

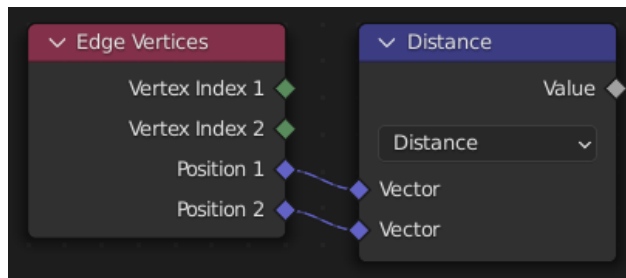
Shortest Edge Paths Node

The *Shortest Edge Paths* node finds paths along mesh edges to a selection of end vertices. The cost used to define “shortest” can be set to anything. By default there is a constant cost for every edge, but a typical input would be the length of each edge.

The output is encoded with vertex indices, and is meant to be used on the vertex domain. For each vertex, the *Next Vertex Index* output gives the index of the following vertex in the path to the “closest” endpoint.

The node is implemented with [Dijkstra’s algorithm](#).

Tip



The edge length is a natural input to the *Edge Cost*. It can be implemented with the [Edge Vertices Node](#) and the [Vector Math Node](#) set to the *Distance* operation.

See also

This node can be used with the [Edge Paths to Selection Node](#) or the [Edge Paths to Curves Node](#) to generate new geometry based on the paths.

Inputs

End Vertex

A selection of the goal vertices that terminate the edge paths.

Edge Cost

The weight for each edge, used to determine the meaning of “shortest.”

Properties

This node has no properties.

Outputs

Next Vertex Index

The following vertex on the shortest path from every vertex to the closest endpoint (as defined by the cost input).

Total Cost

The remaining cost before an end vertex is reached.