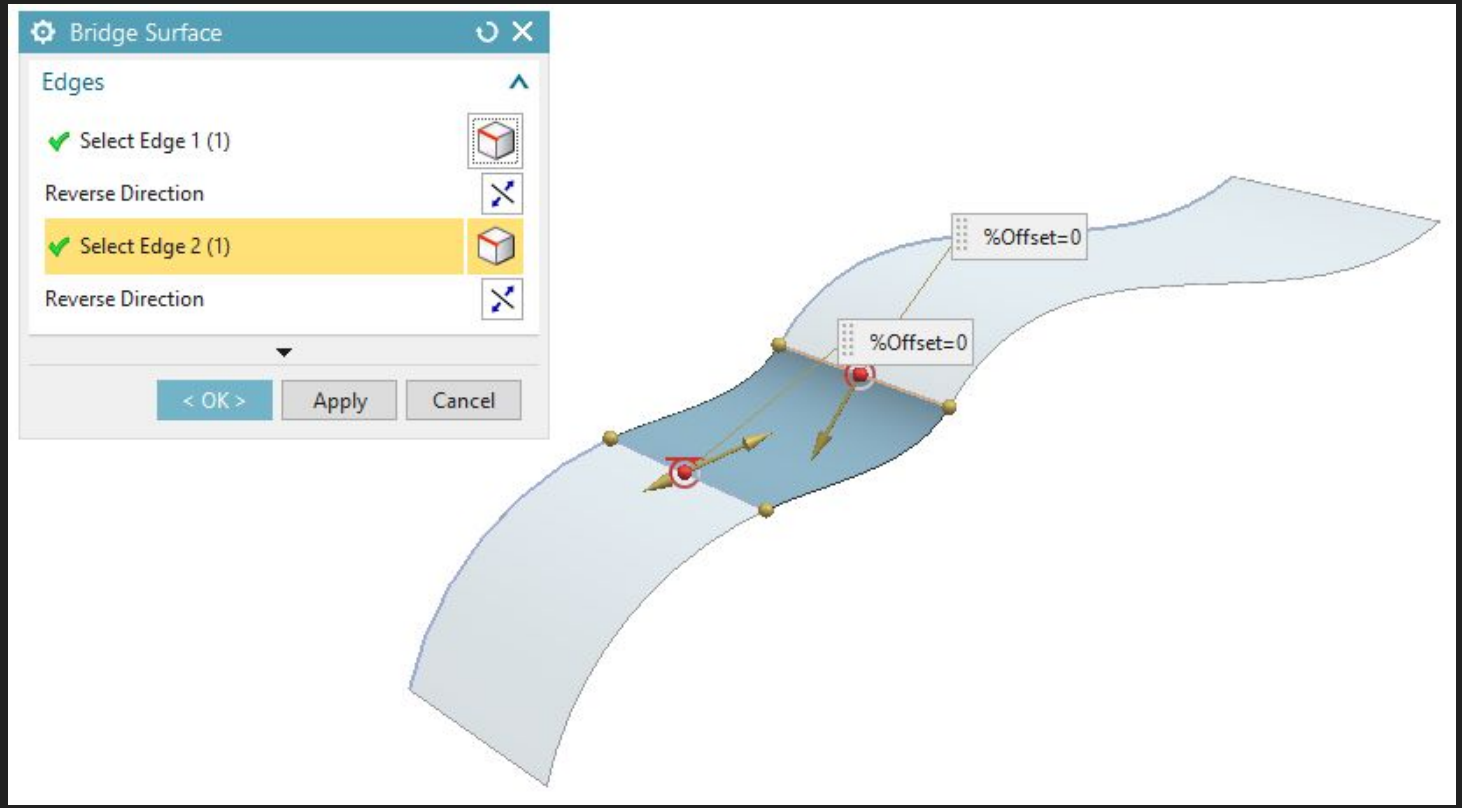


Equivalent to ruled surface





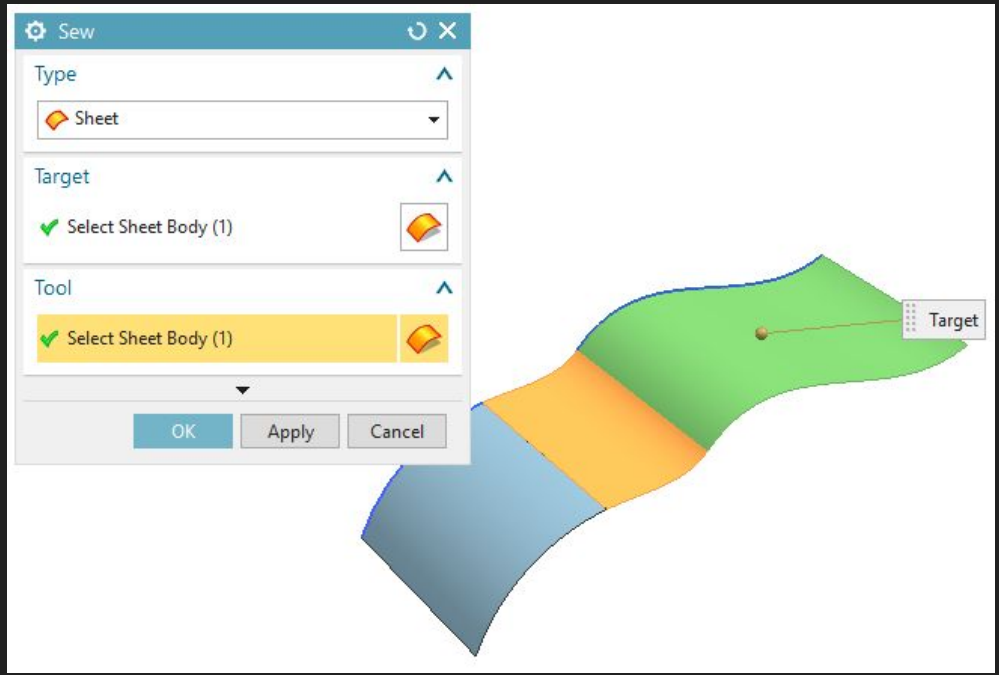
Bridge Surface



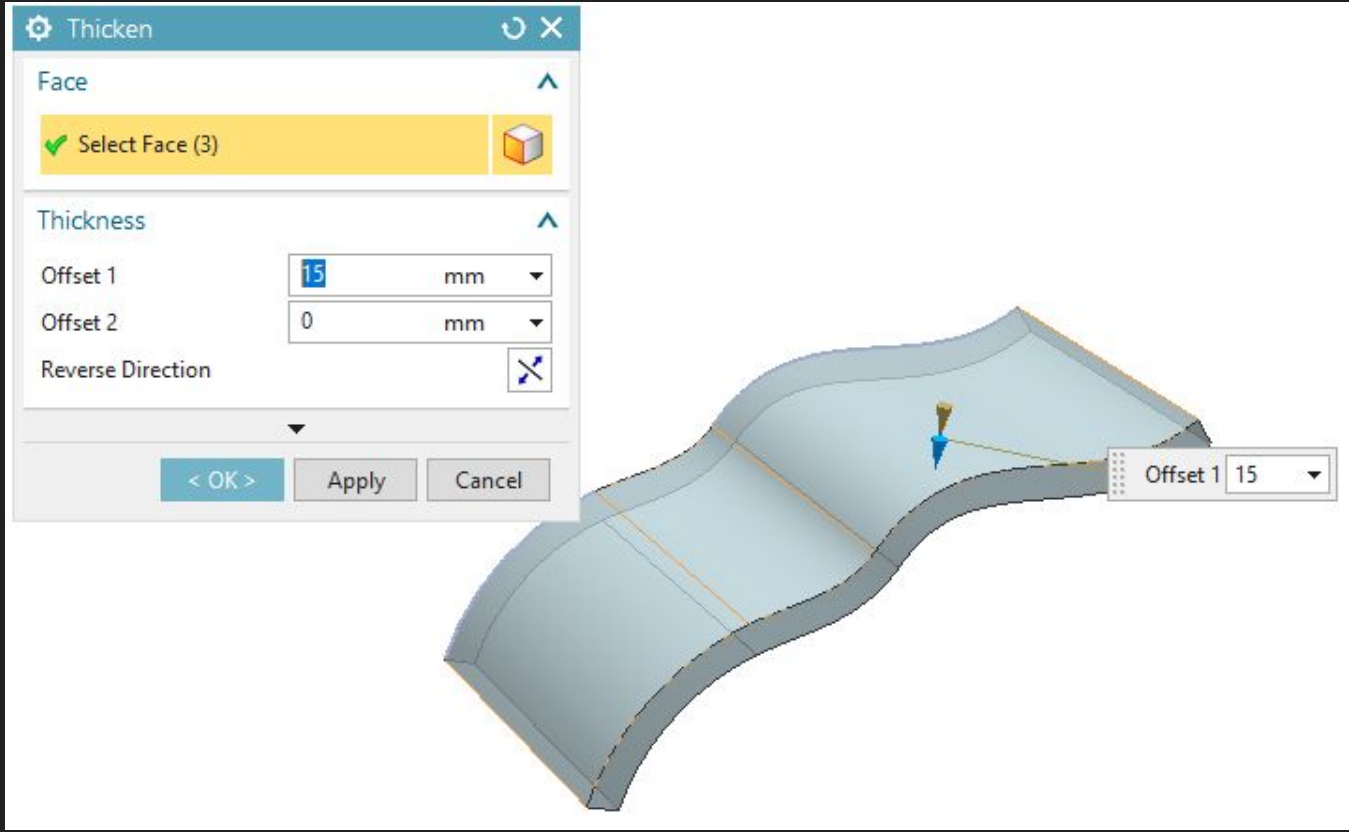
Sew

Use the Sew command to join two or more sheet bodies into a new single sheet body.

If the collection of sheet bodies encloses a volume, a solid body is created. The selected sheet bodies must not have any gaps larger than the specified tolerance, or the resulting body will be a sheet body.

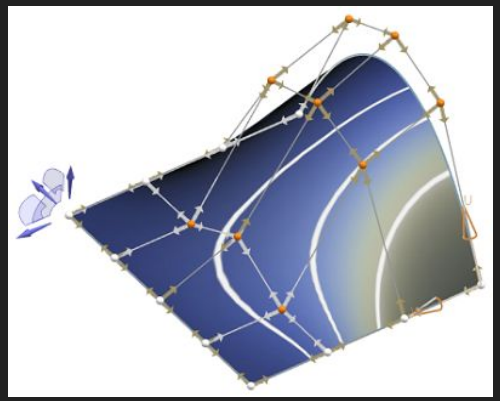


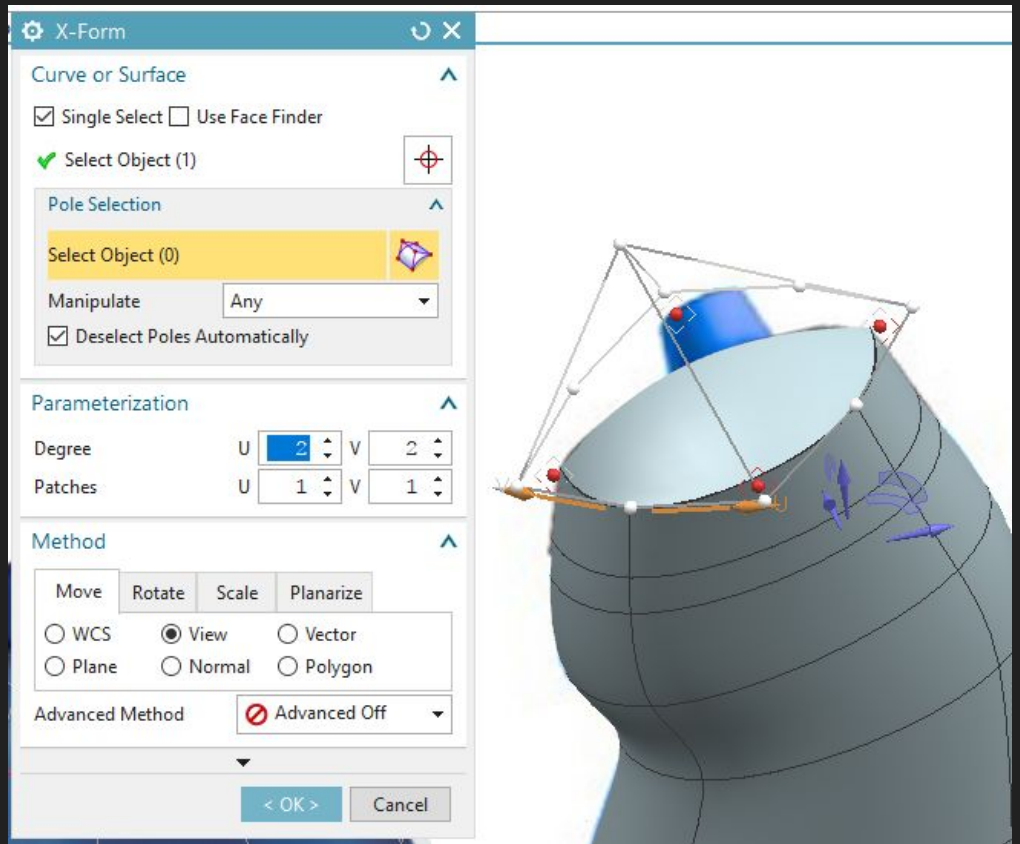
Thicken


Thicken
Face
Select Face (3)
Thickness
Offset 1
15
mm
Offset 2
0
mm
Reverse Direction
< OK >
Apply
Cancel
Offset 1
15

X-Form

Use the ***X-Form*** command to edit surfaces or spline curves by dynamically manipulating the pole locations.

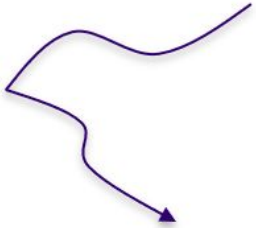




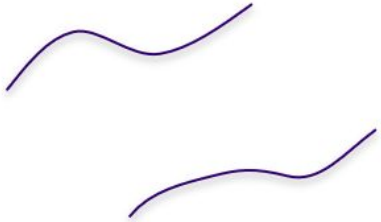
Create the Framework First

From 1 section

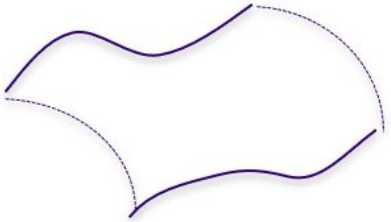
From 1 sections and 1 path



From 2 sections



From 2 sections and 2 guides



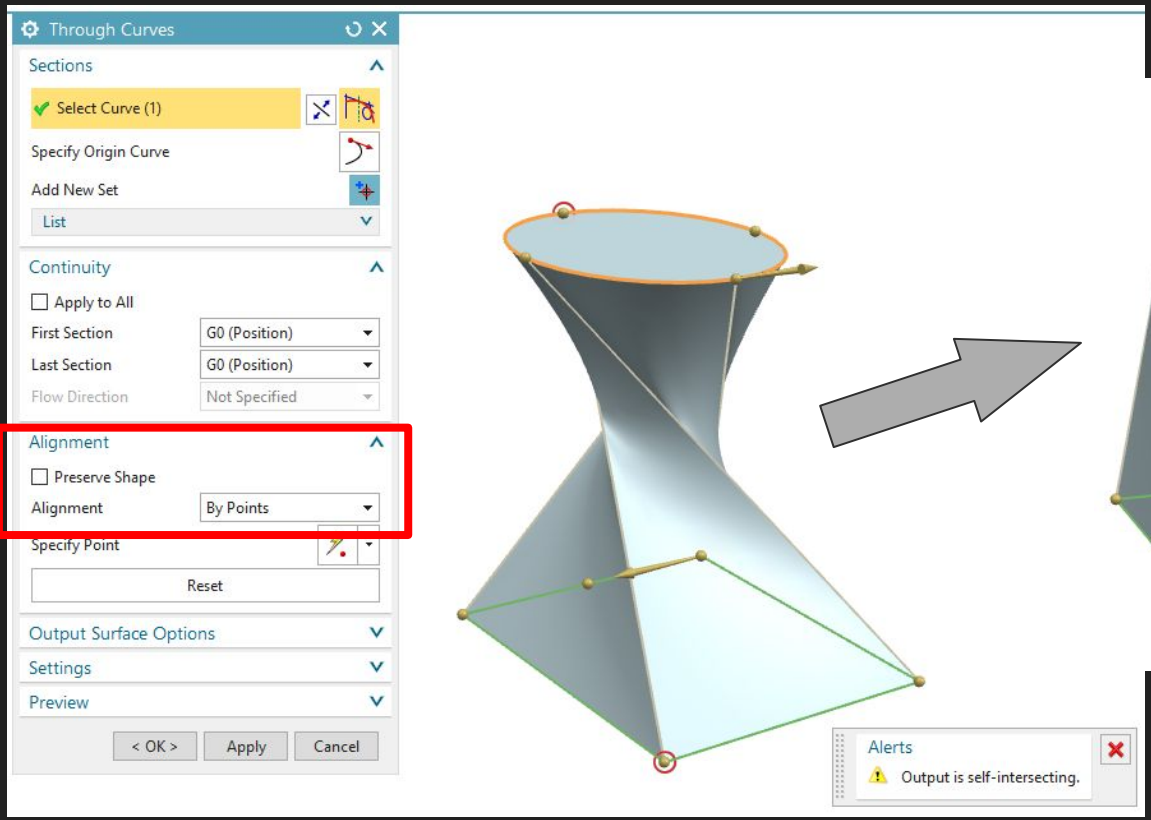
From 1 point, 1 section and 2 guides

Use reference surface

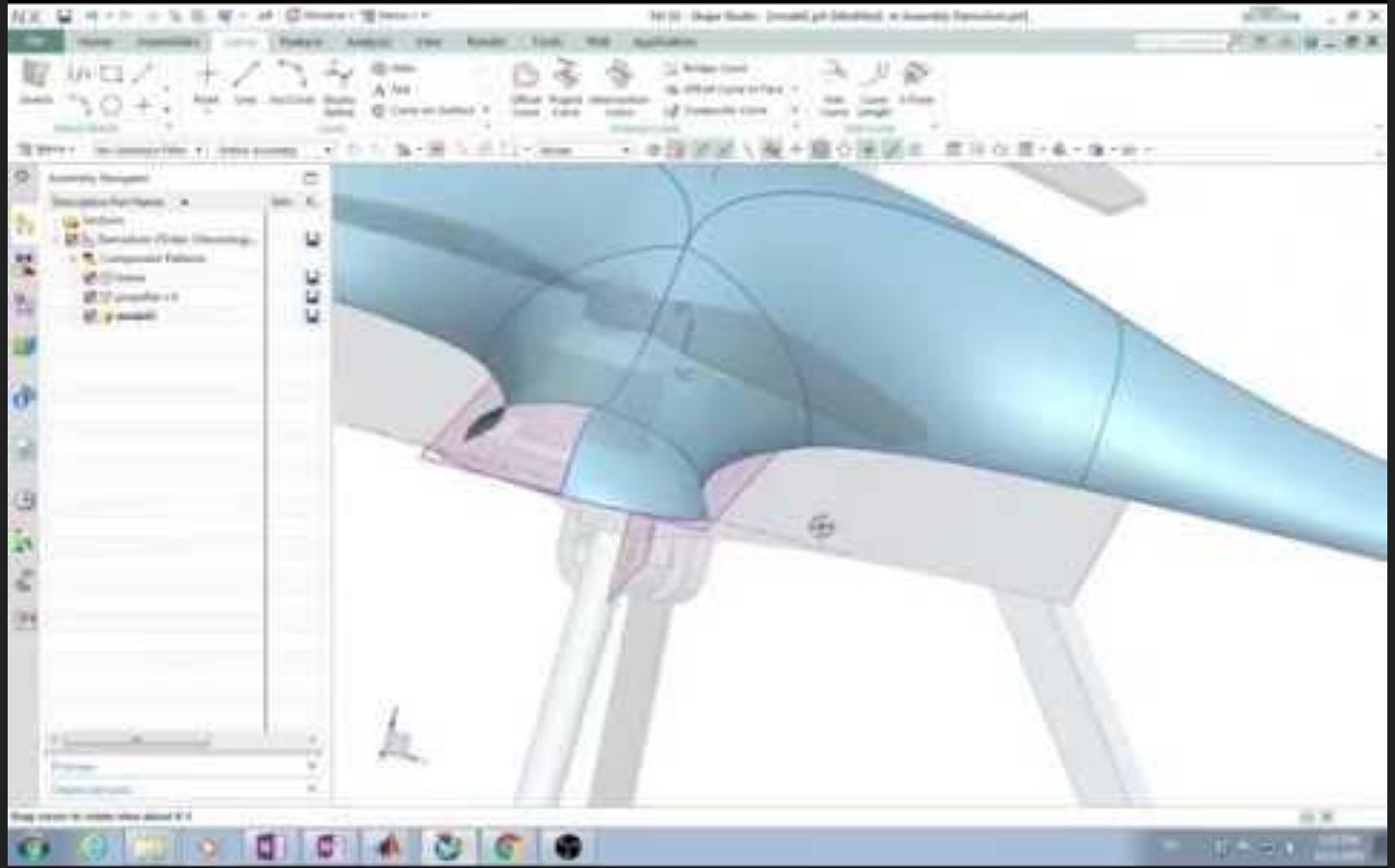
Same #Nodes

It’s a good practice to have the same amount of nodes for different sections.

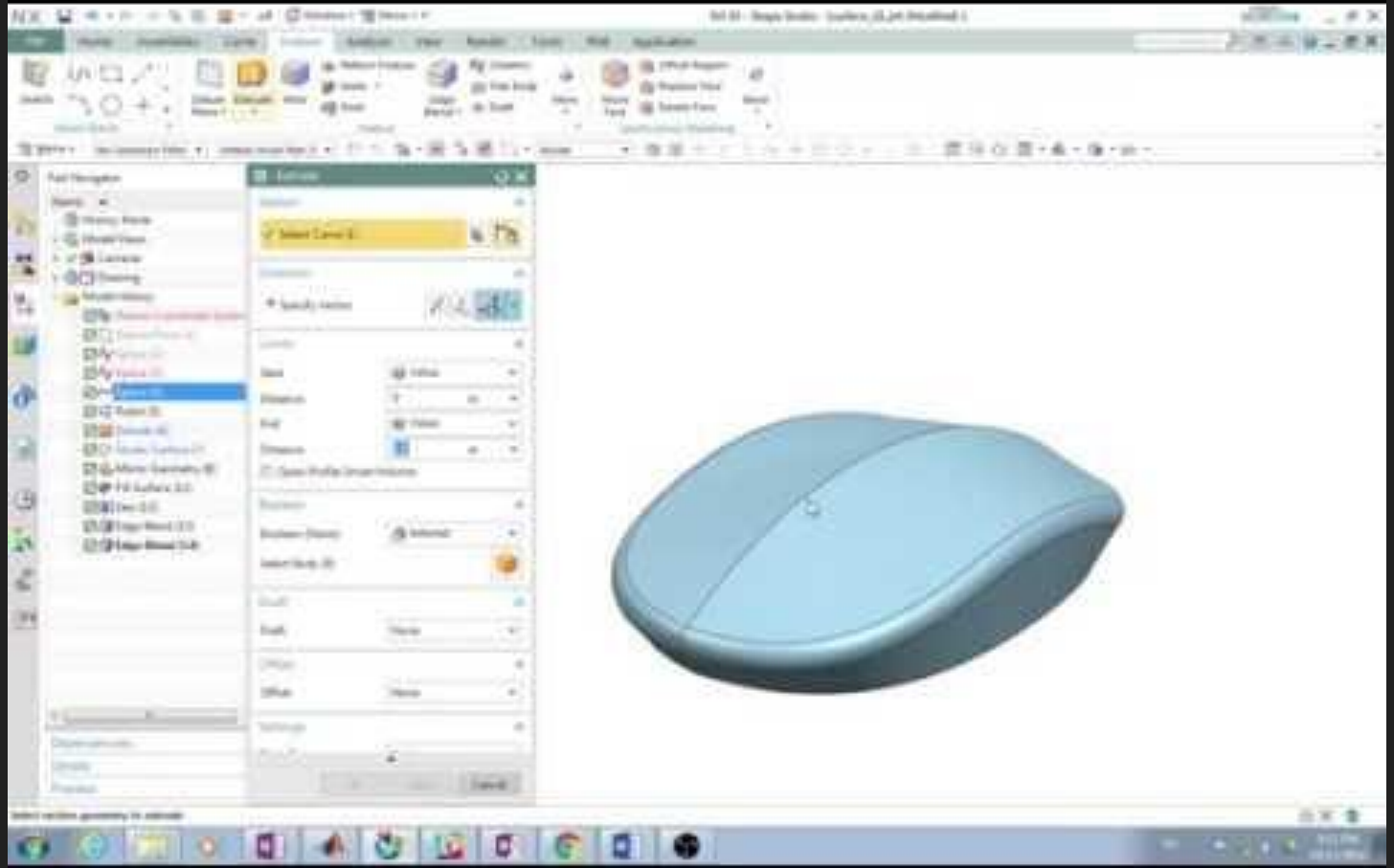
Change “Alignment” to Fix the Twizzler Issue



Surface Modeling of a Drone



Use G1 Continuity for Surface and Curve



Self Practice

Due: Oct. 5

Project 2:

https://me5763.github.io/lab/pages/project-2-bottle.html


David Lloyd
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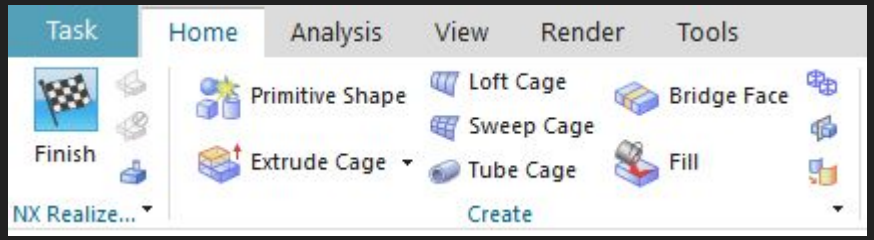
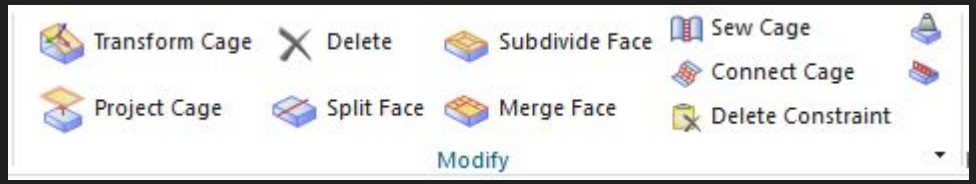
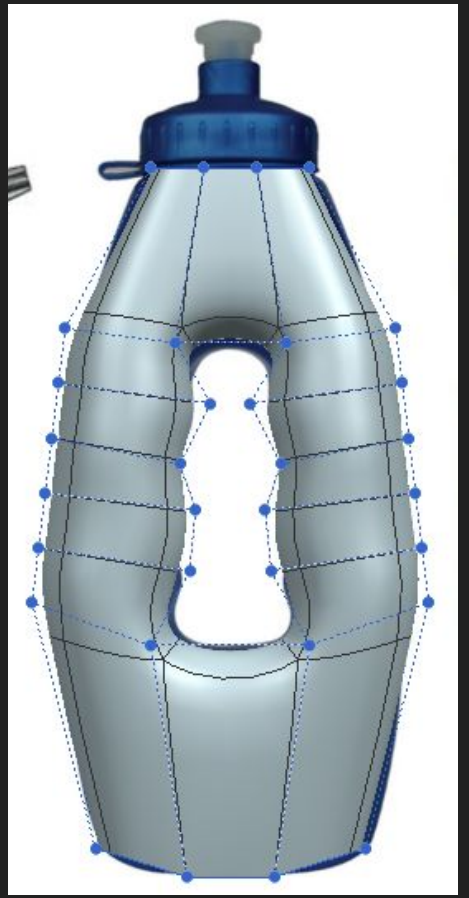
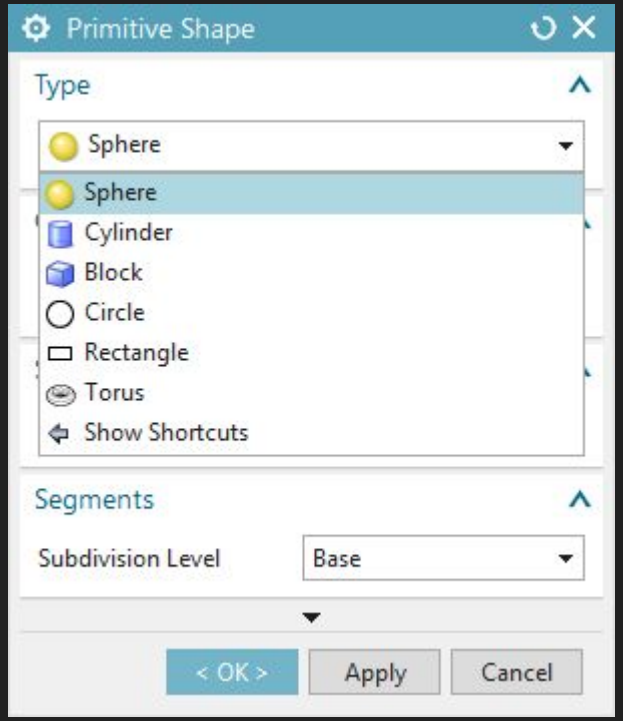
NX Realize Shape

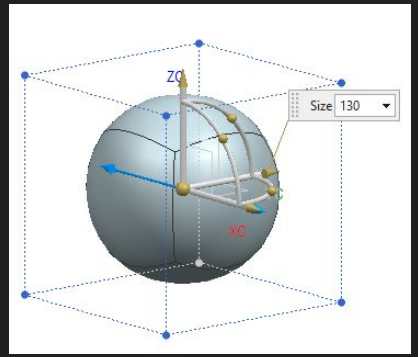


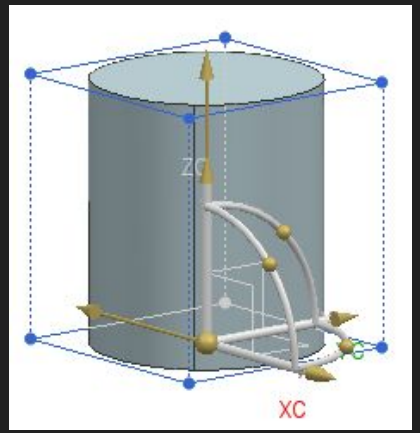


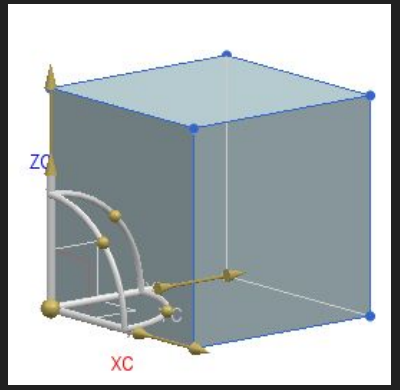


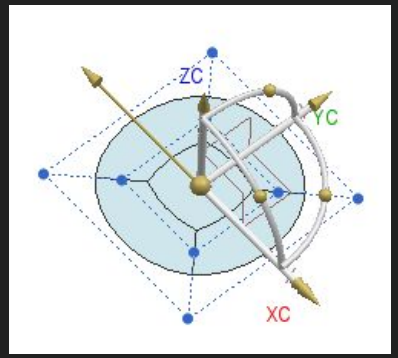
Primitive Shape

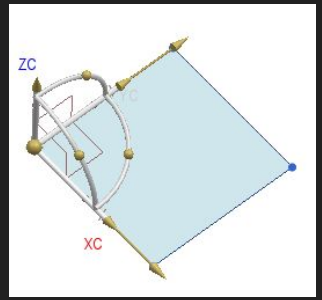


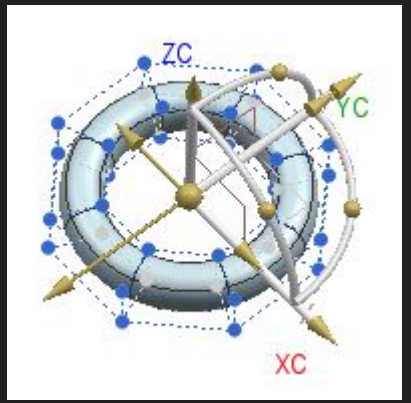






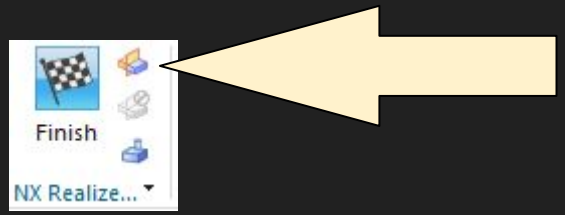


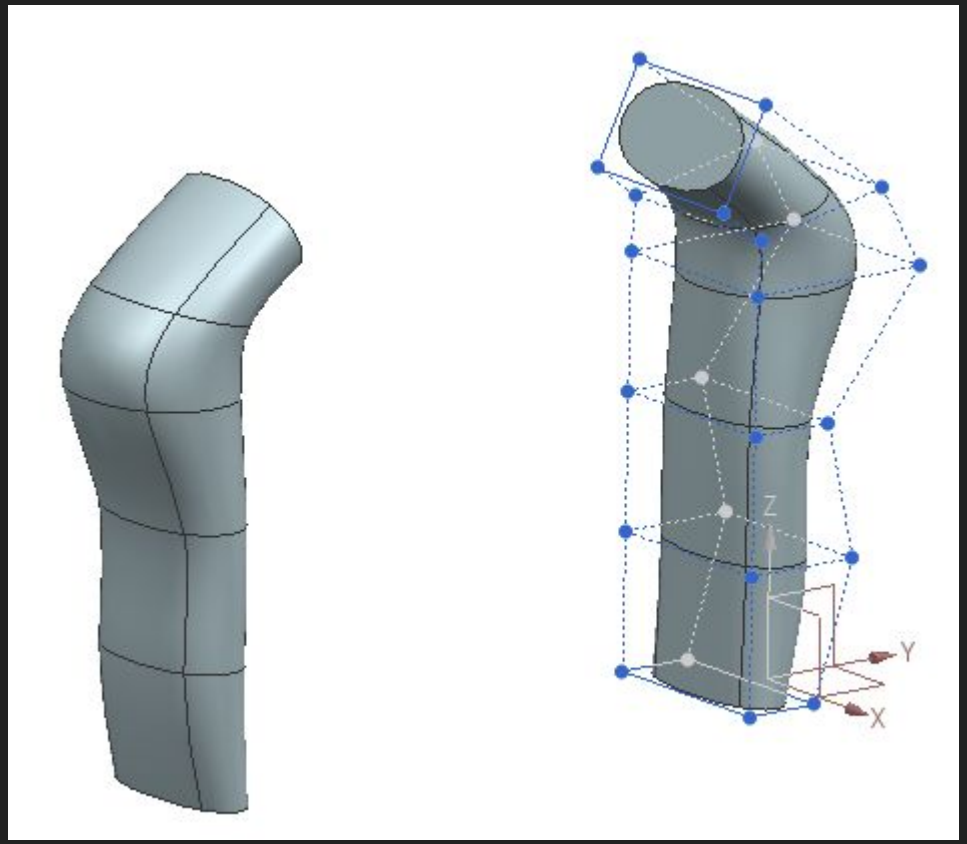




Symmetric Modeling

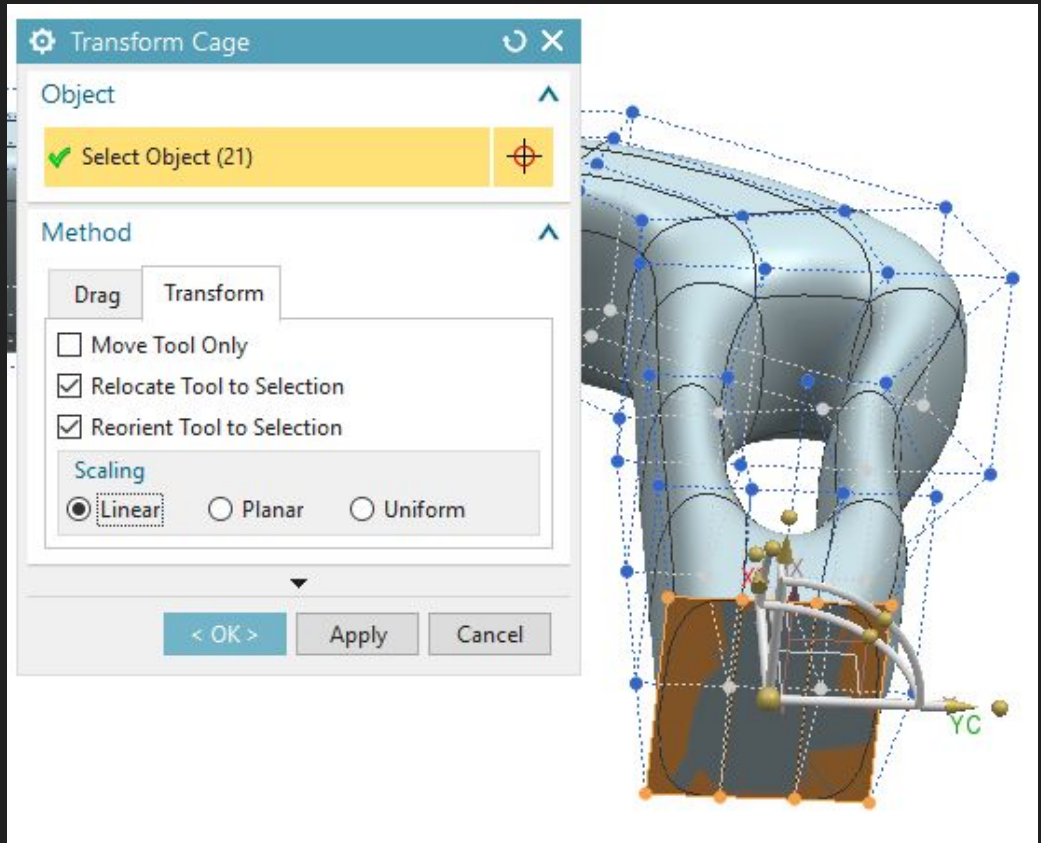
Switches to ***symmetry mode***



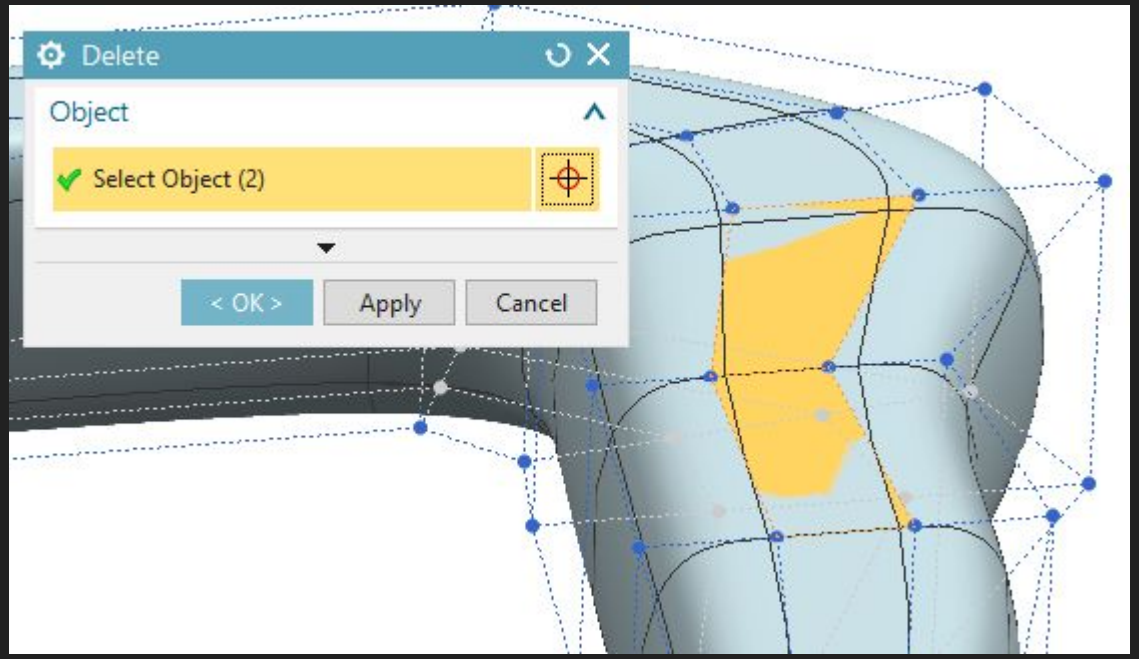


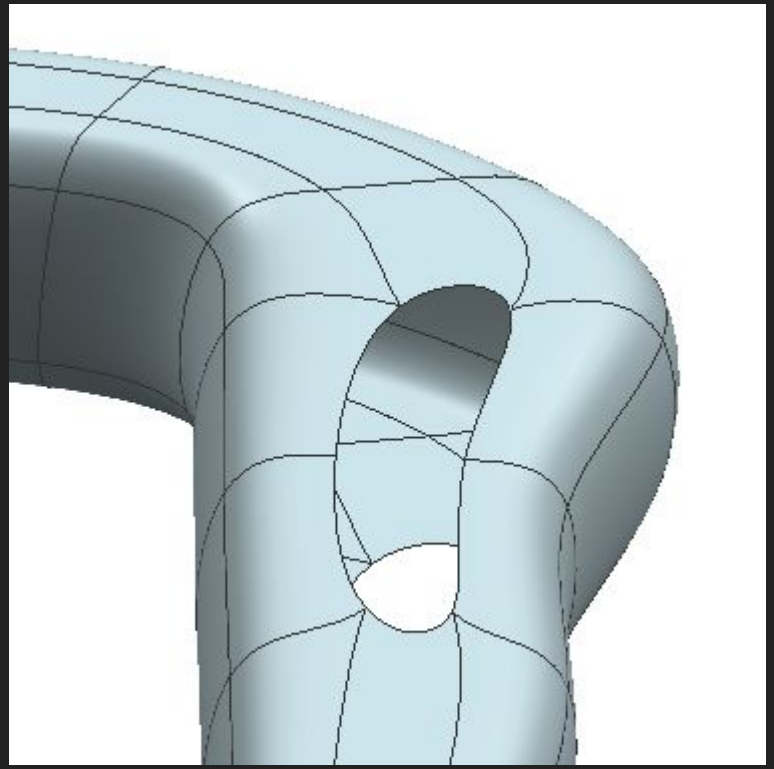
Transform Cage

Use the Transform Cage command to move, rotate, or scale control cage faces, edges, vertices, or the entire cage.

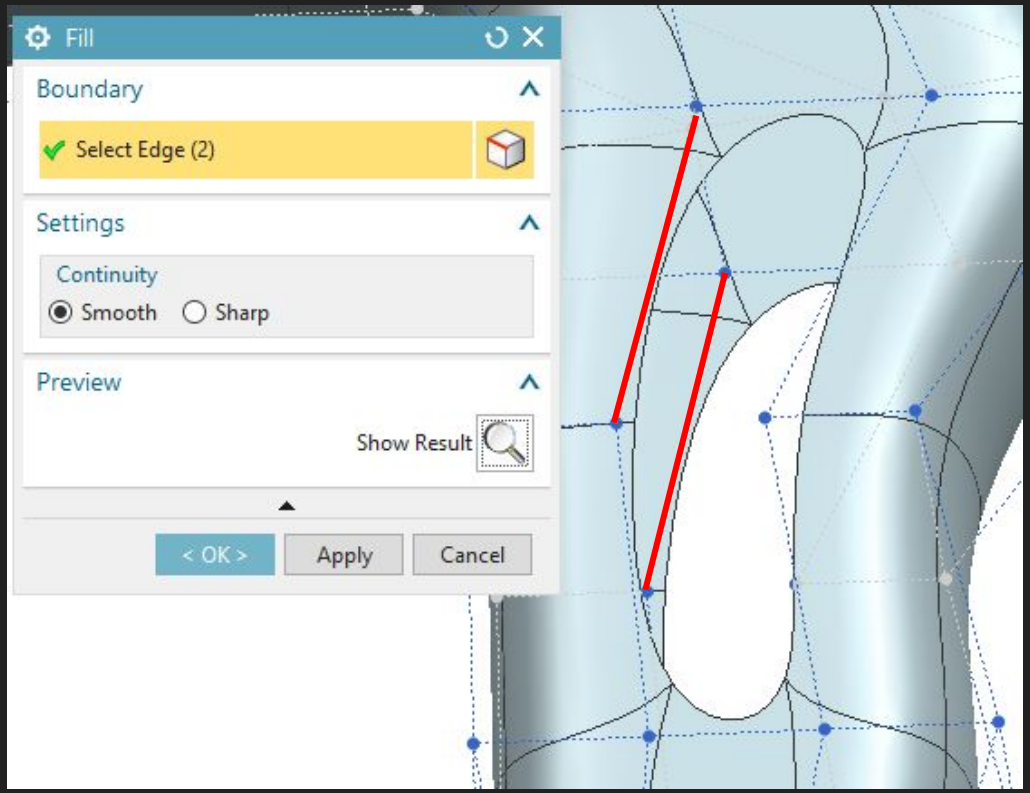


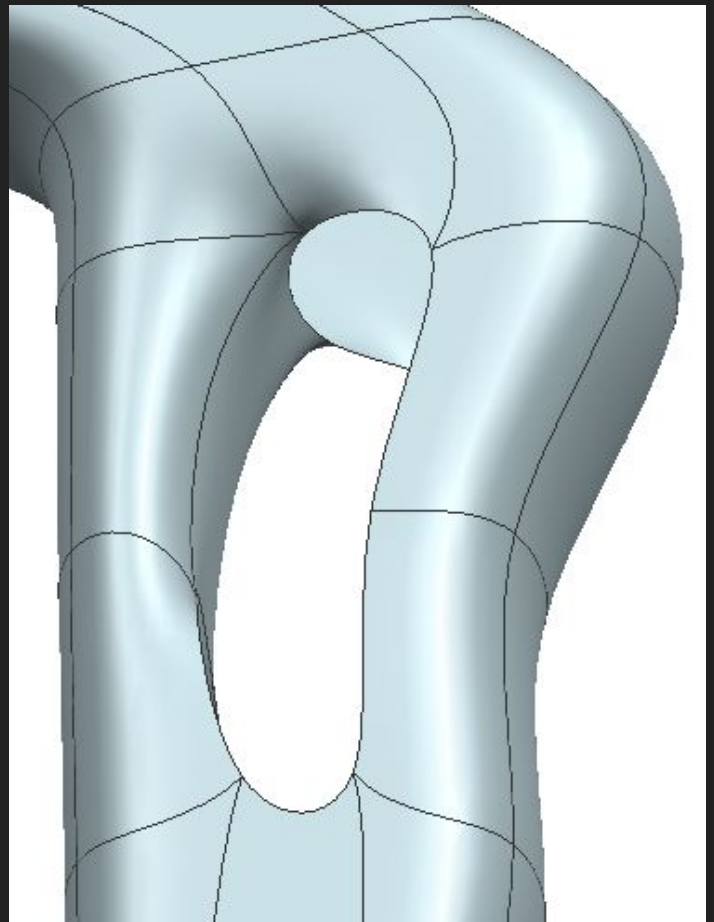
Delete



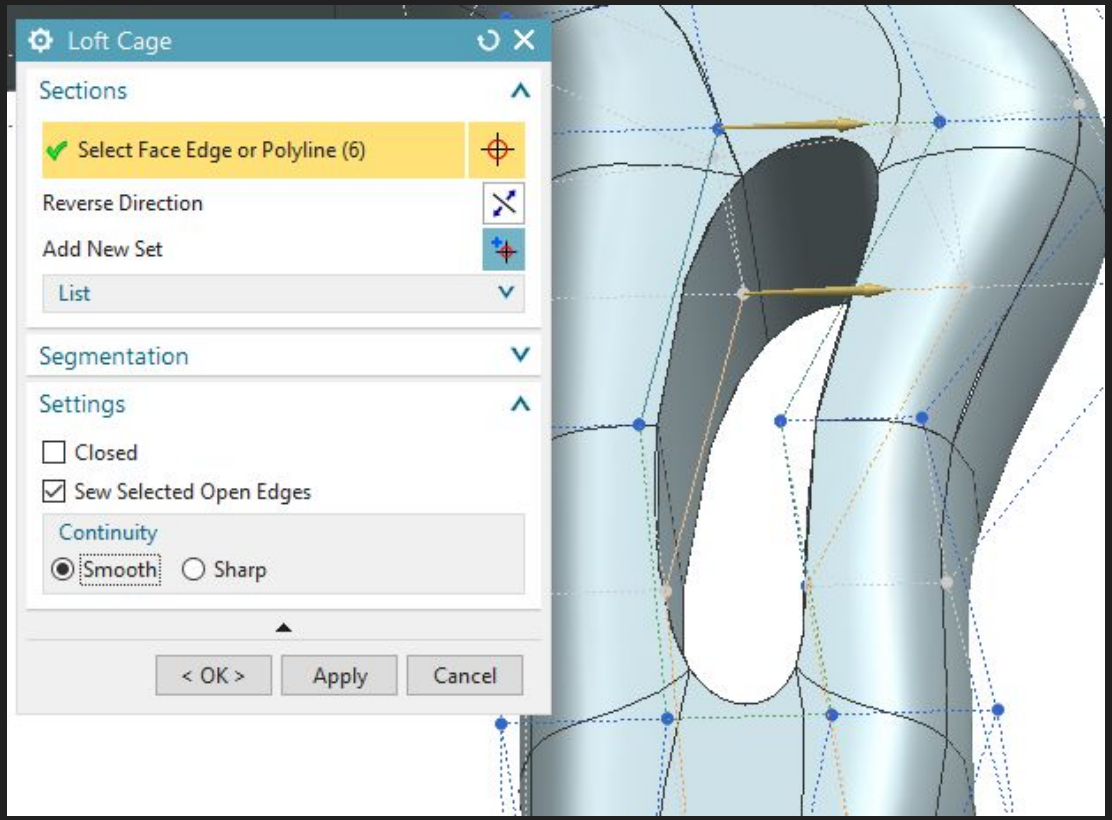


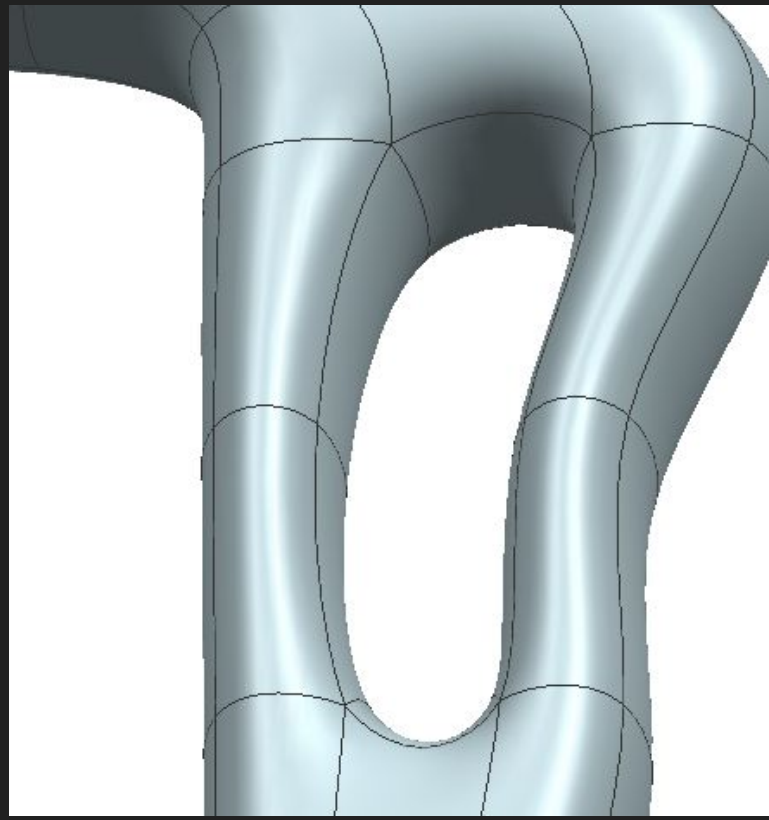
Fill


Fill
Boundary
Select Edge (2)
Settings
Continuity
Smooth
Sharp
Preview
Show Result
< OK >
Apply
Cancel



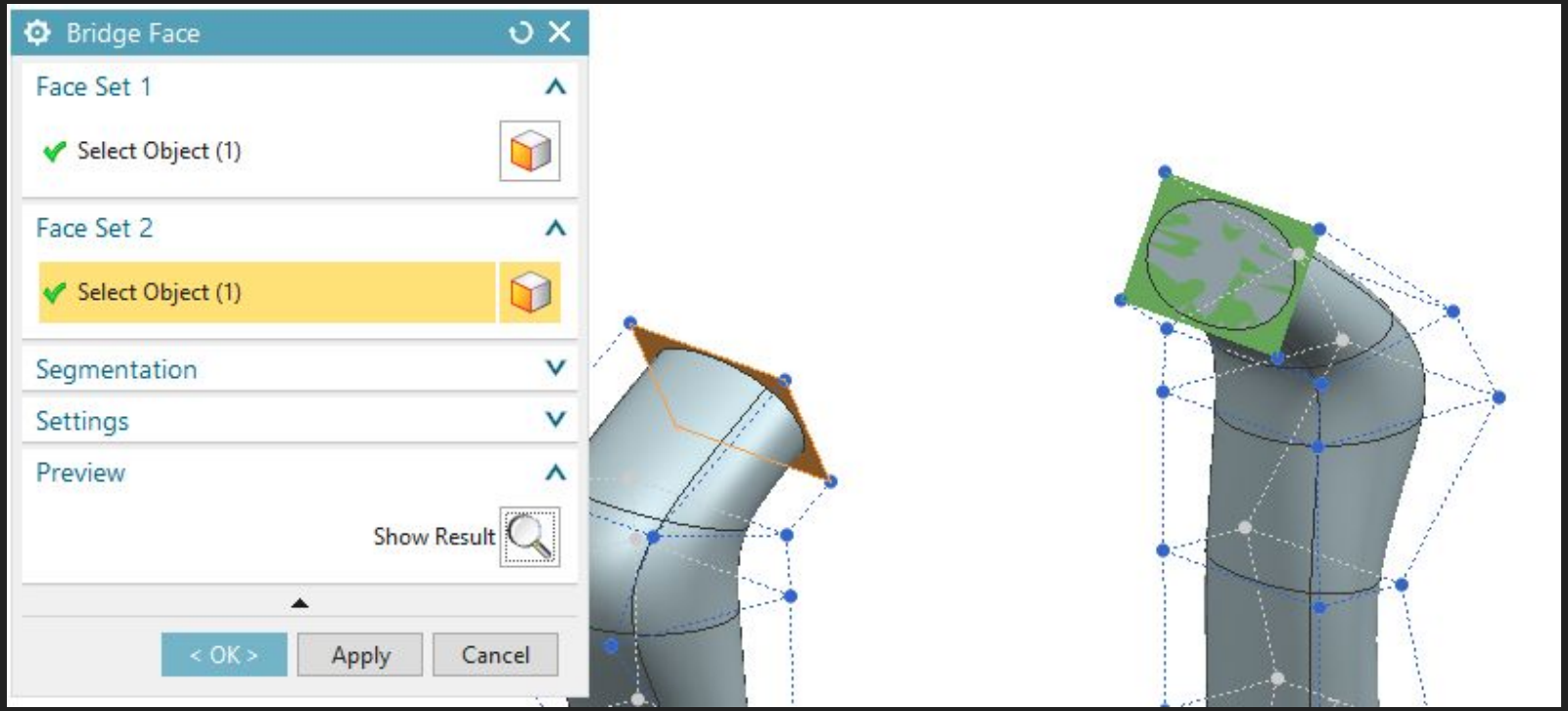
Loft Cage


Loft Cage
Sections
Select Face Edge or Polyline (6)
Reverse Direction
Add New Set
List
Segmentation
Settings
Closed
Sew Selected Open Edges
Continuity
Smooth
Sharp
< OK >
Apply
Cancel



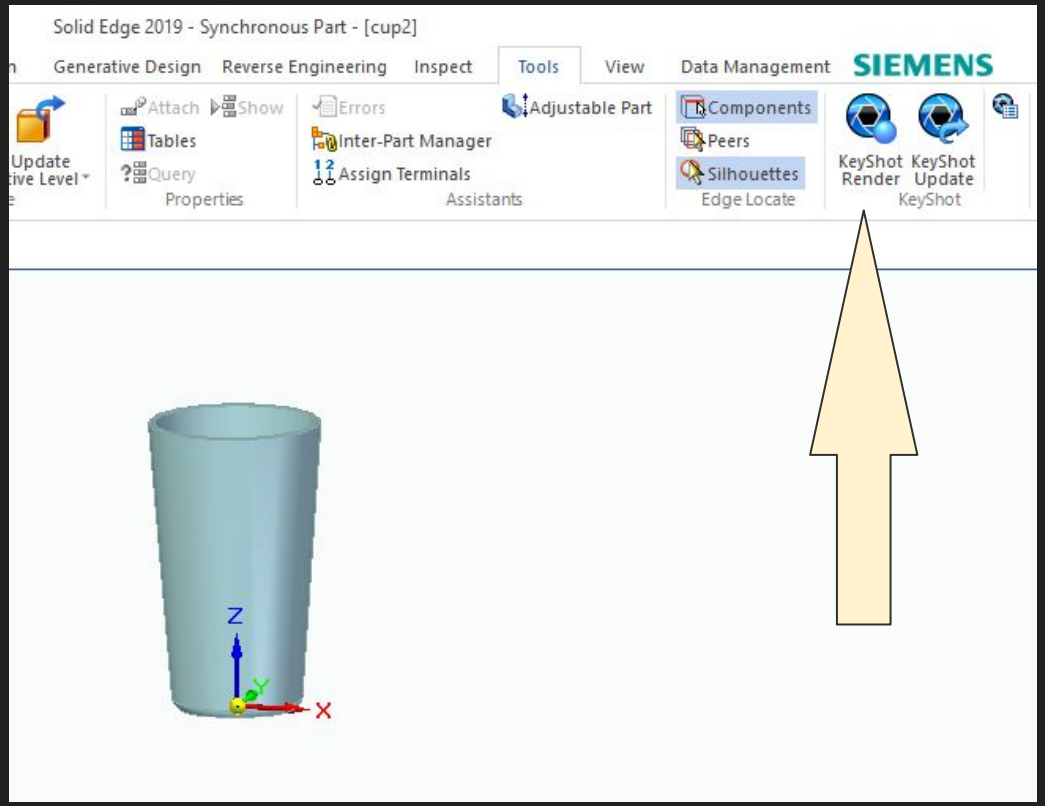
Bridge Face

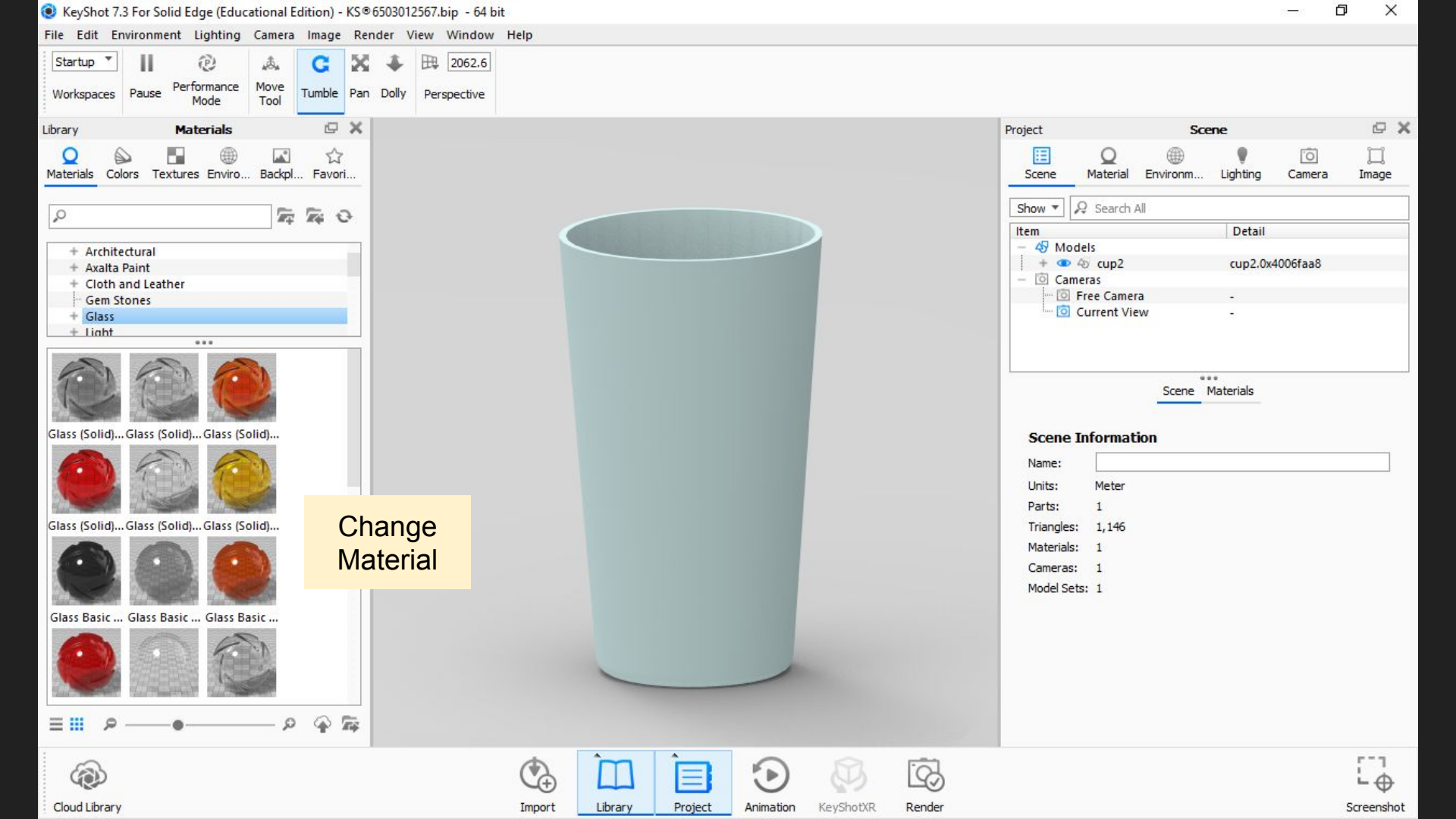
The two face sets should have the same topology.

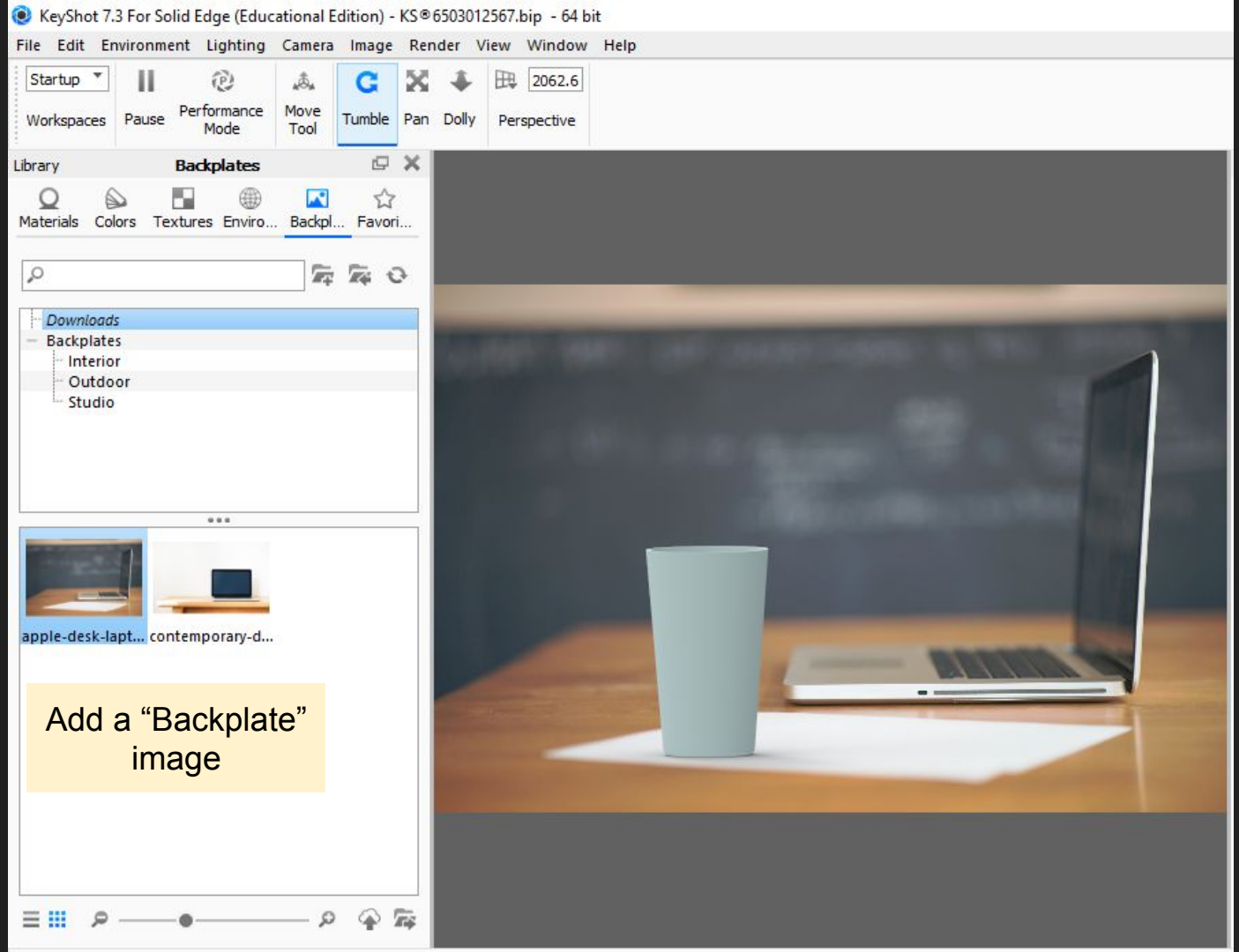


Render Your Design in KeyShot

Launch KeyShot from Solid Edge




KeyShot 7.3 For Solid Edge (Educational Edition) - KS®6503012567.bip - 64 bit
File Edit Environment Lighting Camera Image Render View Window Help
Startup
Workspaces
Pause
Performance Mode
Move Tool
Tumble
Pan
Dolly
2062.6
Perspective
Library
Materials
Materials Colors Textures Enviro... Backpl... Favori...
Architectural
Axalta Paint
Cloth and Leather
Gem Stones
Glass
Light
Glass (Solid)... Glass (Solid)... Glass (Solid)...
Glass (Solid)... Glass (Solid)... Glass (Solid)...
Glass Basic ... Glass Basic ... Glass Basic ...
Change Material
Project
Scene
Scene Material Environm... Lighting Camera Image
Show
Search All
Item
Detail
Models
cup2
cup2.0x4006faa8
Cameras
Free Camera
Current View
Scene Materials
Scene Information
Name:
Units: Meter
Parts: 1
Triangles: 1,146
Materials: 1
Cameras: 1
Model Sets: 1
Cloud Library
Import
Library
Project
Animation
KeyShotXR
Render
Screenshot


KeyShot 7.3 For Solid Edge (Educational Edition) - KS®6503012567.bip - 64 bit
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Startup
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Performance Mode
Move Tool
Tumble
Pan
Dolly
2062.6
Perspective
Library
Backplates
Materials
Colors
Textures
Enviro...
Backpl...
Favori...
Downloads
Backplates
Interior
Outdoor
Studio
apple-desk-lapt...
contemporary-d...
Add a “Backplate” image

Project | Lighting

Scene | Material | Environm... | Lighting | Camera | Image

Lighting Presets

- Performance Mode
- Basic
- Product
- Interior
- Jewelry
- Custom -

Set the “Lighting” properties

Environment Lighting

Shadow Quality 2

- Ground Illumination
- Self Shadows

General Lighting

Ray Bounces 16

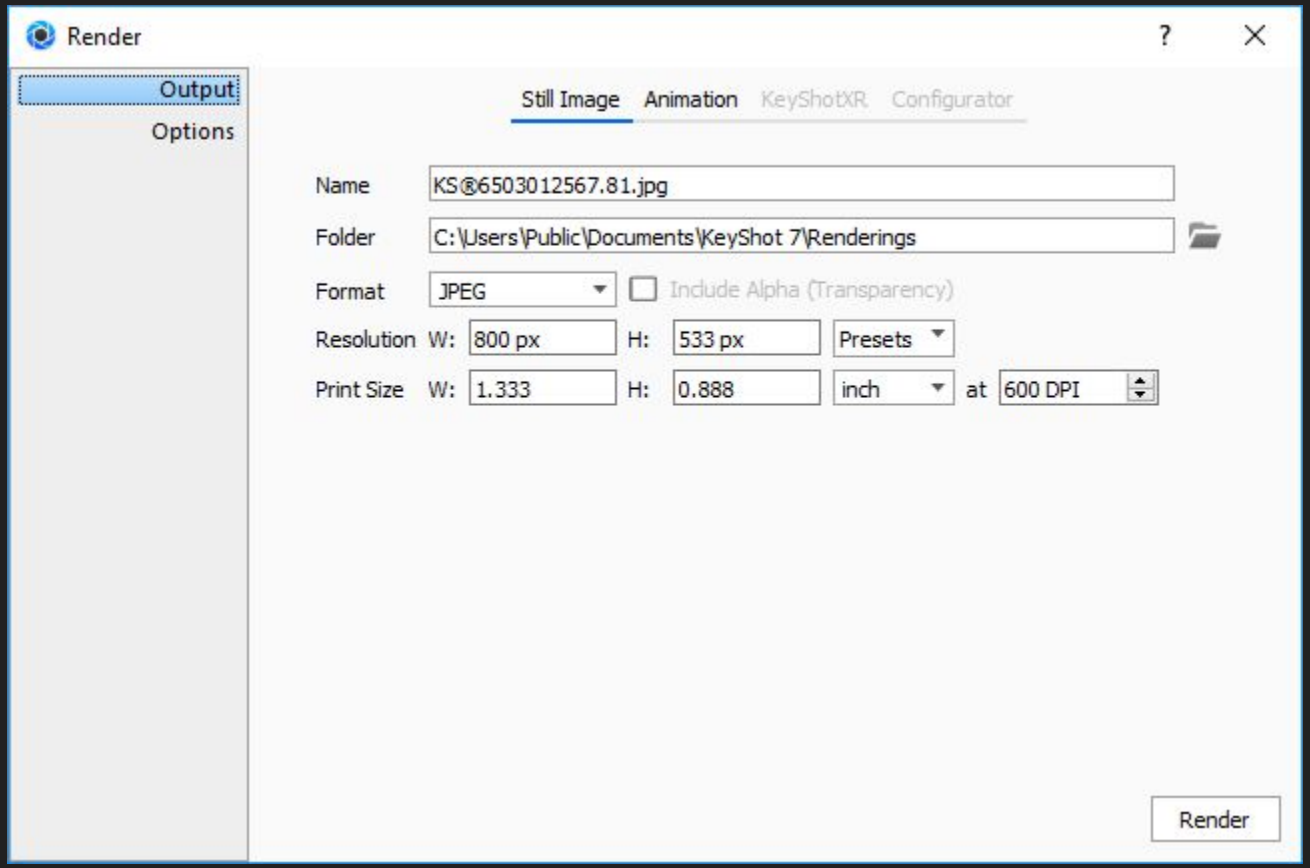
- Global Illumination
- Caustics

Rendering Technique

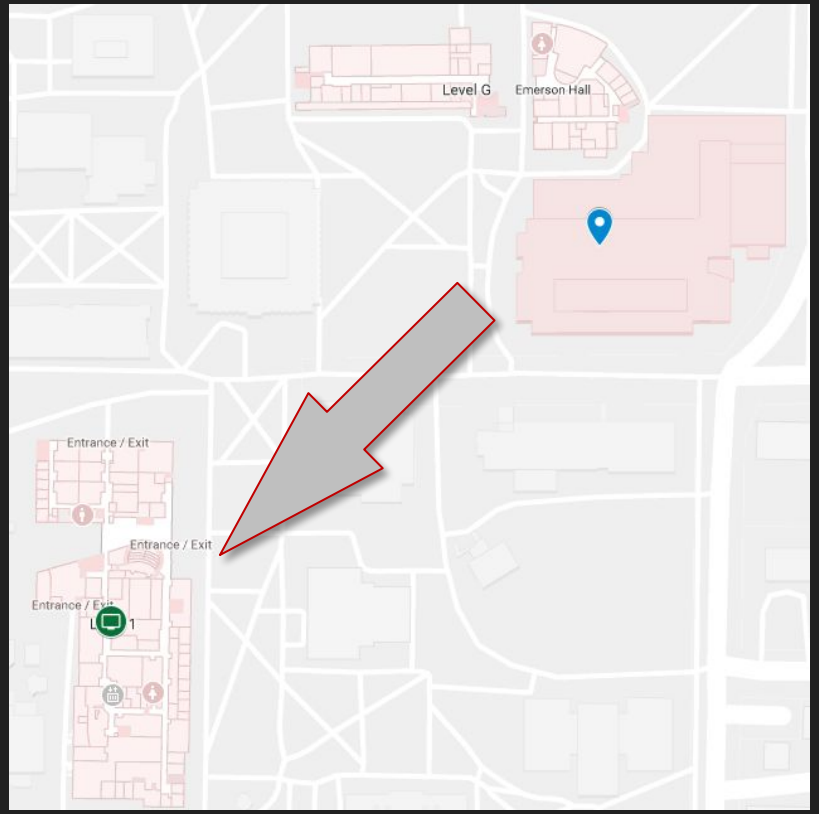
- Product Mode
- Interior Mode

Render


Import
Library
Project
Animation
KeyShotXR
Render


Render
Output
Options
Still Image
Animation
KeyShotXR
Configurator
Name
KS@6503012567.81.jpg
Folder
C:\Users\Public\Documents\KeyShot 7\Renderings
Format
JPEG
Include Alpha (Transparency)
Resolution W:
800 px
H:
533 px
Presets
Print Size W:
1.333
H:
0.888
inch
at
600 DPI
Render

For on-campus students: Toomey Hall 200. See you there!



Toomey Hall 200

CLC
COMPUTER LEARNING CENTER

For Distance Students

There are CLC machines available for you to access software remotely. The setup instructions are provided on Canvas.

Here's how you can speed up your NX 12 on the virtual machine: https://me5763.github.io/lab/pages/speed-up-nx.html