

## 12.1.23 Editors - Geometry Nodes Editor - Header - Add Menu - Mesh - Read

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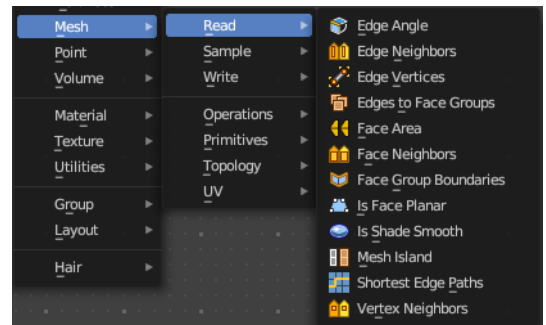
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# Add menu - Mesh - Read

Nodes to modify the mesh geometry.



## Edge Angle

Calculates the angle in radians between two faces that meet at an edge. Without two faces on the edge, the angle will be 0.



### Outputs

#### *Unsigned Angle*

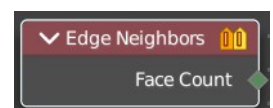
The unsigned output angle. The shortest angle will be picked.

#### *Signed Angle*

The signed angle between the two faces, where Convex angles are positive and Concave angles are negative. This calculation is slower than the unsigned angle.

## Edge Neighbours

Outputs the number of faces connected to each edge.



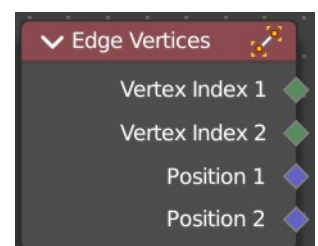
### Outputs

#### *Face Count*

The number of faces.

## Edge Vertices

Outputs the index and position of the two vertices that defines an edge. Index outputs an integer. Position a vector.



## Outputs

### ***Vertex Index 1***

The index of the first vertice.

### ***Vertex Index 2***

The index of the second vertice.

### ***Position 1***

The position of the first vertice.

### ***Position 2***

The position of the second vertice.

---

## Edges to Face Group

Group Faces into regions, surrounded by the selected boundary edges.



## Inputs

### ***Boundary Edges***

The input edges.

## Outputs

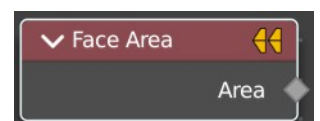
### ***Face Group ID***

The output face group.

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## Face Area

Gives each face area a unique id. Which can be used in a capture attribute for example, to create instances of other geometry to this now unique face areas.



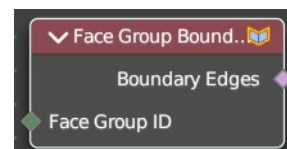
## Outputs

### ***Area***

The face area output.

## Face Group Boundaries

Find edges on the boundaries between face sets



### Inputs

#### Face Set

The input face sets to calculate the boundaries from.

### Outputs

#### Boundary Edges

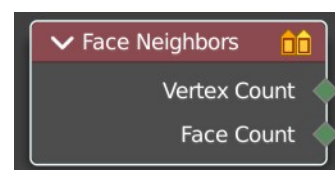
The edges that lies on the boundaries between the different face sets

#### Face Count

The face count for the face neighbors.

## Face Neighbours

Outputs the number of vertices or faces connected to each face.



### Outputs

#### Vertex Count

The vertex count for the face neighbors.

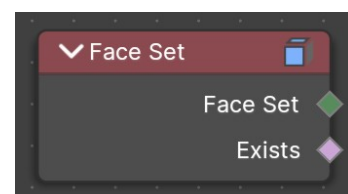
#### Face Count

The face count for the face neighbors.

## Face Sets – Tool Mode

Get each face's sculpt face set value to use in the geometry node tree.

This node is only available in the Tool Mode for Node Group Tools assets.



### Outputs

#### Face Set

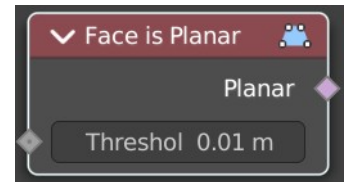
A face set ID output as integer fields.

#### Exists

A boolean field output that shows where a face set exists or not.

## Is Face Planar

Returns true if all of the points of the evaluated face are on the same plane.



### Inputs

#### *Threshold*

The threshold to consider the points to be at the same plane.

### Outputs

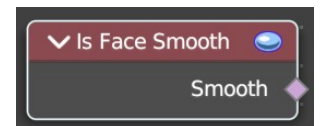
#### *Planar*

True if the face is planar.

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## Is Face Smooth

Retreives if the face is shaded smooth.



### Outputs

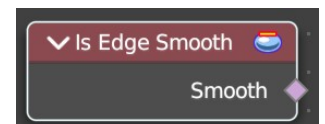
#### *Smooth*

Smooth output.

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## Is Edge Smooth

Retreives if the edge is shaded smooth.



### Outputs

#### *Smooth*

Smooth output.

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## Mesh Island

Outputs a separate index for each mesh island. The indices are based on the order of the lowest-numbered vertex in each island.



### Outputs

#### *Index*

The index output.

## Shortest Edge Path

Calculates the shortest path from multiple start points.

### Input

#### ***End Vertex***

The last point of the path.

#### ***Edge Cost***

The amount of calculation to find the shortest path.

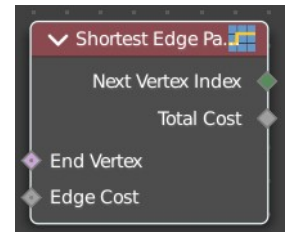
### Outputs

#### ***Next Vertex Index***

The vertices index of the shortest path.

#### ***Total Cost***

The calculation amount.



## Vertex Neighbors

Outputs the number of vertices or faces connected to each vertex.

### Outputs

#### ***Vertex Count***

The vertex count for the vertex neighbors.

#### ***Face Count***

The face count for the vertex neighbors.

