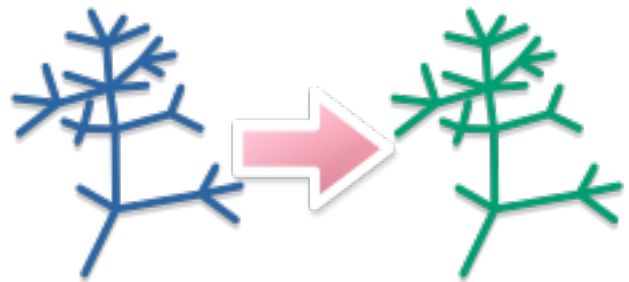# Propagate attribute

Version 1.0.0, by Giorgio Bianchini

Description: Propagates an attribute on the tree.

Module type: FurtherTransformation

Module ID:
`85eee26d-29b6-4470-8184-f42ebe9a2567`

This module propagates the value of an attribute from the tips of the tree towards the root or vice versa.

Parameters

Attribute

Control type: Attribute selector

Default value: Support

This parameter determines the attribute that is propagated."

Attribute type

Control type: Attribute type

Default value: Number

Possible values:

- String
- Number

This parameter determines the type of attribute that is propagated.

Direction

Control type: Drop-down list

Default value: From tips to root

Possible values:

- From tips to root

- From root to tips

This parameter determines whether the attribute values are propagated from the tips towards the root of the tree or vice versa.

Propagation mode (from tips to root)

Control type: Drop-down list

Default value: Average

Possible values:

- Average
- Minimum
- Maximum

If the attribute is a Number and the propagation direction is `From tips to root`, this parameter determines the way the attribute values of the children of a node are coalesced to produce the attribute value for the parent node. If the selected value is `Average`, the average of the attribute values of the children is used; if the value is `Minimum`, the minimum value is selected; if the value is `Maximum`, the maximum value is selected. In all cases, not-a-number (NaN) values are excluded.

Propagation mode (from root to tips)

Control type: Drop-down list

Default value: Preserve

Possible values:

- Preserve
- Divide equally
- Subtract

If the attribute is a Number and the propagation direction is `From root to tips`, this parameter determines the way the attribute values for the children of a node are computed starting from the value of the attribute for the parent node. If the value is `Preserve`, the child nodes inherit the same value as their parent. If the value is `Divide equally`, the value of the attribute for the parent is divided equally between all children (note that in this way the attribute values decreases exponentially). If the value is `Subtract`, the value of the attribute for the children is determined by subtracting a fixed amount (determined by the Subtract value parameter) from the parent value.

Default value

Control type: Text box

Default value: NaN

This parameter determines the default value of the attribute that is used for nodes where the attribute is not present.

Subtract value

Control type: Number spin box

Default value: 0

Range: (-∞, +∞)

This parameter determines the value that is subtracted from the parent node value to compute the child node value when the [Propagation mode](#) is `Subtract` .

Overwrite existing values

Control type: Check box

Default value: Unchecked

This check box determines whether the attribute value is overwritten for nodes which already have a value that has been specified for the attribute.

Apply

Control type: Button

This button applies the changes to the other parameters and triggers a redraw of the tree.