

12.1.20 Editors - Geometry Nodes Editor - Header - Add Menu - Curve - Primitives

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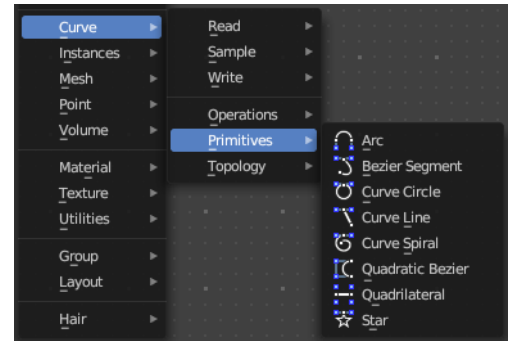
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Add menu - Curve Primitives

Add curve primitives in different shapes.



Arc

Adds a bezier curve segment in the shape of an arc

Inputs

Resolution

The number of edges on the curve.

in Radius mode

Radius

Just Radius mode. The radius of the arc.

Start Angle

Just Radius mode. The start angle of the arc.

Sweep Angle

Just Radius mode. The sweep angle of the arc.

In Points Mode

Start

The start point vector of the ark.

Middle

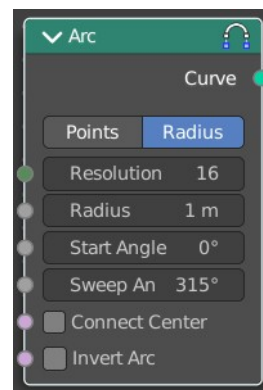
The middle point vector of the ark.

End

The end point vector of the ark.

Offset Angle

The offset angle of the ark.



Connect Center

Connect the start and endpoints to the center.

Invert Arc

Inverts the arc.

Properties

Mode

Point or Radius mode.

Radius mode (default): Generates a fixed radius arc on XY plane with controls for Angle, Sweep and Invert.

Points mode: Generates a three point curve arc from Start to End via Middle with an Angle Offset and option to invert the arc. There are also outputs for arc center, radius and normal direction relative to the Z-axis.

Outputs

Curve

Curve output.

In Points Mode

Center

The center vector of the arc.

Normal

The normal of the arc.

Radius

The radius of the arc.

Bezier Segment

Adds a bezier curve segment.

Inputs

Resolution

The number of edges on the curve.

Start, End

Positions of the start and end control point of the curve.



Start Handle, End Handle

Positions of the handles used to define the shape of the curve.

Properties

Mode

Position

The handle inputs are the absolute positions of the handles in 3D space.

Offset

The handle positions are relative to the control point on the curve. The handle inputs give the offset from the control points.

Outputs

Curve

Bezier spline generated from the inputs.

Curve Circle

Adds a curve in circle shape.

Inputs

Resolution

Number of edges on the circle.

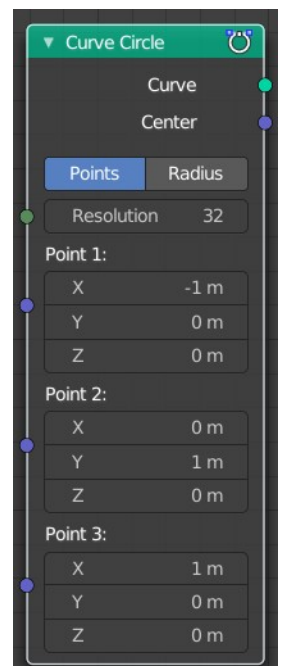
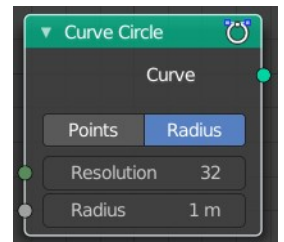
Radius

The radius of the circle.

Point 1, Point 2, Point 3

Appears when you change the method to Points. Defines three points on the circle. The order of the points determines the direction (clockwise or counterclockwise) of the circle.

Note that because of the finite resolution, the three points do not necessarily lie on the generated curve.



Properties

Mode

Points

The position and radius of the circle is defined by three points. The center of the circle is also given as an output. If the three points lie on one line, no geometry is generated.

Radius

The circle is defined by the radius.

Outputs

Curve

Poly spline generated from the inputs.

Center

Appears when you change the method to Points. The center of the circle defined by the three points.

Curve Line

Adds a curve in the shape of a straight line.

Properties

Points

Calculates the curve by a start and end point.

Start

The start point of the curve.

End

The end point of the curve.

Direction

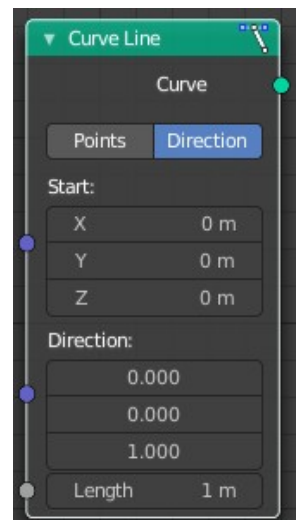
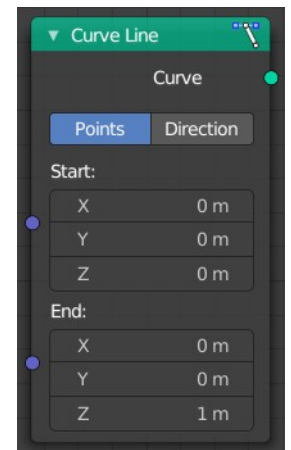
Calculates the curve by a start point, a direction vector and the length of the curve.

Start

The start point of the curve.

Direction

The direction vector.



Length

The length of the curve.

Outputs

Curve

The created curve.

Curve Spiral

Adds a curve in spiral shape. By default the spiral twists clockwise.

Inputs

Resolution

Number of edges for each full rotation.

Rotations

Number of times the spiral makes a full rotation.

Start Radius, End Radius

Radius of the start point and end point of the spiral. The radius of the spiral changes linearly between the two values over the whole spiral.

Height

Height of the spiral.

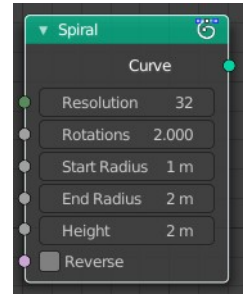
Reverse

Boolean value that changes the direction from clockwise to counterclockwise when turned on.

Outputs

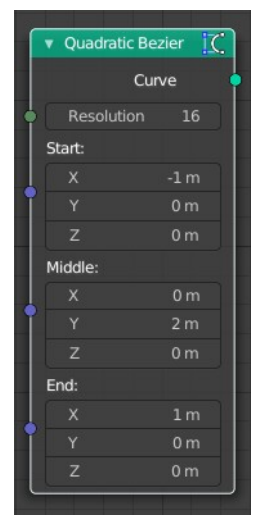
Curve

Poly spline generated from the inputs.



Quadratic Bezier

Adds a curve from the given control points. The generated shape is a parabola.



Inputs

Resolution

The number of edges on the curve.

Start, Middle, End

Positions of the three control points. The generated curve passes through the two end points, and is tangent to the lines between the middle point and the two end points.

Outputs

Curve

Poly spline generated from the inputs.

Quadrilateral

Adds a curve in different geometric shapes.

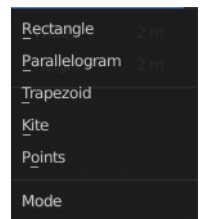
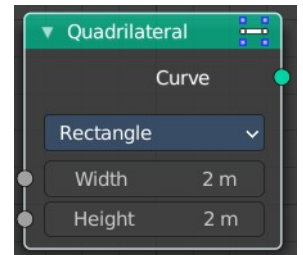
Note that the names does not necessarily fit to the generated geometry.

Input

The input nodes may vary. See Properties.

Properties

Mode

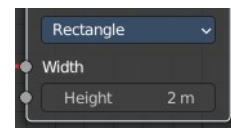


Rectangle

creates a straight line in y direction.

Width

The length of the straight line.

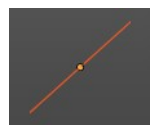
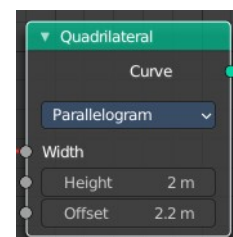


Parallelogram

Creates a straight line that is adjustable in x and y direction.

Height

The height of the line.



Offset

The width of the line.

Trapezoid

Height

The height of the trapez.

Bottom Width

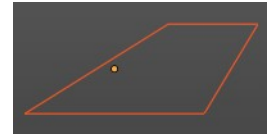
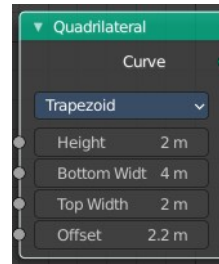
The width of the bottom line of the trapez.

Top Width

The width of the top line of the trapez.

Offset

The offset of the top line of the trapez.



Kite

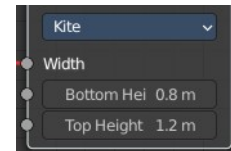
creates a straight line in y direction. The curve end points are separately adjustable

Bottom Height

The length of the bottom part of the line.

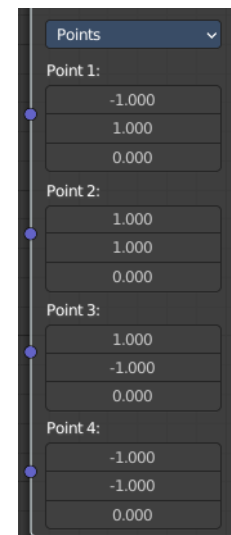
Top Height

The length of the top part of the line.



Points

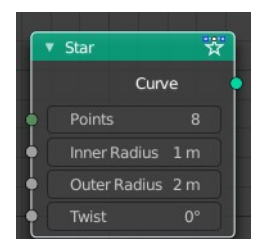
Creates a rectangle. Each point of the rectangle is independently adjustable in x, y and z position.



Star

Adds a curve in star shape.

This is done by connecting alternating points of two circles. The points on the inner circle



are offset by a rotation so that they lie in between the points on the outer circle. This offset can be changed with the twist input.

Inputs

Points

Number of points on each of the circles.

Inner Radius, Outer Radius

Radii of the two circles. The inner radius can be bigger than the outer radius.

Twist

Angle offset of the inner circle. The twist value rotates the points on the circle corresponding with the inner radius counterclockwise by the given angle.

Outputs

Curve

Poly spline generated from the inputs.