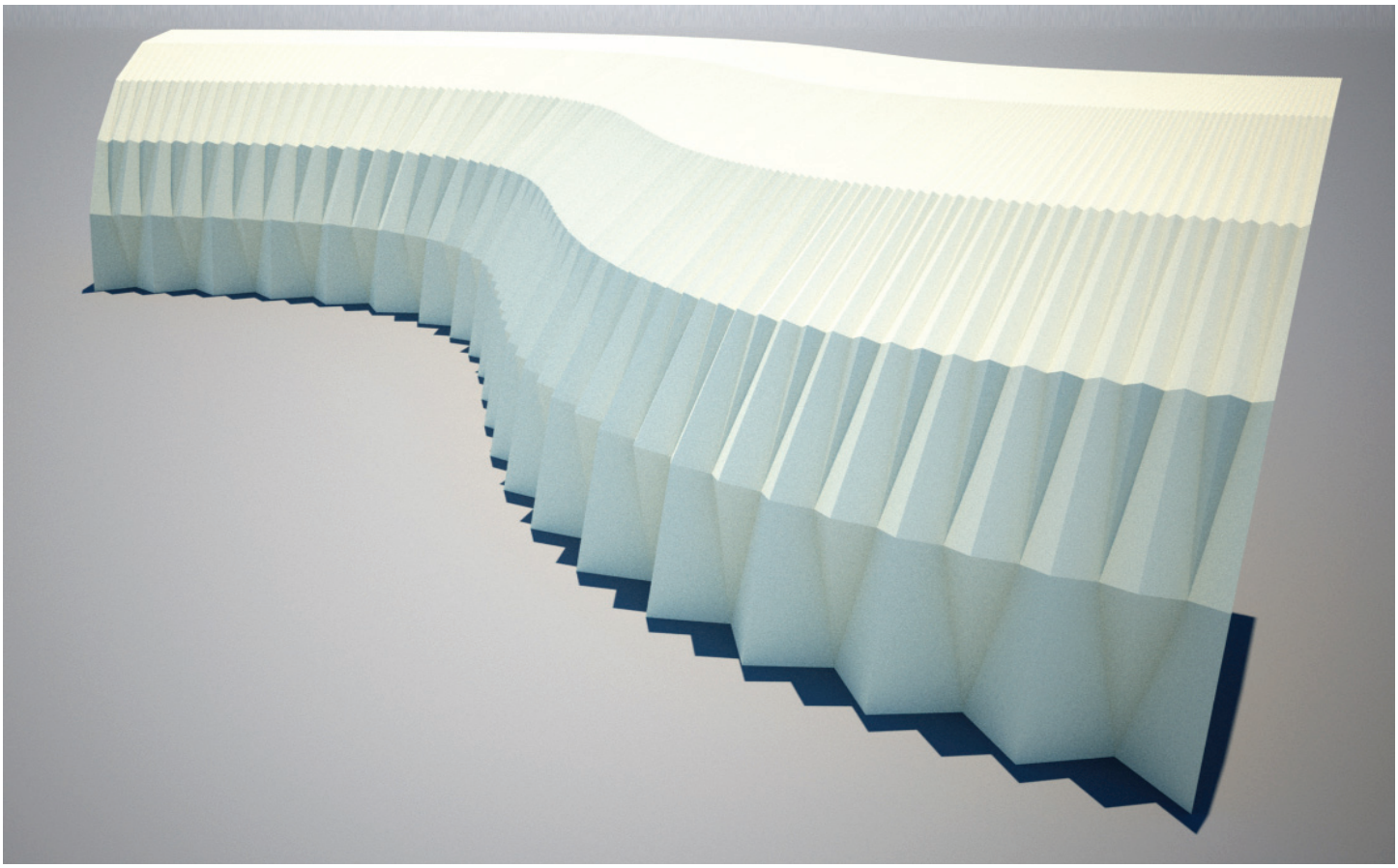
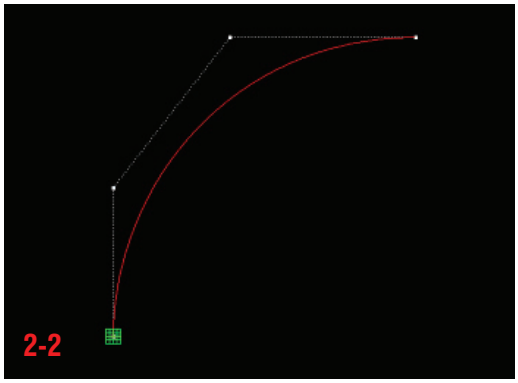
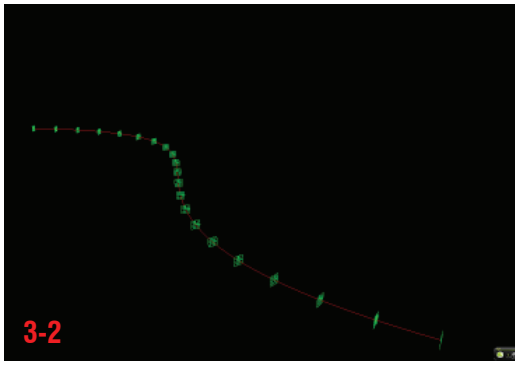
4_4 Proliferative Folding

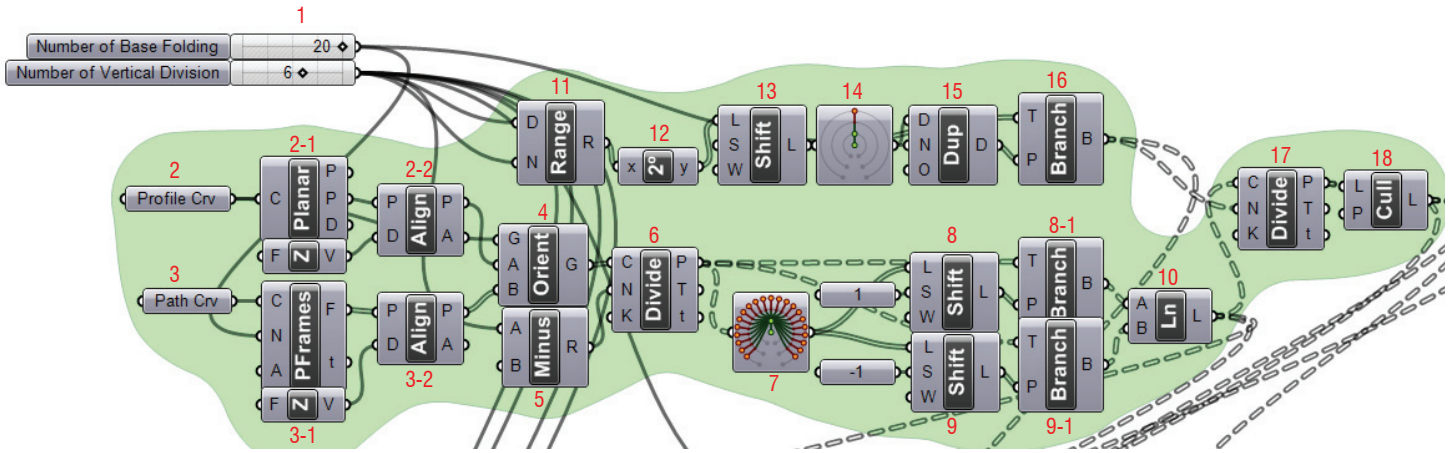


Step1 : Selecting Proliferative Points

1. ***Slider*** (Params/Special/Number Slider)
- "Number of Base Folding" : Integer, Lower limit=0, Upper limit=20, Value=20
- "Number of Vertical Division" : Integer, Lower limit=0, Upper limit=10, Value=6
2. ***Curve*** (Params/Geometry/Curve) : "Profile Crv"
- Draw one Rhino Curve on x-z plane (on Front view)
- Right click and Set One Curve
2-1. ***Planar*** (Curve/Analysis/Planar)
- C : "Profile Crv"
2-2. ***Align*** (Vector/Plane/Align Plane)
- P : *Planar*(P)
- D : *Unit Z*
3. ***Curve*** (Params/Geometry/Curve) : "Path Crv"
- Draw one Rhino Curve on x-y plane (on Top view)
- Right click and Set One Curve
3-1. ***PFrames*** (Curve/Division/Perp Frames)
- C : "Path Crv"
- N : *Slider* ("Number of Base Folding")
3-2. ***Align*** (Vector/Plane/Align Plane)
- P : *PFrames (F)*
- D : *Unit Z*







4. ***Orient*** (XForm/Euclidian/Orient)
- G : "Profile Crv"
- A : 2-2. *Align(P)*
- B : 3-2. *Align(P)*

5. ***Minus*** (Scalar/Operator/Subtraction)
- A : "Number of Vertical Division"
- B : Set Number = 1

6. ***Divide*** (Curve/Division/Divide Curve)
- C : *Orient(G)*
- N : *Minus(R)*

7. ***Param Viewer***(Params/Special/Param Viewer)
- *Divide(P)*

8. ***Shift*** (Logic/List/Shift List)
- L : *Param Viewer*
- S : *Integer* = 1

8-1. ***Branch*** (Logic/Tree/Tree Branch)
- T : *Divide(P)*
- P : *8. Shift(L)*

9. ***Shift*** (Logic/List/Shift List)
- L : *Param Viewer*
- S : *Integer* = -1

9-1. ***Branch*** (Logic/Tree/Tree Branch)
- T : *Divide(P)*
- P : *9. Shift(L)*

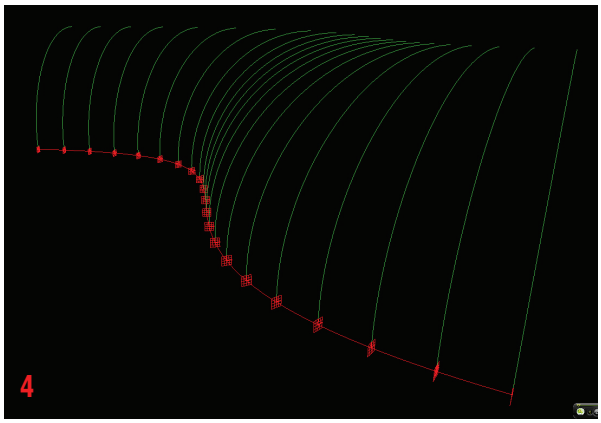
10. ***Ln*** (Curve/Primitive/Line)
- A : *8-1. Branch(B)*
- B : *9-1. Branch(B)*

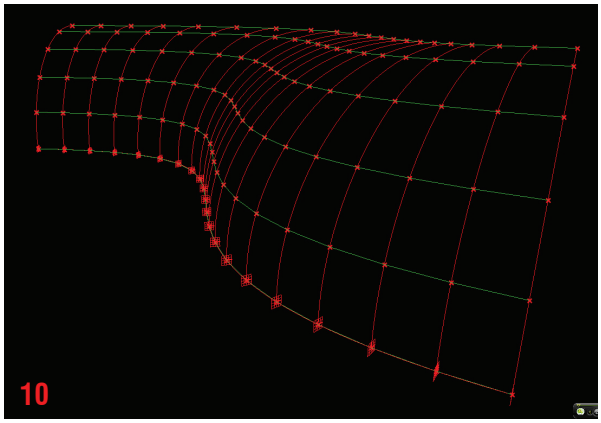
11. ***Range*** (Logic/Sets/Range)
- D : *Slider (*"Number of Vertical Division")
- N : *Slider (*"Number of Vertical Division")

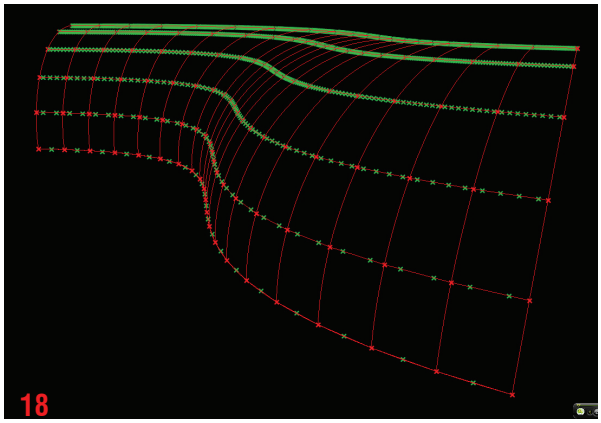
12. ***Power of 2*** (Scalar/Polynomials/Power of 2)
- x : *Range(R)*

13. ***Shift*** (Logic/List/Shift List)
- y : *Power of 2*
- S : *Integer* = 1

14. ***Param Viewer***(Params/Special/Param Viewer)
- *Shift(L)*





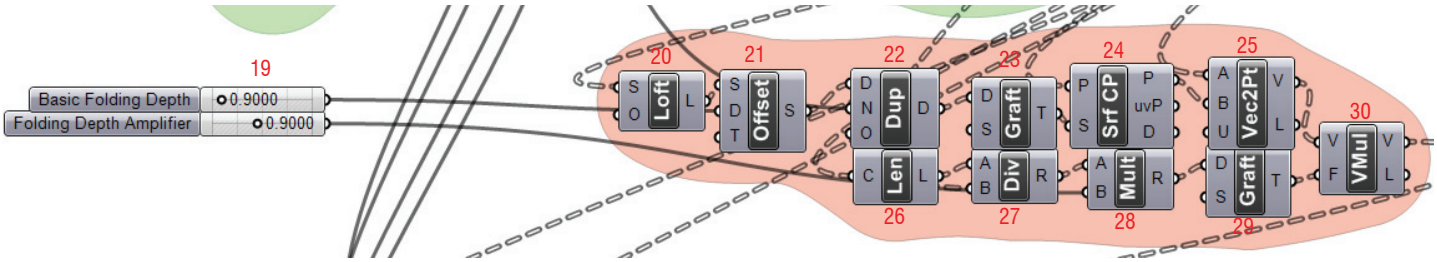


15. ***Dup*** (Logic/Sets/Duplicate Data)
- D : *14. Param Viewer*
- N : *Slider ("Number of Base Folding")*

16. ***Branch*** (Logic/Tree/Tree Branch)
- T : *Shift(L)*
- P : *Dup(D)*

17. ***Divide*** (Curve/Division/Divide Curve)
- C : *10.Ln(L)*
- N : *Branch(B)*

18. ***Cull*** (Logic/Sets/Cull Pattern)
- L : *Divide(P)*
- P : False/True



Step2 : Controlling Folding Depth

19. ***Slider*** (Params/Special/Number Slider)
- "Basic Folding Depth" : Integer, Lower limit=0, Upper limit=2, Value=0.9
- "Folding Depth Amplifier" : Integer, Lower limit=0, Upper limit=2 Value=0.9

20. ***Loft*** (Surface/Freedom/Loft)
- S : *Ln(L)*

21. ***Offset*** (Surface/Freedom/Offset)
- S : *Loft(L)*
- D : *Slider(*"Basic Folding Depth")

22. ***Dup*** (Logic/Sets/Duplicate Data)
- D : Offset(S)
- N : *Slider (*"Number of Vertical Division"*)*

23. ***Graft*** (Logic/Tree/Graft Tree)
- D : *Dup(T)*

24. ***Srf CP*** (Surface/Analysis/Surface CP)
- P : *18.Cull(L)*
- S : *Graft(T)*

25. ***Vector*** (Vector/Vector/Vector 2Pt)
- A : *18.Cull(L)*
- B : *Srf CP(P)*

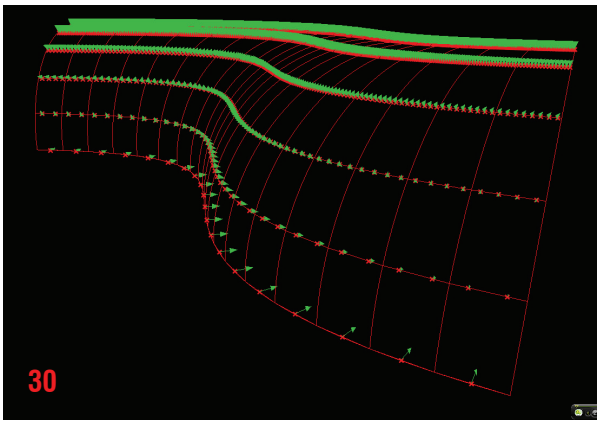
26. ***Len*** (Curve/Analysis/Length)
- C : *Ln(L)*

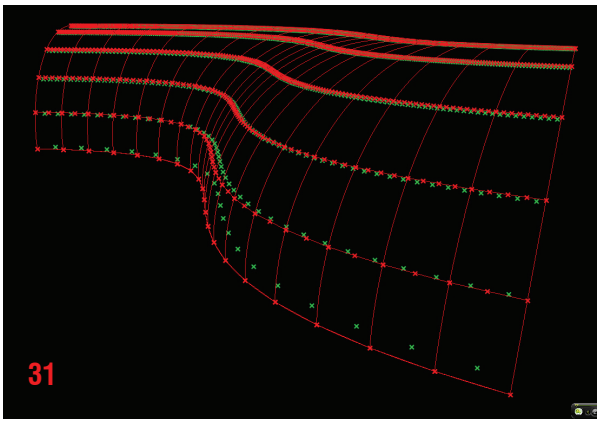
27. ***Div*** (Scalar/Operator/Division)
- A : *Len(L)*
- B : *16.Branch(B)*

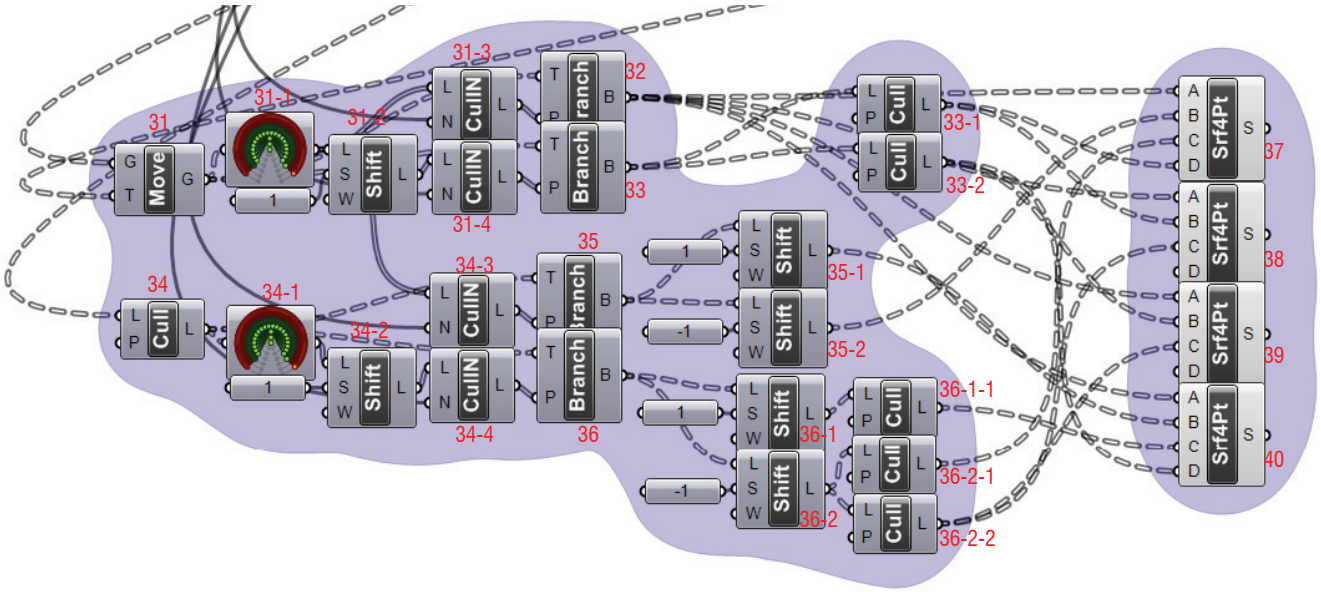
28. ***Mult*** (Scalar/Operator/Multiplication)
- A : *Div(R)*
- B : *Slider(*"Folding Depth Amplifier")

29. ***Graft*** (Logic/Tree/Graft Tree)
- D : Mult(R)

30. ***VMul*** (Vector/Vector/Multiply)
- V : *Vector(A)*
- F : *Graft(T)*







Step3 : Organizing Points

31. ***Move*** (XForm/Euclidian/Move)
- G : *Cull(L)*
- T : *VMul(V)*

31-1. ***Param Viewer***
(Params/Special/Param Viewer)
- *Move(G)*

31-2. ***Shift*** (Logic/List/Shift List)
- L : *Param Viewer*
- S : *Integer* = 1

31-3. ***CullN*** (Logic/Sets/CullNth)
- L : *Param Viewer*
- N : *Slider (*"Number of Vertical Division"*)*

31-4. ***CullN*** (Logic/Sets/CullNth)
- L : *Shift(L)*
- N : *Slider (*"Number of Vertical Division"*)*

32. ***Branch*** (Logic/Tree/Tree Branch)
- T : *Move(G)*
- P : *31-3.CullN(L)*

33. ***Branch*** (Logic/Tree/Tree Branch)
- T : *Move(G)*
- P : *31-4.CullN(L)*

33-1. ***Cull*** (Logic/Sets/Cull Pattern)
- L : 33.*Branch(B)*
- P : True/False

33-2. ***Cull*** (Logic/Sets/Cull Pattern)
- L : 33.*Branch(B)*

34. ***Cull*** (Logic/Sets/Cull Pattern)
- L : *Divide(P)*
- P : True/False

34-1. ***Param Viewer***
(Params/Special/Param Viewer)
- *Cull(L)*

34-2. ***Shift*** (Logic/List/Shift List)
- L : *Param Viewer*
- S : *Integer* = 1

34-3. ***CullN*** (Logic/Sets/CullNth)
- L : *Param Viewer*
- N : *Slider (*"Number of Vertical Division"*)*

34-4. ***CullN*** (Logic/Sets/CullNth)
- L : *Shift(L)*
- N : *Slider (*"Number of Vertical Division"*)*

35. ***Branch*** (Logic/Tree/Tree Branch)
- T : *Move(G)*
- P : *34-3.CullN(L)*

35-1. ***Shift*** (Logic/List/Shift List)
- L : *Param Viewer*
- S : *Integer* = 1

35-2. ***Shift*** (Logic/List/Shift List)
- L : *Param Viewer*
- S : *Integer* = -1

36. ***Branch*** (Logic/Tree/Tree Branch)
- T : *Move(G)*
- P : *34-4.CullN(L)*

36-1. ***Shift*** (Logic/List/Shift List)
- L : *Param Viewer*
- S : *Integer* = 1

36-1-1. ***Cull*** (Logic/Sets/Cull Pattern)
- L : *36-1.Shift(L)*
- P : False/True

36-2. ***Shift*** (Logic/List/Shift List)
- L : *Param Viewer*
- S : *Integer* = -1

36-2-1. ***Cull*** (Logic/Sets/Cull Pattern)
- L : *36-2.Shift(L)*
- P : True/False

36-2-2. ***Cull*** (Logic/Sets/Cull Pattern)
- L : *36-2.Shift(L)*
- P : False/True

Step4 : Making Surface

* Number of Points of each input in Srf4Pt component should be same.

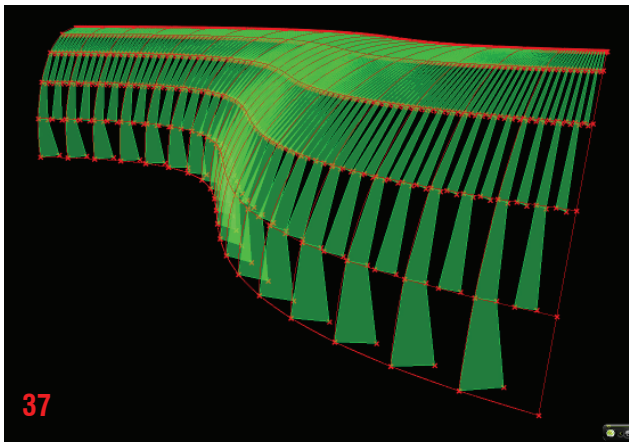
37. ***Srf4Pt*** (Surface/Freeform/4Point Surface)
- A : *32.Branch(B)*
- B : *35-2.Shfit(L)*
- C : *36-2-1.Cull(L)*
- D : *33-1.Cull(L)*

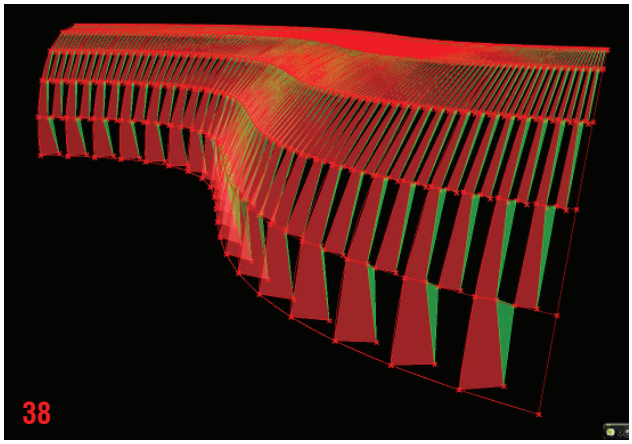
38. ***Srf4Pt*** (Surface/Freeform/4Point Surface)
- A : *32.Branch(B)*
- B : *33-1.Cull(L)*
- C : *36-2-2.Cull(L)*

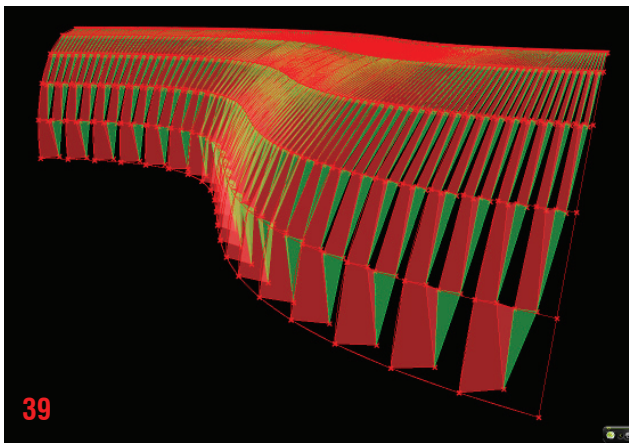
39. ***Srf4Pt*** (Surface/Freeform/4Point Surface)
- A : *32.Branch(B)*
- B : *33-2.Cull(L)*
- C : *36-2-2.Cull(L)*

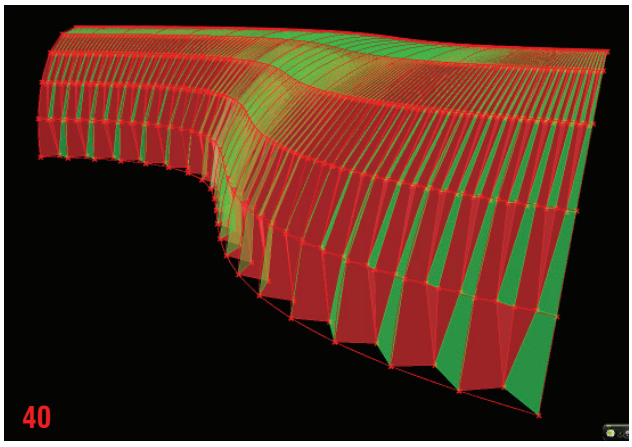
40. ***Srf4Pt*** (Surface/Freeform/4Point Surface)
- A : *32.Branch(B)*
- B : *35-1.Shfit(L)*
- C : *36-1-1.Cull(L)*
- D : *33-2.Cull(L)*

- The End -

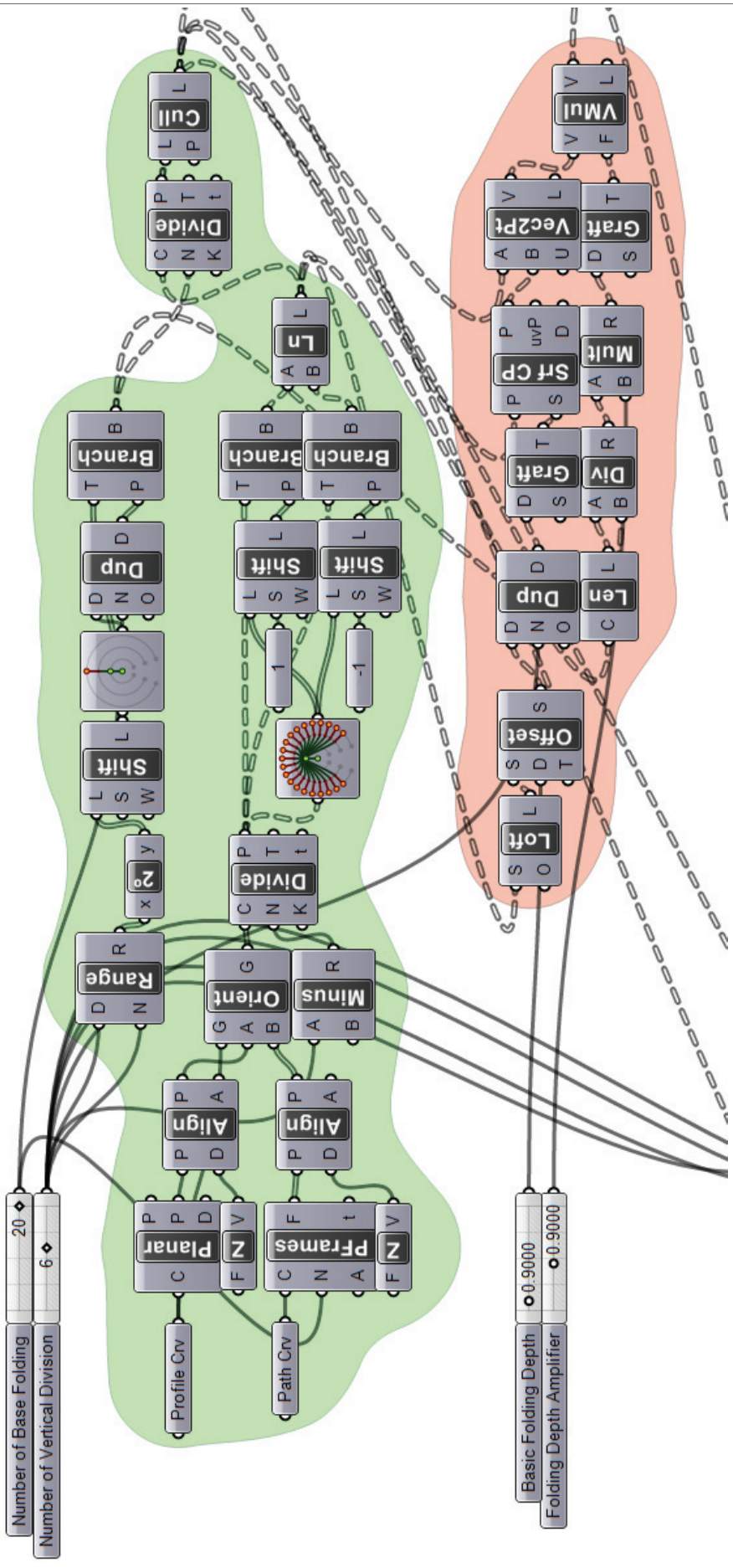








Appendix
- Definition map 1



Appendix
- Definition map 2