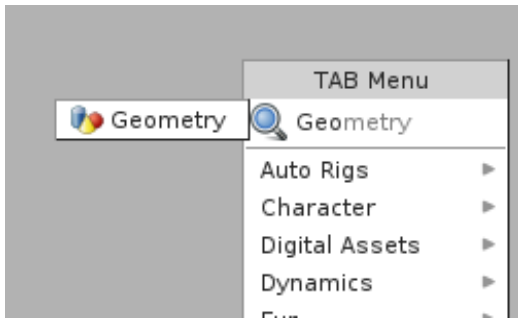


Houdini traditional DOP's tutorial

creating a cracked object:

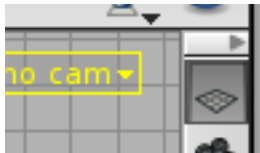
step 1: Create a Geo Sop.



- Select it and enter inside
 - now inside the geo.
- With your mouse over the network view port, tab and type curve.

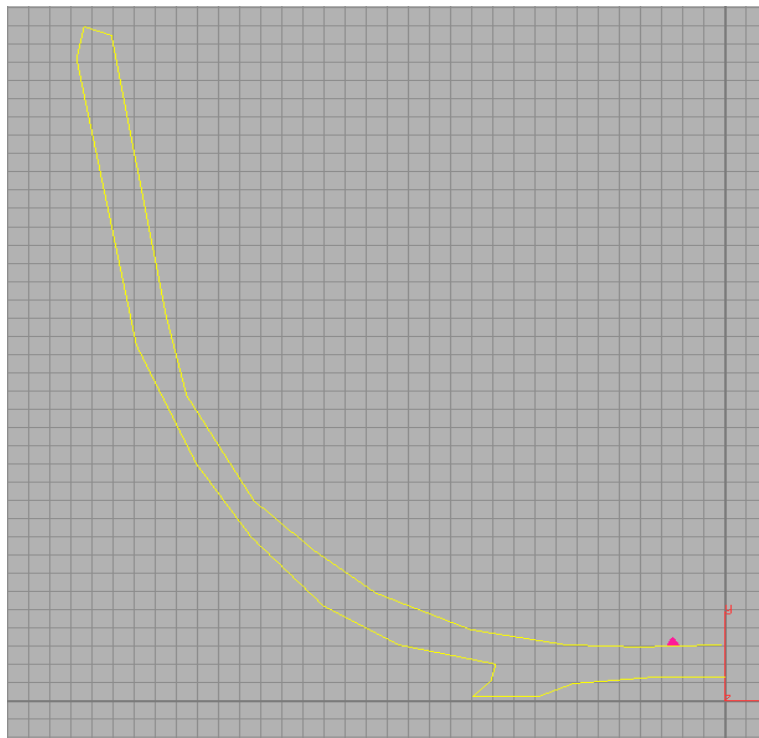
step 2 : Draw a curve .

mouse over the view port, and hit **space+b** you should have 4 views .
Mouse over "**front view** " and hit **space +b** again .



You many want to select the grid on this plane to assist in drawing.

from the fount view port
draw a curve , like so:

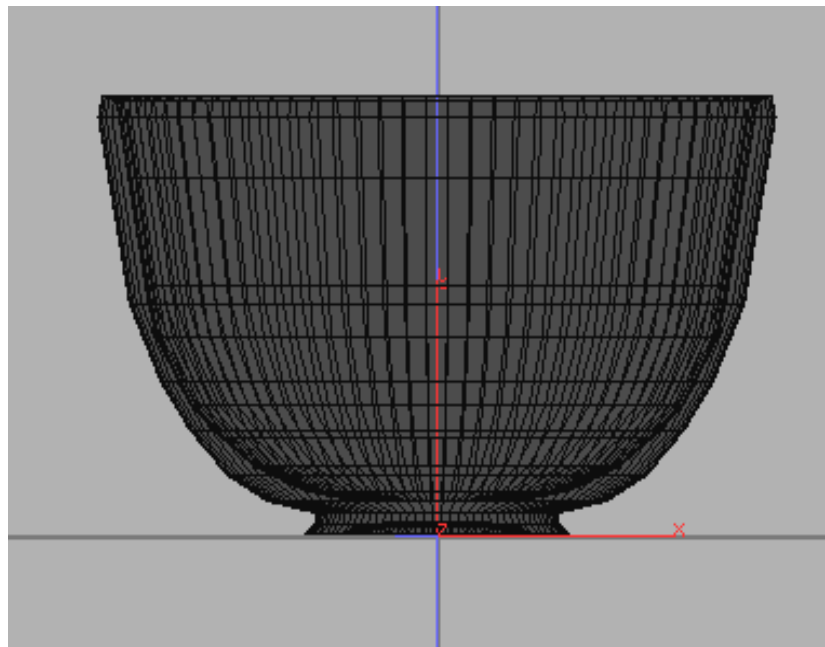


step 3 : Revolve

in the detail tab increase divisions to 90.



this will give you a smoother look when the crack is dividing the object.

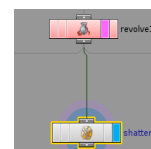


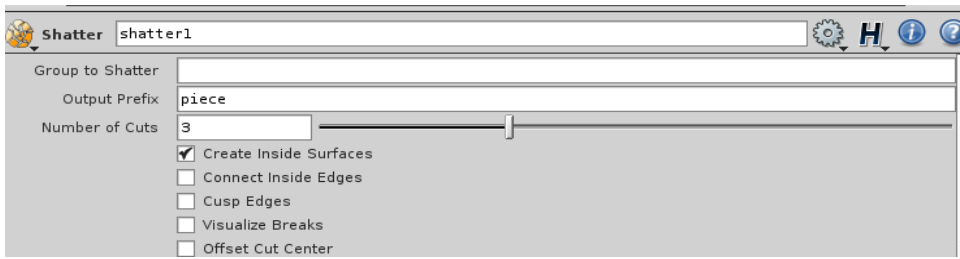
*** (as an alternate to the curve and revolve, just make a sphere, we had mixed results with the curve in class)***

Step 4: Shatter Sop.

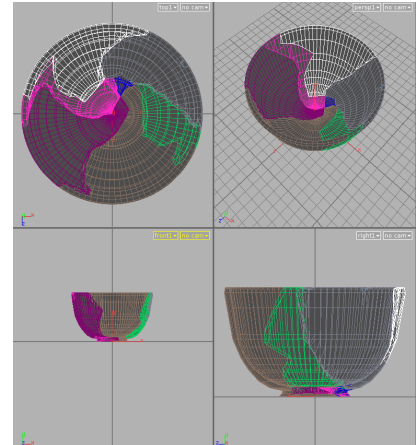
Like every other sop. Hit tab inside the network view and start typing the sop name ,then select it.

Pictured is the default shatter sop.





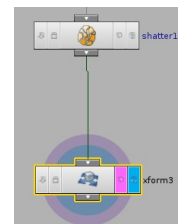
You can turn on visualize breaks to see where the object will be cracked.



And have turned all check boxes on
create inside surfaces:- when it breaks you have geometry
cusped edges : , should make cleaner breaks
visualize breaks :. Slows it down but easier to see distinct pieces
offset cut center :. Sometimes helps with cut geometry.

Step 5 transform :

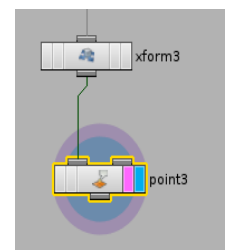
throw down a transform sop
 set translate **Y to 10**.



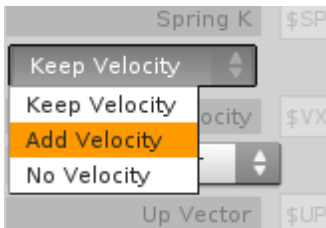
this is give you object some hight to fall from increasing the force of impact.

Step 6 Point sop:

throw down a point sop, the input connects to the left nub.



Inside the point sop select the Partical tab .
 And **ADD velocity** ,

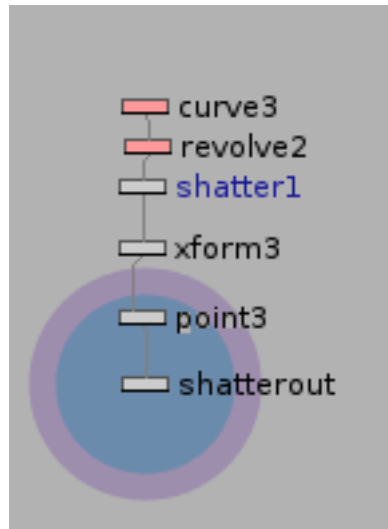
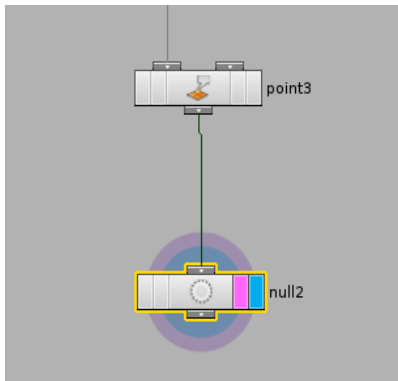


set X.Y.Z. to **0 ,0 , 10**

...this will move the object down the **z** axis .

Step 7 create a null object

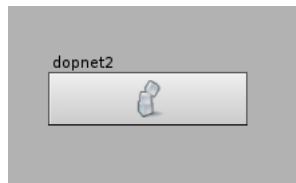
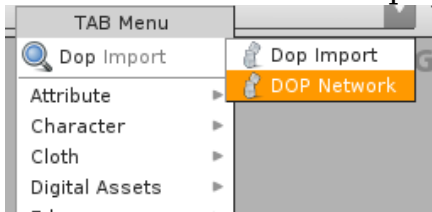
rename it to “shatter-out “ or some thing you will remember and have an easy time finding in the dopnet.



Part 2 : Creating the Dop network

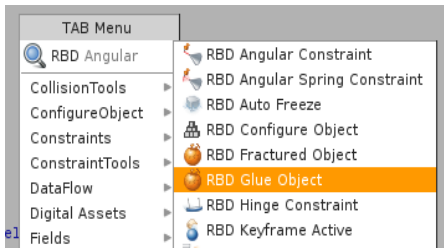
step 1 create a dop network .

Tab and type dop select dop network and drop it in the network view.
 Next enter inside the dop net.



Step2

thrown down , a few drinks .. then a RBD glue object .



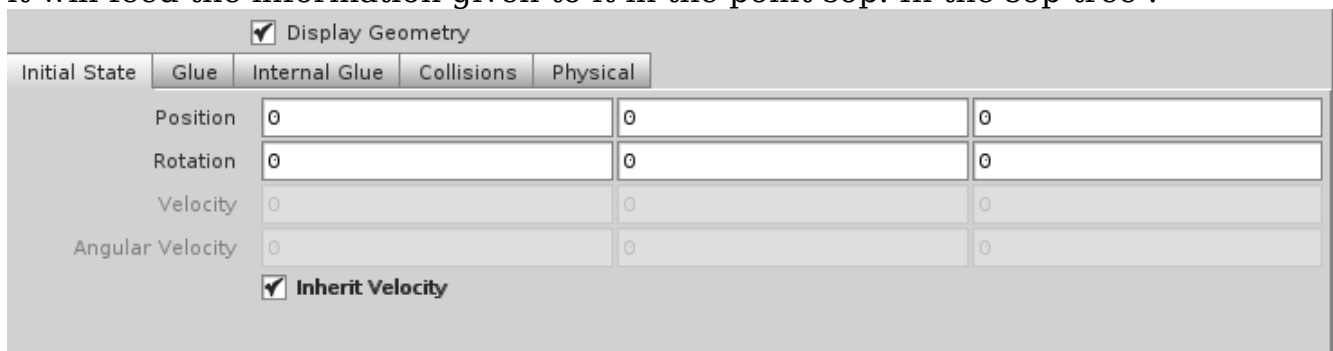
There are a lot of tweaks in side this dop:

first feed it the sop you want to be your object.

You can click this icon (arrow on a bar) and select the input sop. Or type in the path

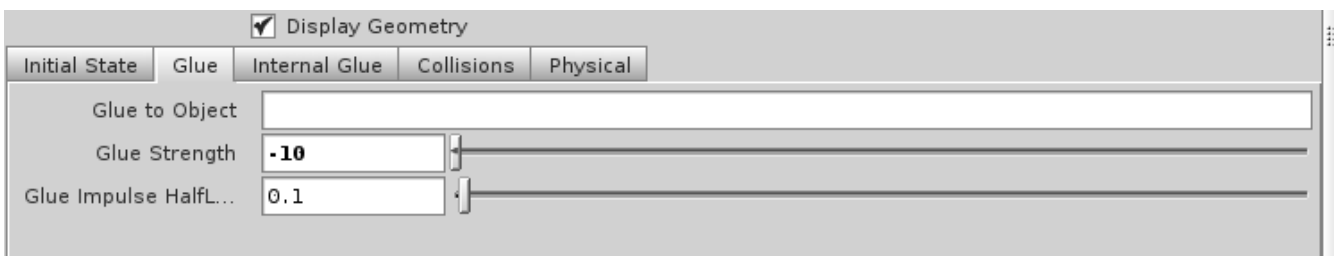
next on the **initial state tab** check inherit velocity,

it will feed the information given to it in the point sop. In the sop tree .



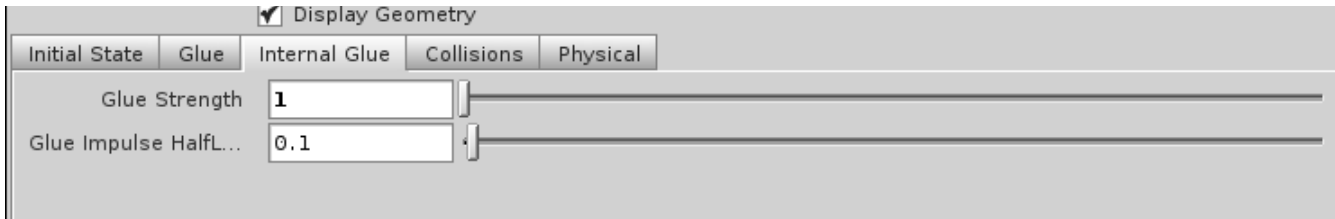
In the **glue tab** :

change Glue strength to -10,



these settings vary depending on what your doing don't be afraid to play with them .

In the **internal glue tab** , this is what hold the object together when it hits.

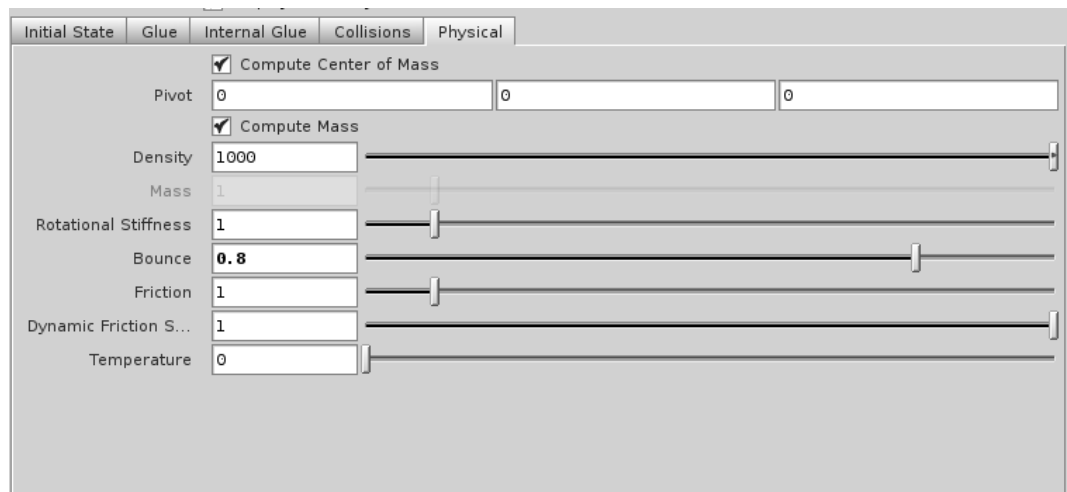


Change Glue strength to 1

leave the **collisions tab** alone for now .

In the **Physical tab** ,

adjust bounce.
I set it up a
hair to .8



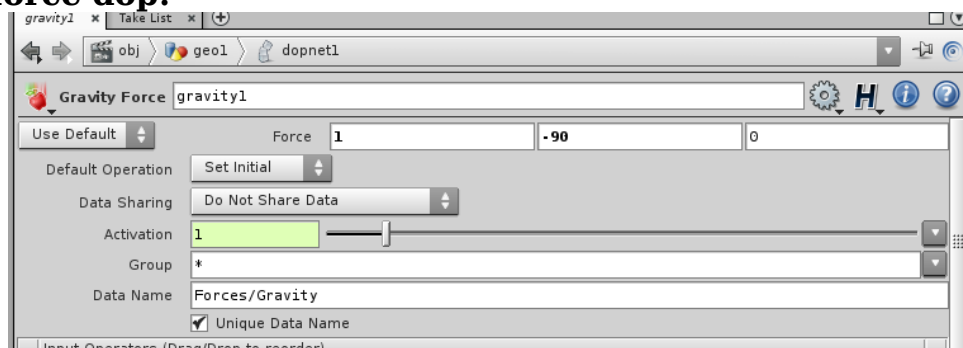
step 3 : gravity force dop:

I adjusted

x to 1

and

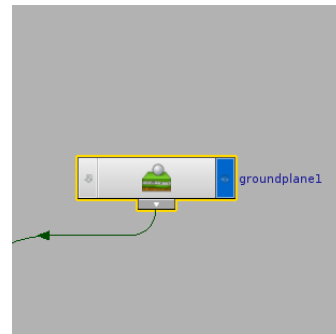
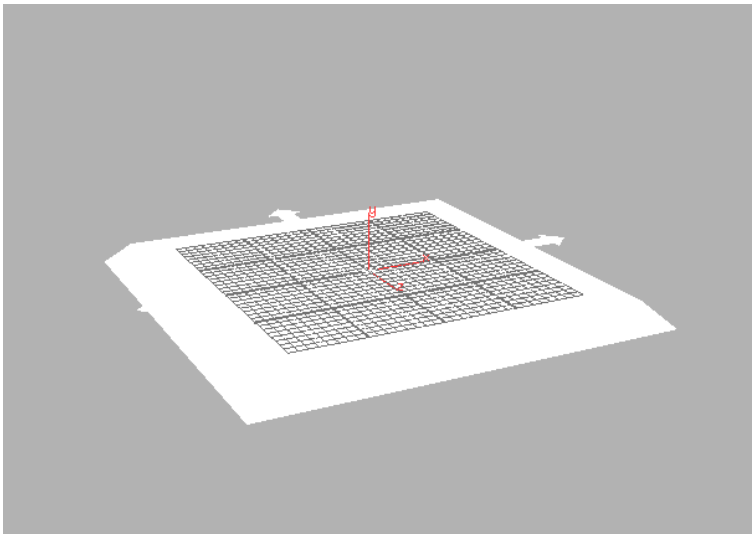
y to -90



this will move the object forward and add to the impact

step 4 adding a collision object .

Tab : ground plane.



Step 5: merge and interact .

Tab --> merge .

Connect the gravity first then the ground plane.

In this simulation order isn't as important .

But it can be .

when you have many objects in a scene .

Since in the merge node you CAN set the interactions to be right to left or left to right or mutual

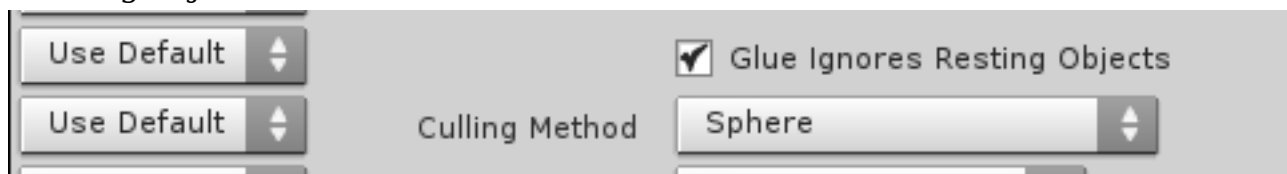
finally

step 6 : the Solver



add a RBD Solver.

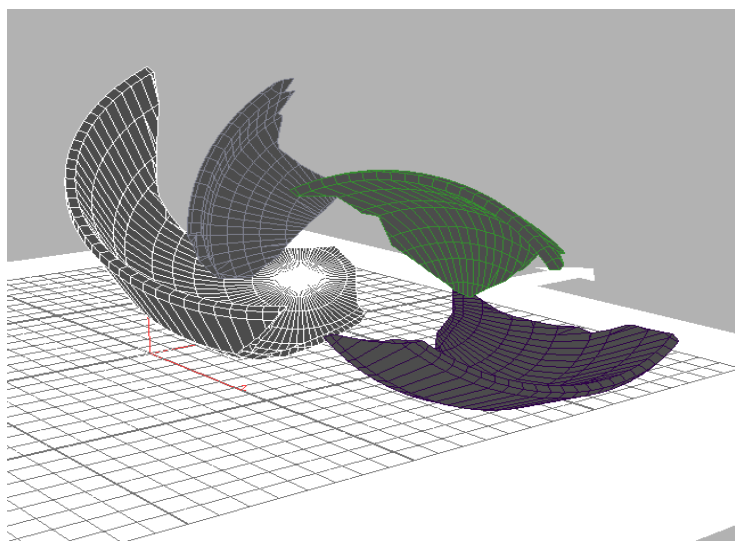
All we need to change in the is solver is the selection in front of “glue ignores resting objects “



in the tab before that select “ set initial “.



the solver is what calculates the sim so up until not , nothing runs . Now if you play back the bowl with shatter when it hits the ground plane .



*When this breaks there is an extra piece of geometry . It's not supposed to be there , it disappears when you remove the “create inside edges selection” in the

shatter sop, but that also removes the inside edges and although this is fine on an object like a sphere it is not kosher on the bowls or curve object. But for this tutorial which is an illustration of how to create a new work it suffices .