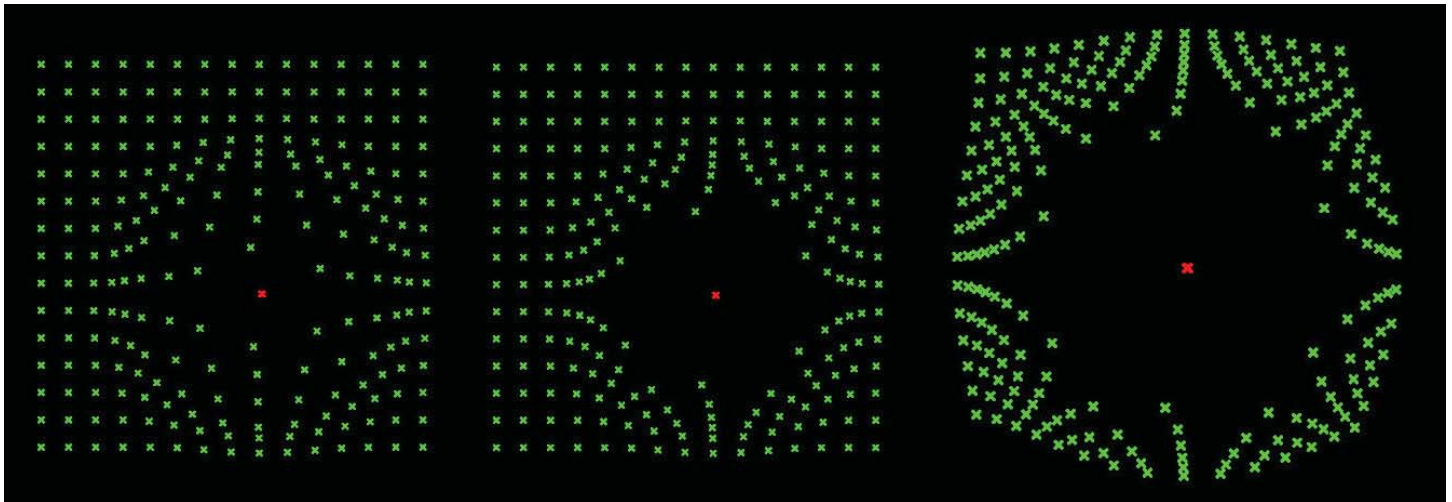
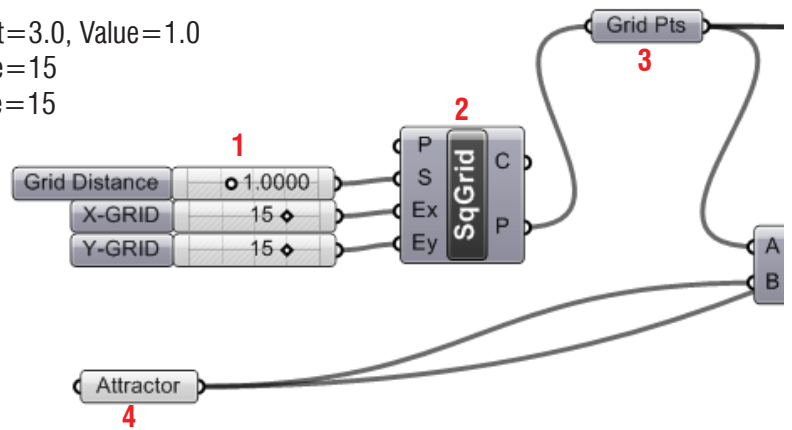


1_3 POINT EXPANSION 2



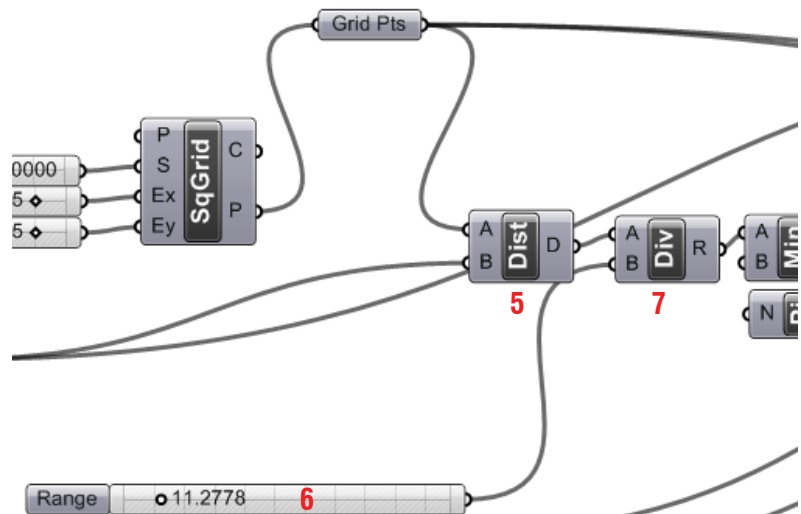
Step1 : Setting up the Point Grid

1. **Slider** x 3 (Params/Special/Number Slider)
 - "Grid Distance" : Floating point, Lower limit=0, Upper limit=3.0, Value=1.0
 - "X-GRID" : Integers, Lower limit=0, Upper limit=20, Value=15
 - "Y-GRID" : Integers, Lower limit=0, Upper limit=20, Value=15
2. **SqGrid** (Vector/Grid/SqGrid)
 - P : default
 - S : "Grid Distance"
 - Ex : "X-GRID"
 - Ey : "Y-GRID"
3. **Point** (Params/Geometry/Point) : "Grid Pts"
 - SqGrid(P)
4. **Point** (Params/Geometry/Point) : "Attractor"
 - Draw one point in Rhino scene
 - Right-click and select 'Set one Point' and select the point in Rhino scene



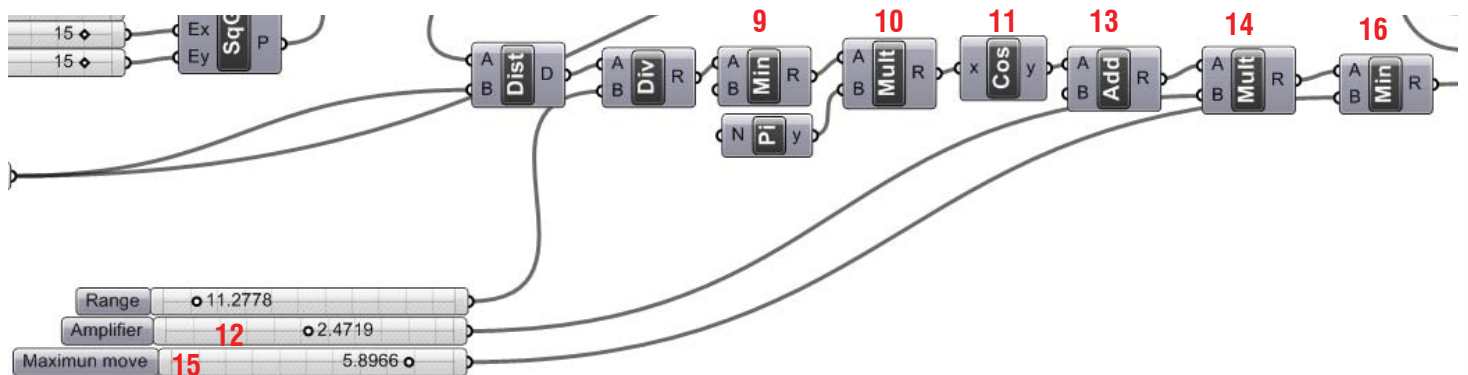
Step2 : Setting up Distance Parameter

5. **Dist** (Vector/Point/Distance)
 - A : Point("Grid Pts")
 - B : Point("Attractor")
7. **Slider** (Params/Special/Number Slider)
 - "Range" : Floating point, Lower limit=0, Upper limit=50, Value=11.27
8. **Div** (Scalar/Operator/Division)
 - A : Dist(D)
 - B : Slider("Range")



Step3 : Geometry Deformation Fuction

* $y = A \cos (B \pi x)$ (y :output, x :parameter, A :amplifier, B :range)



9. **Min** (Scalar/Util/Minimum)

- A : *Div*(R)

- B : Right Click and set Number : 1.0

* The reason to set this component is to limit the deformation value within $0 \sim \pi$ on Cosine function graph



10. **Mult** (Scalar/Operator/Multiply)

- A : *Min*(R)

- B : *Pi*(y)

11. **Cos** (Scalar/Trig/Cosine)

- x : *Mult*(R)

12. **Slider** (Params/Special/Number Slider)

- "Amplifier" : Floating point,

Lower limit=0, Upper limit=5, Value=2.47

13. **Add** (Scalar/Operator/Add)

- A : *Cos*(y)

- B : Right Click and Set Number : 1.0

* The reason to add 1.0 is to get always positive values from Cosine curve

14. **Mult** (Scalar/Operator/Multiply)

- A : *Add*(R)

- B : *Slider* ("Amplifier")

15. **Slider** (Params/Special/Number Slider)

- "Maximum Move" : Floating point,

Lower limit=0, Upper limit=6, Value=5.89

16. **Min** (Scalar/Util/Minimum)

- A : *Mult*(R)

- B : *Slider* ("Maximum Move")

* This is for preventing from overflow of point movements

Step4 : Points Movement

17. **Vec2Pt** (Vector/Vector/Vector 2Pt)

- A : *Point*("Attractor")

- B : *Point*("Grid Pts")

* This is the opposite direction of '1.1 Point Concentration'

18. **Amp** (Vector/Vector/Amplitude)

- V : *Vec2Pt*(V)

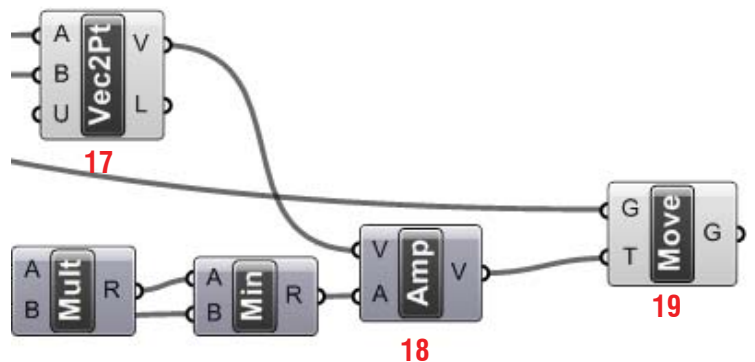
- A : *Min*(R)

19. **Move** (Xform/Euclidian/Move)

- G : *Point*("Grid Pts")

- T : *Amp*(V)

- The End -



Appendix

- Definition map

