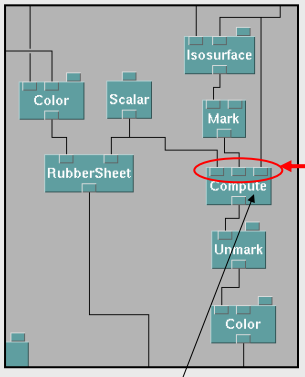
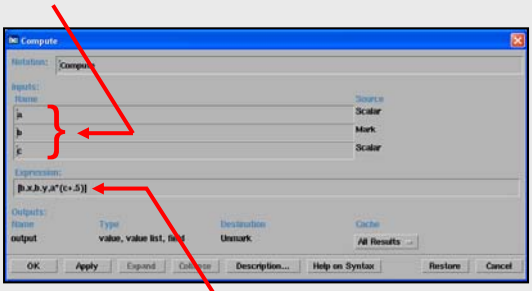
The Compute Module



Does arithmetic on the point-by-point Data component of a field, and outputs the modified field

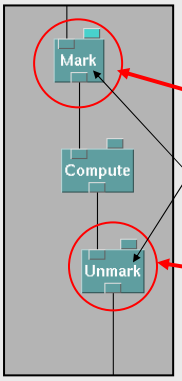
The 3 (in this case) inputs



Transformation

The output expression, in this case, a 3-vector with a newly-created Z value

The Compute Module

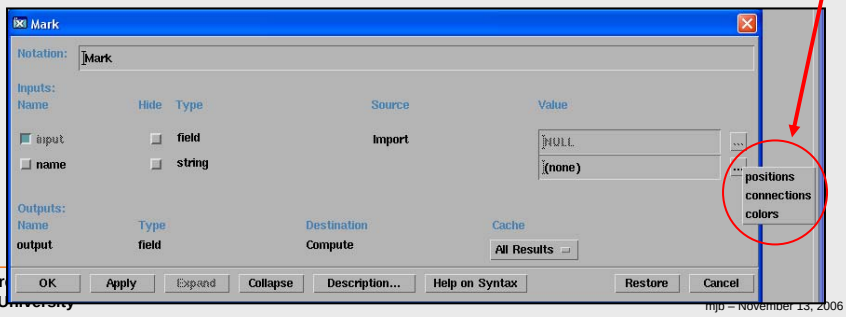


Structuring

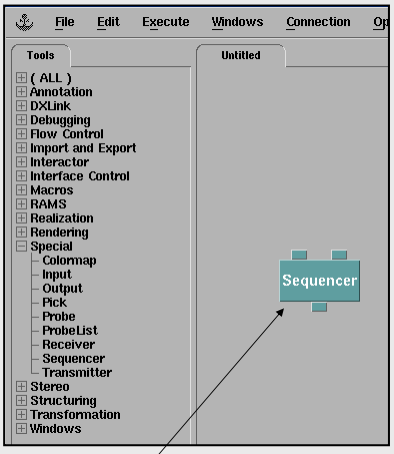
Does arithmetic on the point-by-point Data component of a field, and outputs the modified field. But, what if you want to do arithmetic on a different component?

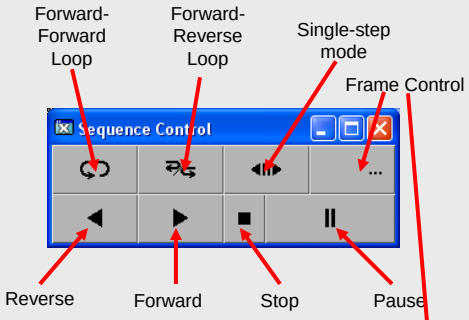
The *Mark* module renames the Data component to something temporary, and renames a component you select to "Data". *Compute* then acts on this component.

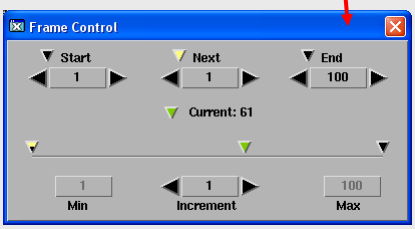
The *Unmark* module changes the component names back to what they were originally.



Animation: The Sequencer Module







Sequencer **outputs a series of integers. You set the minimum and maximum using *Edit→Configuration*.**

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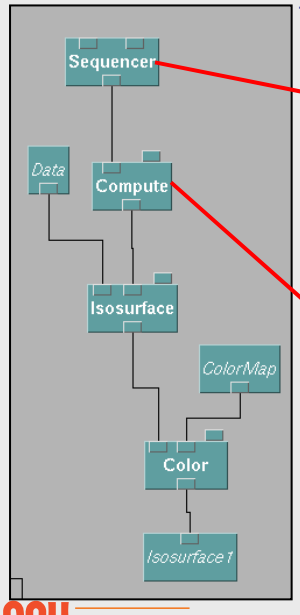
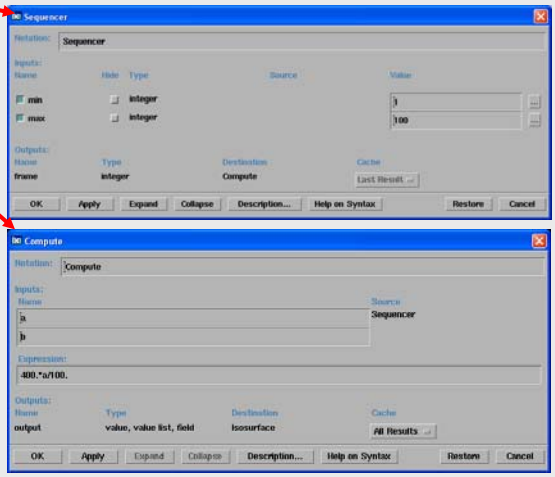
The Sequencer Module: Usually Used with the Compute Module to turn the Integer into an Animation Parameter





In this case, *Compute* turns an integer into a scalar to be used to animate an isovalue

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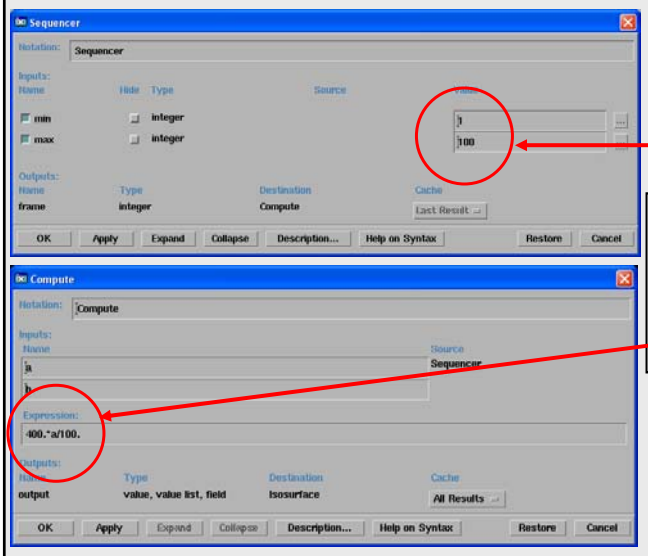
The Sequencer Module: "Percent Units Strategy"



A good Sequencer Strategy: Run the sequence from 1-100 (or 0-100).

Then, base the *Compute* quantity on these "Percent Units".

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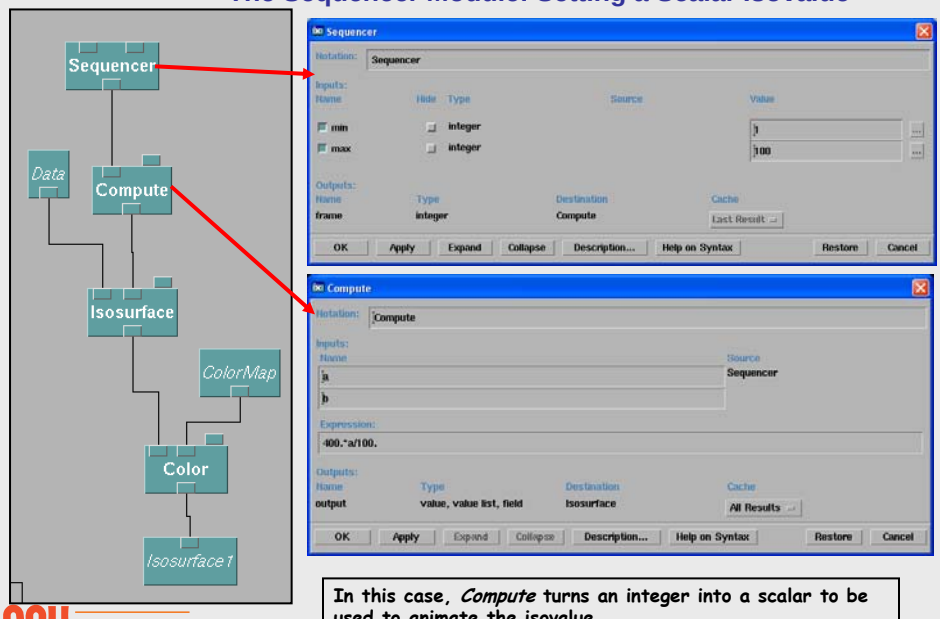
The Sequencer Module: Setting a Scalar Isovalue



In this case, *Compute* turns an integer into a scalar to be used to animate the isovalue

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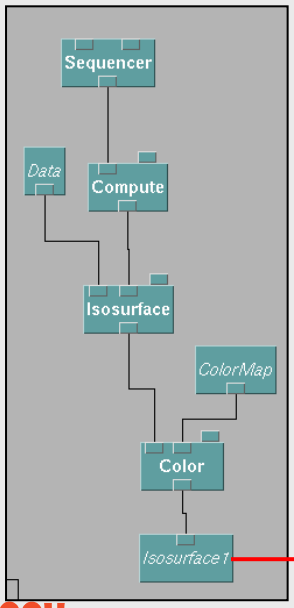
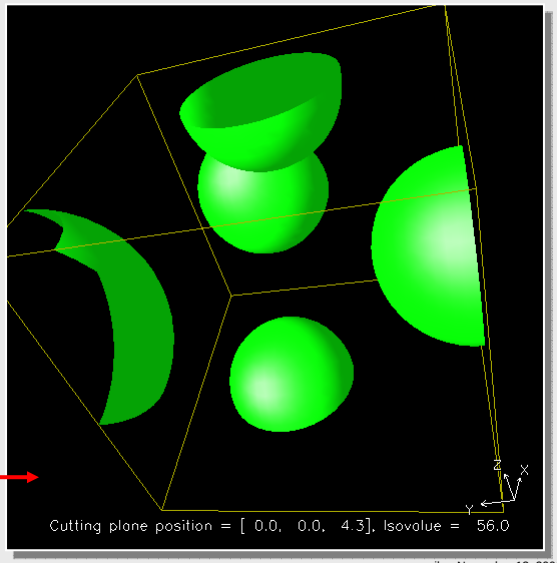
The Sequencer Module: Setting a Scalar Isovalue





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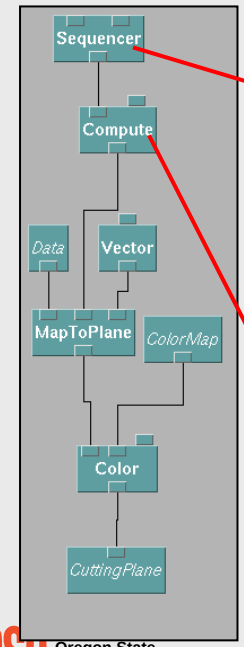
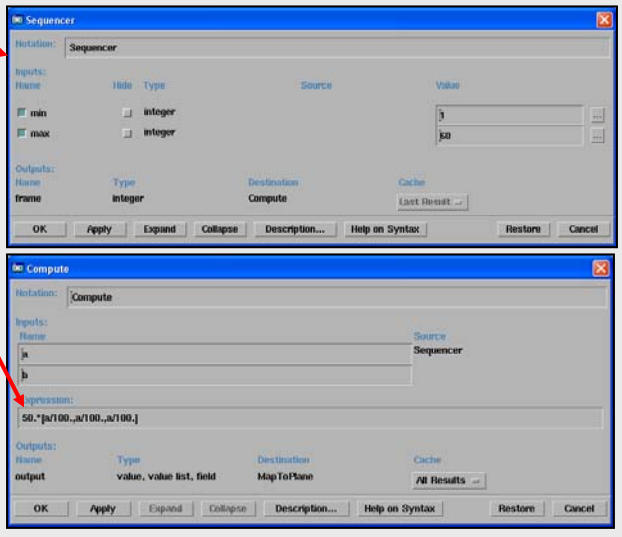
The Sequencer Module: Setting a Vector to act as a Plane Location





In this case, *Compute* turns an integer into a 3-element vector to be used to animate the position of the cutting plane

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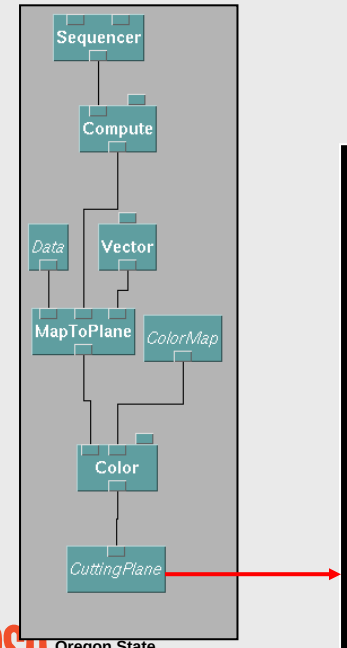
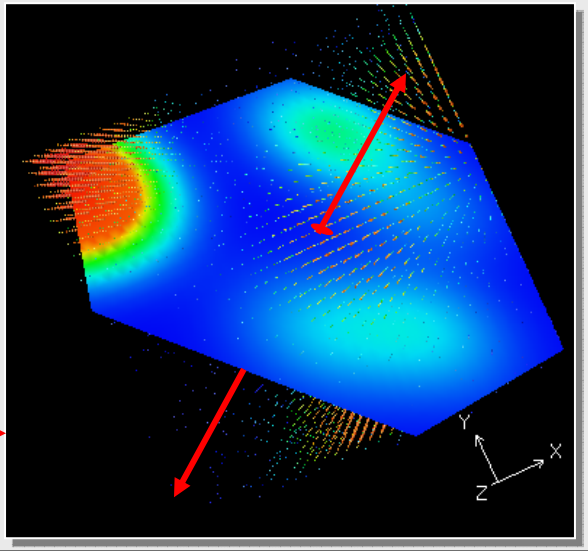
The Sequencer Module: Setting a Vector to act as a Plane Location





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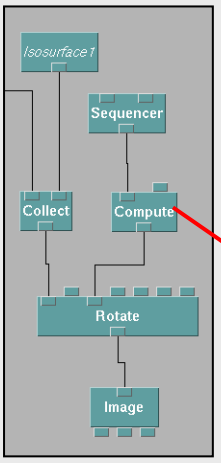
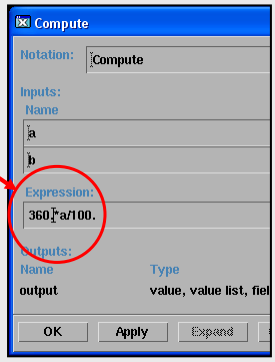
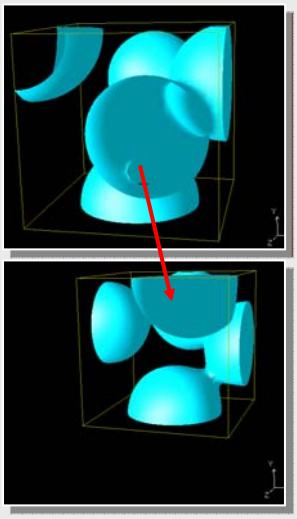
The Sequencer Module: Setting a Transformation







In this case, *Compute* turns an integer into a rotation angle in *degrees*.

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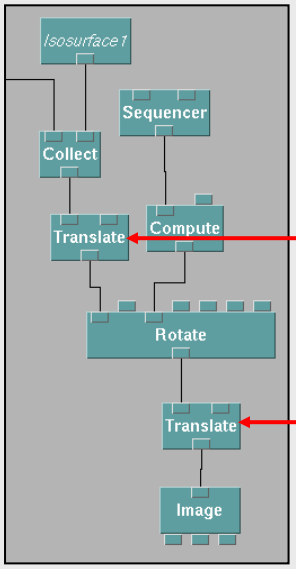
Why Does the Rotation Occur around the Edge of the Cube, not about its Center?



Rotation and Scaling *always occur about the origin*. To change this to the center of the volume, translate the volume to the origin, perform the rotation or scale, and then translate it back.

Translate by [-15,-15,-15]

Translate by [15,15,15]

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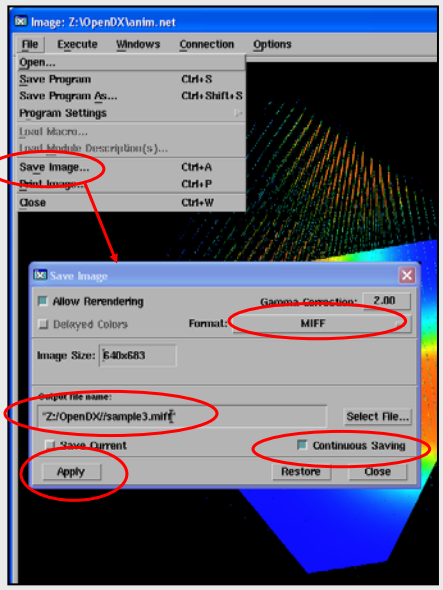
Writing Out a MIFF Animation File




```
convert -quality 100 sample2.miff sample2.gif
```

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