

INKSCAPE TUTORIAL: SKETCH AND HATCH



Most of the tutorials on this site are quite lengthy as they are targeted at the beginning Inkscape artist and show how to go from a blank canvas to a complete illustration.

I was finalizing some simple illustrations for use on e-cards and I figured that I might as well explain some simple tricks with great effects in Inkscape. All still in a Valentines theme, but I am sure you can find your own use for it!

Techniques demonstrated: Spiro Curves, Live Path Effects Sketch and Hatching, Visualize Nodes.

I assume little Inkscape knowledge, and the tutorial should be easy to follow for a beginning Inkscape artist.

Open Inkscape and start with a default document.

I made the drawing on an A4 size paper, but as we draw in a vector editing program, size does not matter. The heart in the final design ended up being about 1/3 page width in size.

BEFORE WE START

Inkscape remembers by default the last settings of a tool. Therefore objects you draw may differ from the screenshots in this tutorial. Help on how to correct the most common settings can be found on this page: [Inkscape Beginner Tips](#) (opens in a new window).

Basic Shape: Heart

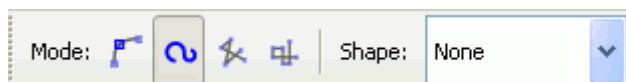
For this tutorial I use a simple heart shape, drawn with the Bezier tool in Spiro mode. Spiro is great for smooth flowing curves, and if you are not yet familiar with the concept then check out my [Spiro Swirls](#) tutorial too as it explains all the basics.

DRAW THE PERFECT HEART

The fastest way to draw a perfect heart shape with Spiro is this:

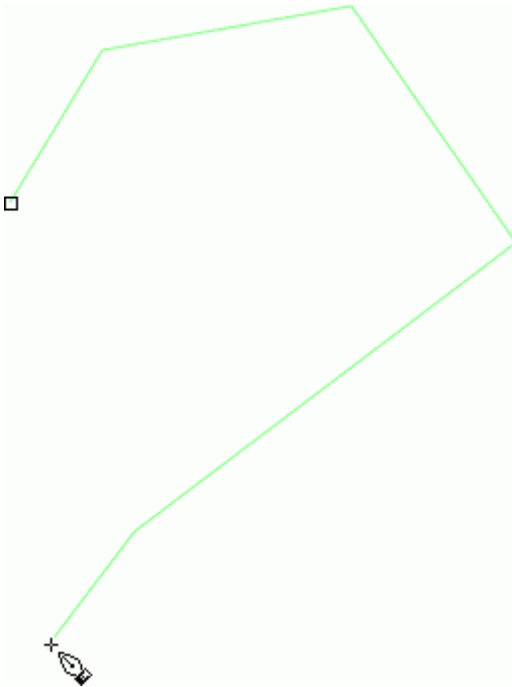
Select the bezier tool .

Set the drawing mode to Spiro, apply no shape.




The Bezier tool is used to draw paths, with either smooth nodes or cusp (sharp) nodes. In this case I make no effort to draw smooth nodes, as Spiro will take care of that later.

Just click with the cursor on the canvas, following roughly the shape of a heart.

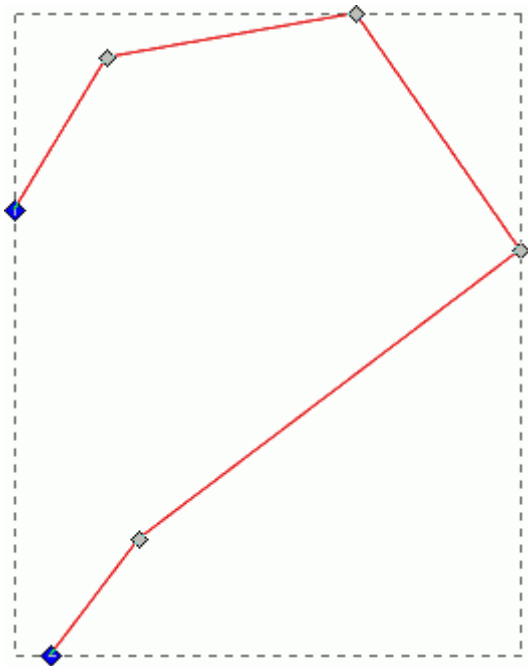



Finish the path by either a click with the right mouse cursor, or hit enter on the keyboard.


Select the Node Tool .

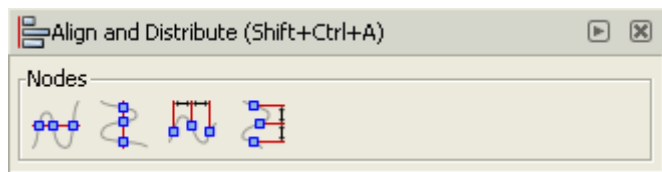
Select the 2 most left nodes by either:


1. dragging a selection window (rubberband) around them, or
2. select one node, hold down the Shift-key and add the other node to the selection.



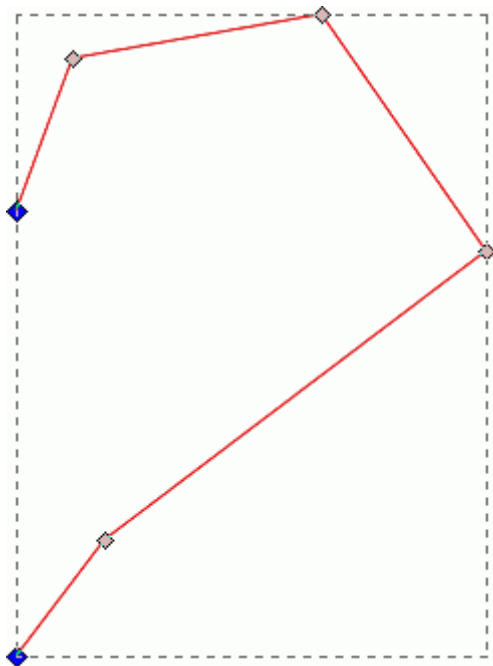
Open the Align and Distribution dialog  (Shift + Ctrl + A)

While using the Node Tool , this dialog provides some options to quickly align nodes.



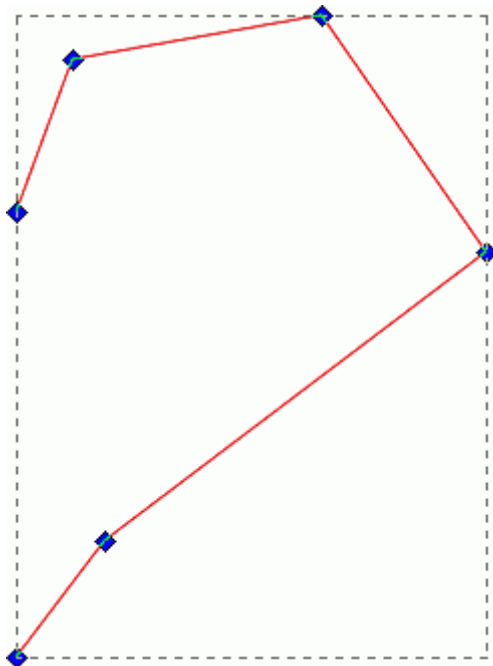
Press the "align selected nodes vertically" button .

Your drawing should look like this:



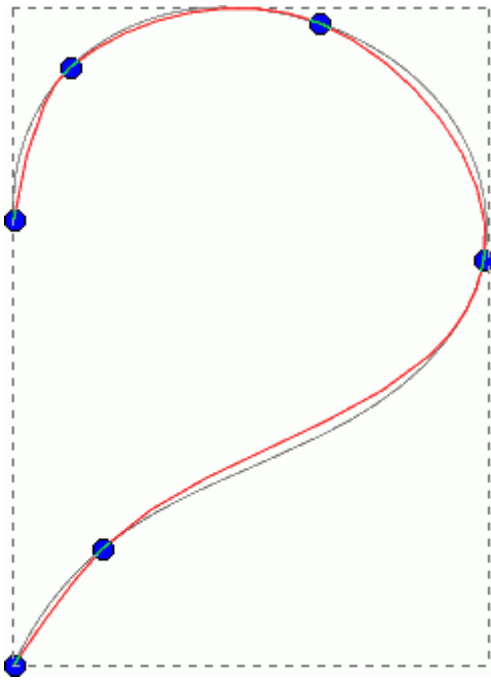
Still with the Node Tool  selected:

Select all nodes: Ctrl+A, or draw a selection window (rubberband) around them:




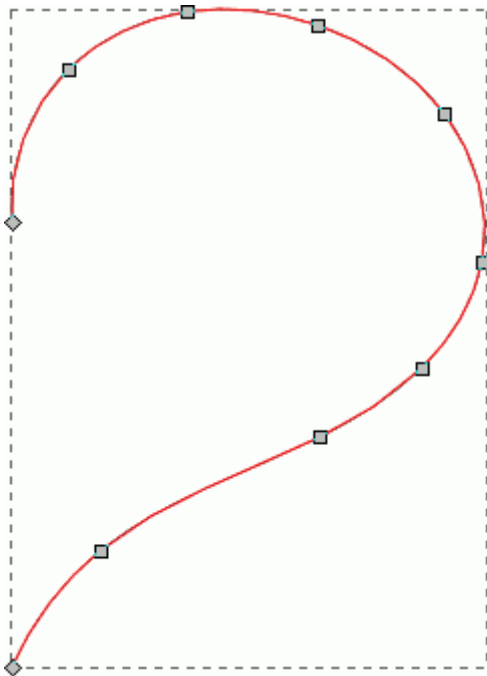
Press the Auto-smooth nodes button  on the Node Tool - Tool Control bar.

Now the Spiro effect kicks in. Your drawing should show a perfect flowing half of a heart shape:



Spiro is great, but upon editing and transforming paths, sometimes unexpected things happen.


Apply the Spiro effect permanently to the path by selecting Path > Object to Path from the menu (or by clicking this button  on the Node Tool - Tool Control bar):

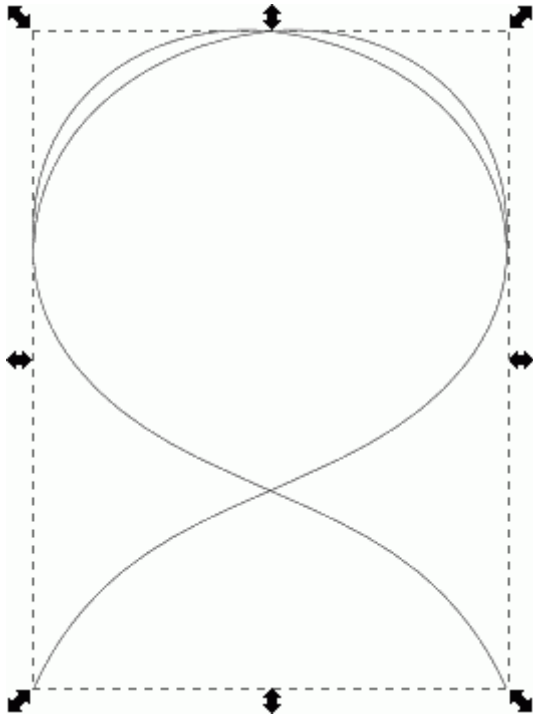


TO HEAL A BROKEN HEART

Use the Select tool .



Duplicate the path: Ctrl+D (or Edit > Duplicate from the menu). The duplicate will be exactly on top of the original.


Flip the duplicate horizontally .



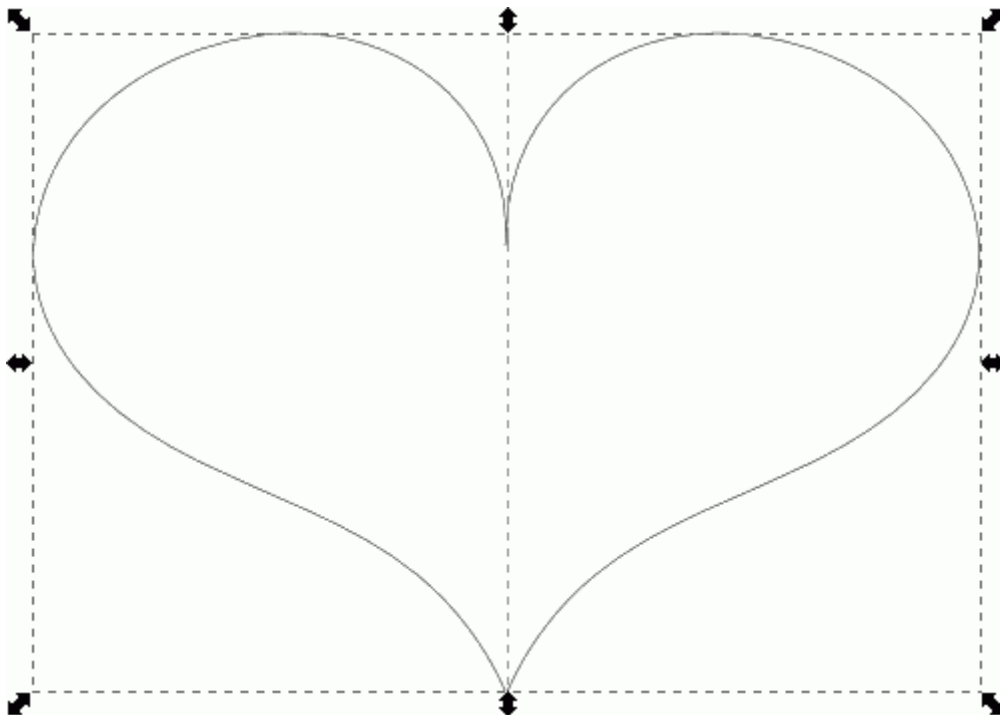
Select both objects.

Open the Align and Distribute dialog  (Shift+Ctrl+A) if you closed it.

Align the outer edges of the object such that you end up with a heart shape. The selection order determines whether "Align left edge of object to anchor right edge"  or "Align right edge of object to anchor left edge"  has to be used. Just try

the other if you do not end up with a heart .

Your drawing should look like this



FOLLOW ONE PATH

The heart is now made up from 2 individual paths. See the notification in the status bar:

2 objects of type **Path** in layer **Layer 1**. Click selection to toggle scale/rotation handles.


Make sure both paths are selected.

Use Path > Combine from the menu (Ctrl+K).

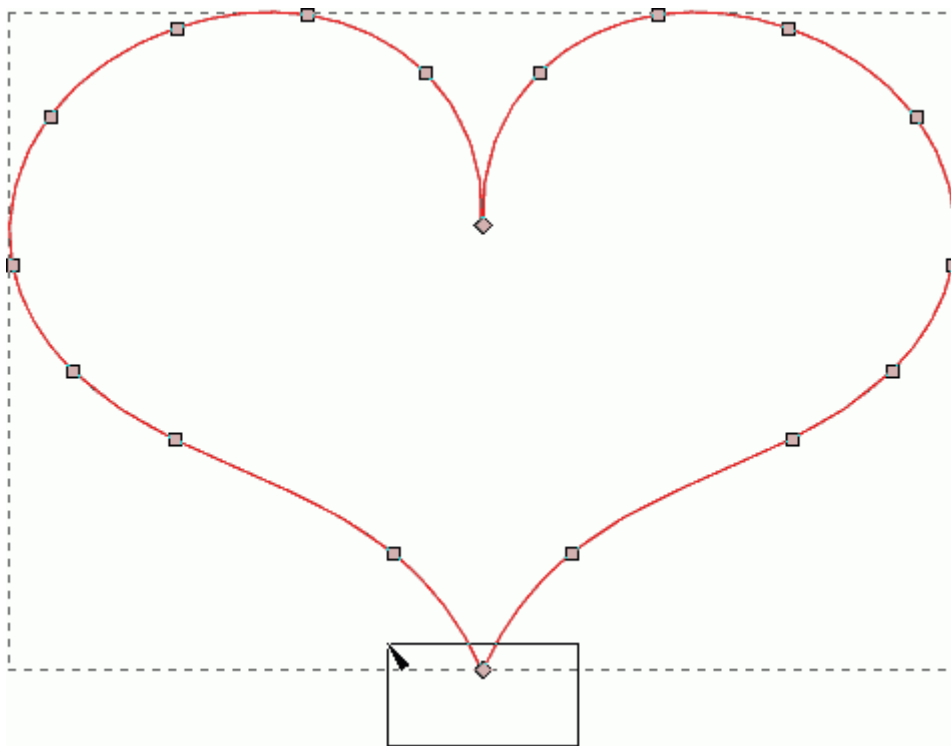
Check the statusbar - now the heart is a single path:

Path (20 nodes) in layer **Layer 1**. Click selection to toggle scale/rotation handles.


The path is still open, there are 2 subpaths.

Select the Node Tool .

Select the 2 nodes at the bottom of the heart (draw a selection window - rubberband)

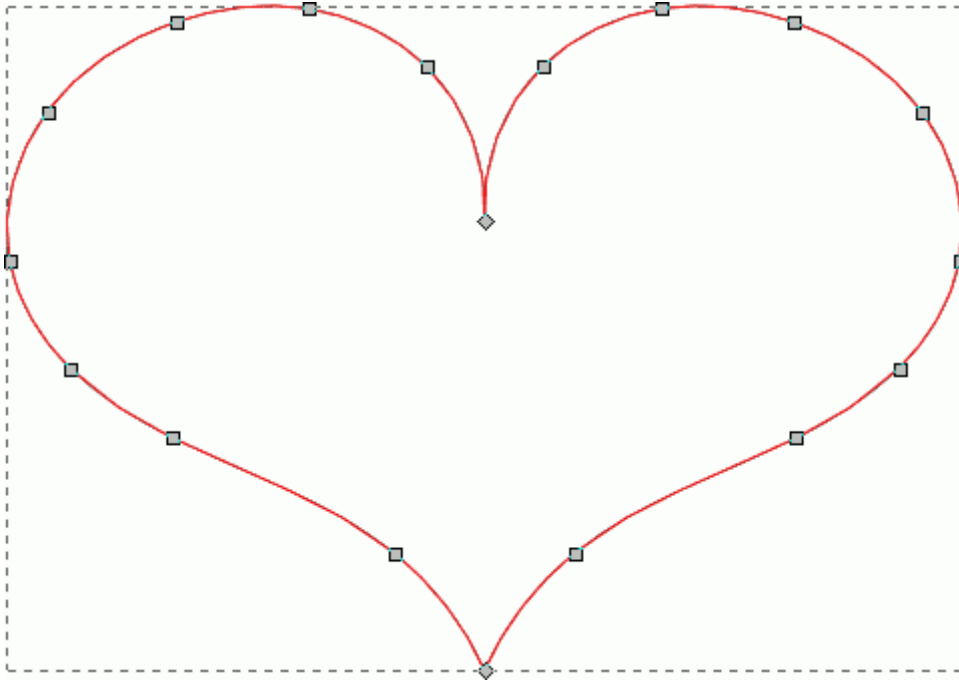


Check the status bar: 2 nodes in 2 subpaths are selected.

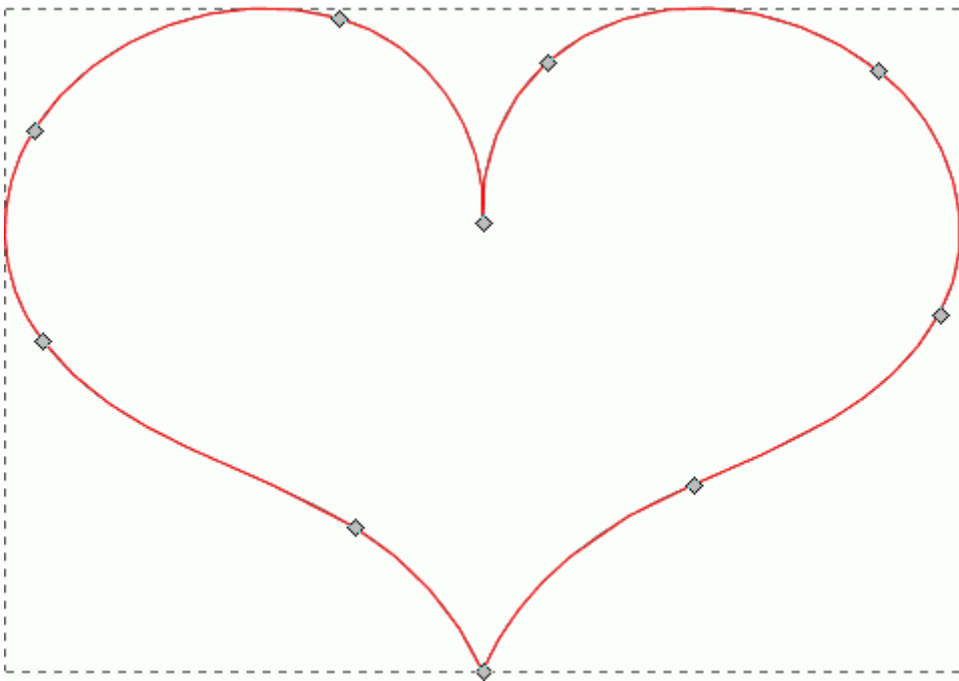
Join the selected endnodes by clicking this button .

Repeat for the 2 nodes the top centre.

Now the heart exists of a single continuous path.



Simplify the shape by using Path > Simplify.



■ Note : Simplify reduces the number of nodes in a path, and can often be used without any significant loss of details. If you do not like the results, just undo (Ctrl+Z). Less nodes means less complexity. It is a good habit to simplify paths where possible.

You now have a perfect heart shape, that is a single path and can be filled with any color. With some practice you should be able to draw shapes like this within seconds. Now is a good time to save your work.


Live Path Effects

Live Path Effects (LPE) are AWESOME! And you used them already but just may not be aware of it. The Spiro effect that we used earlier, was actually an LPE, but Inkscape dealt with it "under the hood". Check out the Spiro Swirl tutorial if you want to know more about that.

- Note: Live Path Effects sometimes behave unexpected. Know that you can apply a path effect permanently to a path by selecting Path > Object to Path from the menu (as we did before).
- Save your work often while working with LPEs.

DESIGN 1: HEART DOODLES.

Make a duplicate of the heart (Ctrl+D) for further use later.

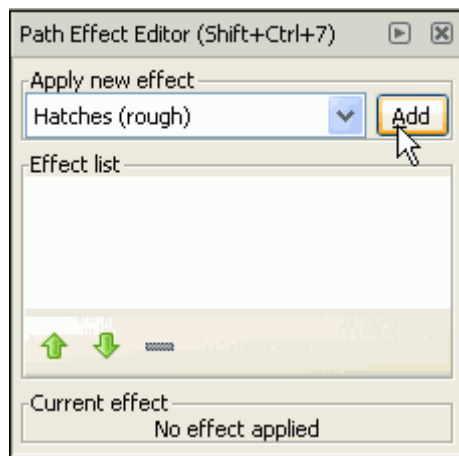
Move it aside with the Select Tool .

HATCHES

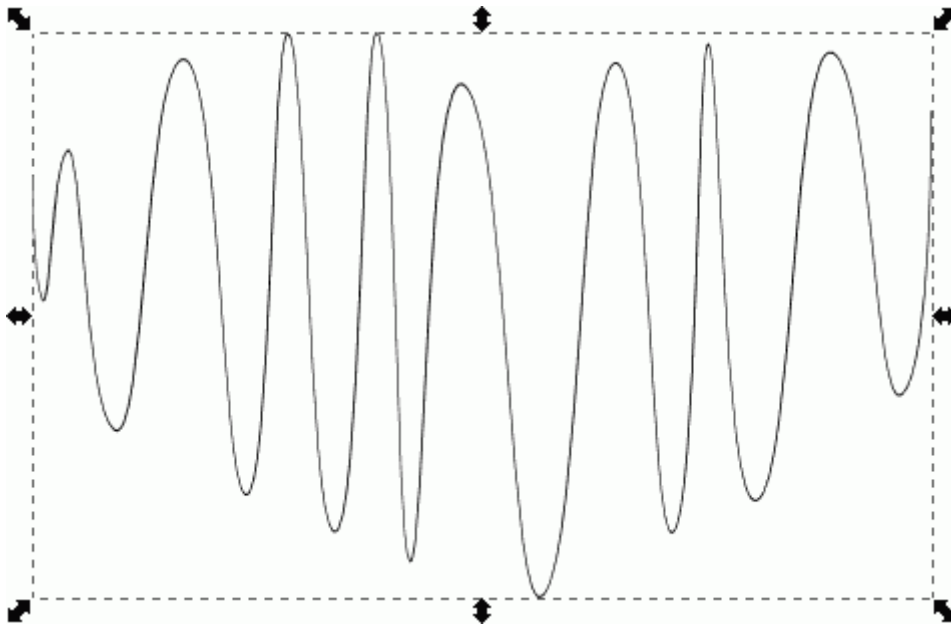
Select the heart.

Open the Path Effect Editor from the menu Path > Path Effect Editor (Shift+Ctrl+7).


Select "Hatches (rough)" from the drop down list and press the Add button.



The heart shape is filled with a basic hatching pattern and the outline has disappeared. It does not look too recognizable:



The Path Effect Editor provides a large number of options to modify the hatching, but it is much easier to directly modify the hatching on screen.

Select the hatching with the Node Tool .

Now the path outline is shown, the hatches are shown in green and we have some controls to adjust the hatching (as here shown within the green ellipse).



Four control nodes are shown, which are used to modify the spacing, direction and amount of bend of the hatches. You can move them with the Node tool.

The circle nodes are reference points.

The 2 diamond nodes unfortunately look the same but have very different functions. The notifications in the status bar are useful to recognize them (but don't ask me why it is not written in laymen's English):

1. Bend node. Hover over it and the notification area reads "*Relative position to a reference point defines global bending direction and amount*". In plain English: it determines the amount of bend of the hatches. Further away from the reference


nodes = more bending. Move it to the other side of reference nodes = inverse the bend direction.

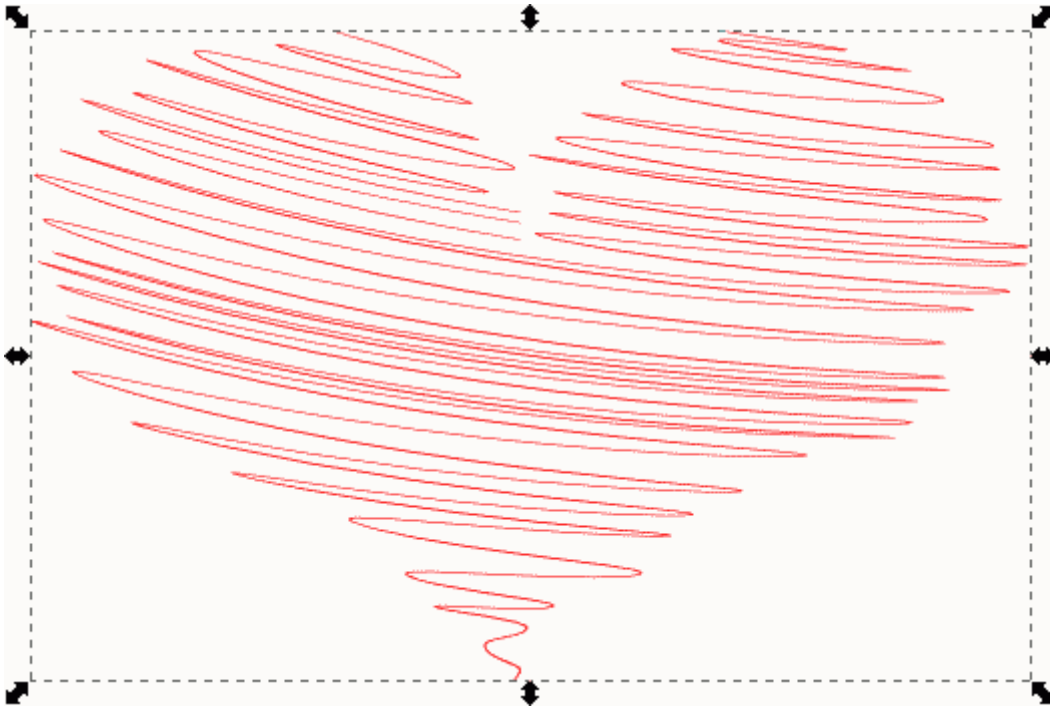
2. Scale/Direction node. Hover over it and the notification area reads "*Defines hatches frequency and direction*". In plain English: the number of hatches per area and the rotation based on the reference nodes. Further away from the reference nodes = less hatches. Move it around the reference nodes to rotate the hatching.

Experiment with the hatching, you'll get the idea. Your heart shape should fill out nicely.

Mine looks like this:



Use the Select tool  and set the stroke colour to red: hold the Shift-key down and click on a red colour swatch in the colour palette at the bottom of the screen.



Save your work.

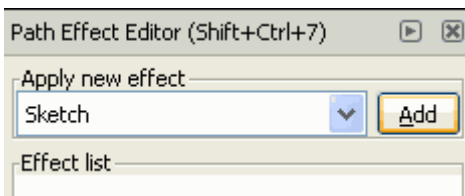
SKETCH

Select the duplicate heart.

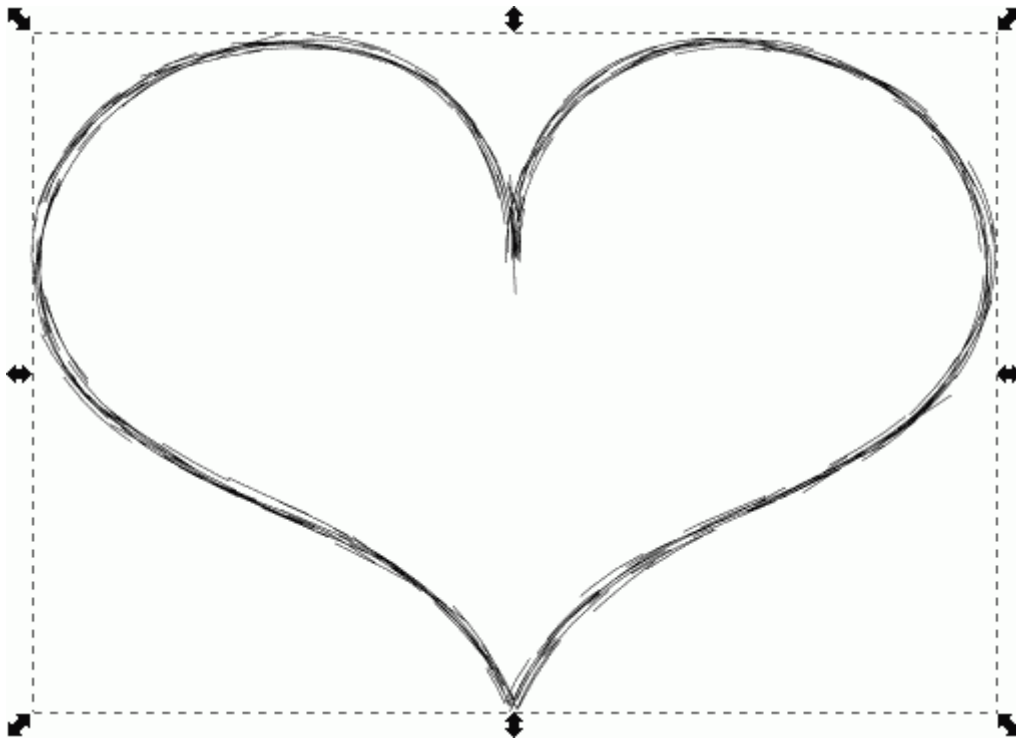
Make a duplicate (Ctrl + D) for design 2 and move it aside.

Open the Path Effect Editor from the menu Path > Path Effect Editor (Shift+Ctrl+7) if it is not already open.

Select "Sketch" from the drop down list and press the Add button.



The effect is applied immediately:




Again a wealth of settings are presented to manipulate the sketch result:

Current effect


Sketch


Strokes


Max stroke length


Stroke length variation 

Max. overlap

Overlap variation 


Max. end tolerance 

Average offset 

Max. tremble 


Tremble frequency

Construction lines

Placement randomness 

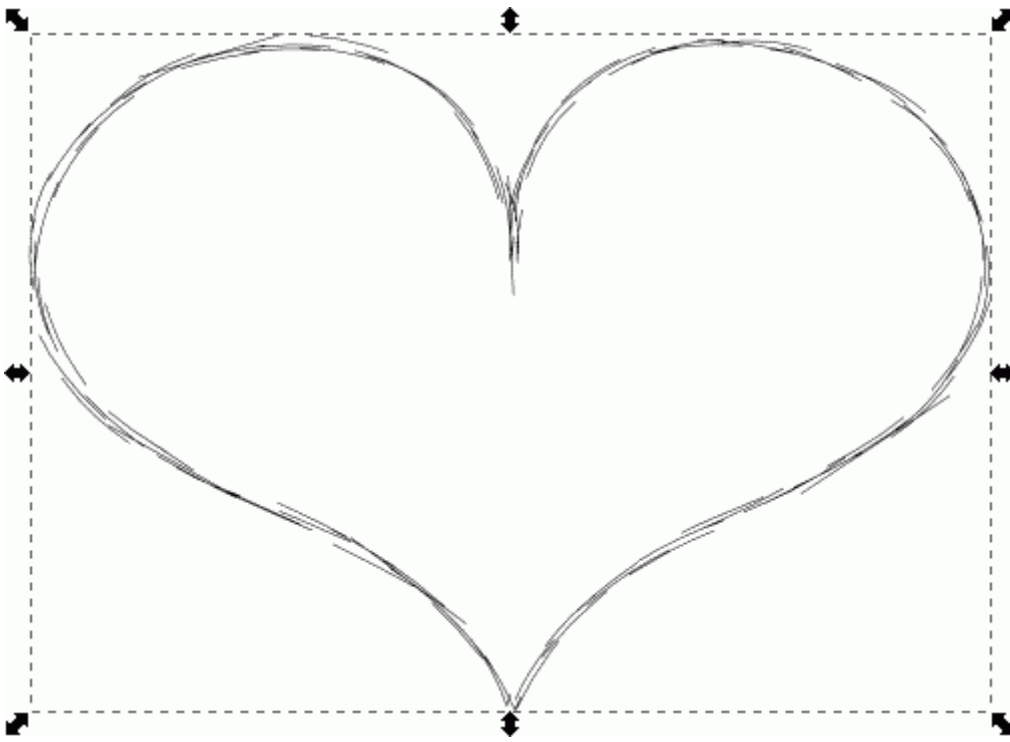
Scale


Max. length

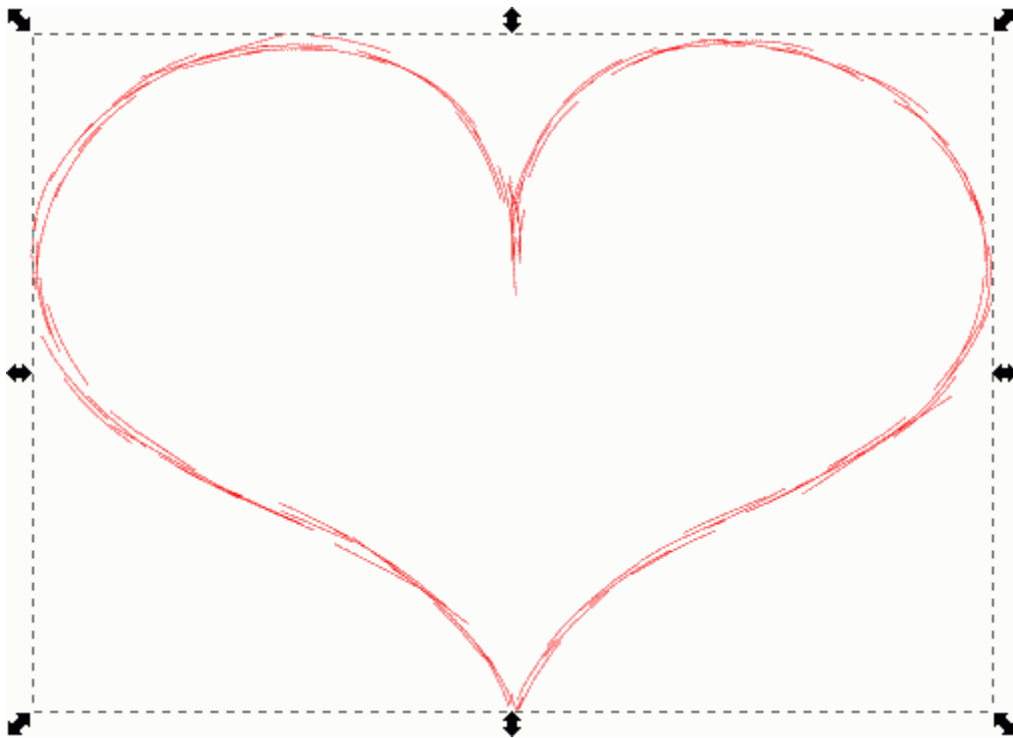
Length variation 

Feel free to experiment with the settings.

I just lowered the number of strokes to 2 and kept everything else default:

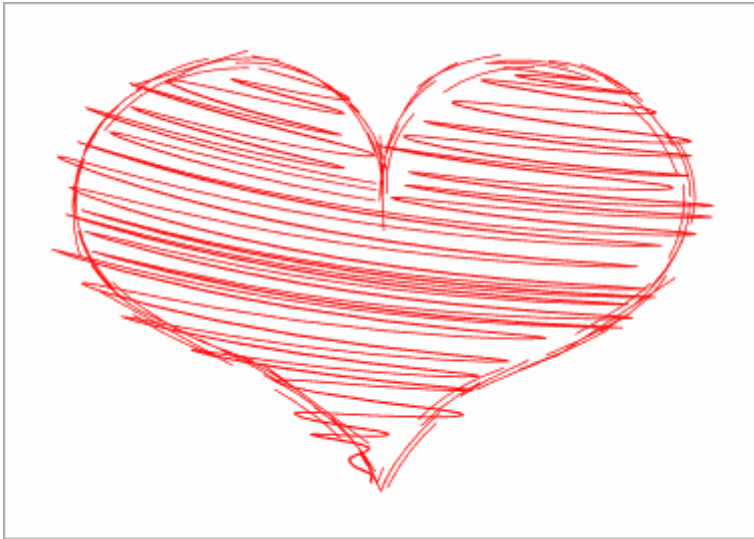


Use the Select tool  and set the stroke colour to red: hold the Shift-key down and click on a red colour swatch in the colour palette at the bottom of the screen.



Make a duplicate of the heart with the sketch path effect applied (Ctrl + D) and move it aside for design 2 again.

Move one of the sketched hearts over the hatched heart design. Your drawing should look like this:



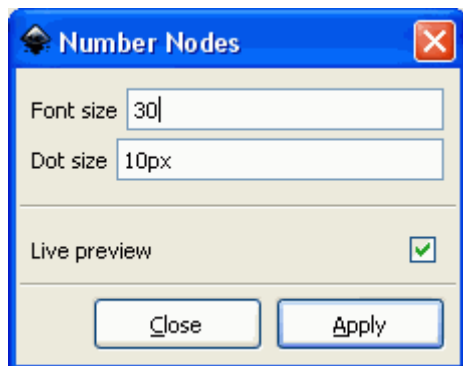
Save your work.

That's pretty nice for a few minutes work.

DESIGN 2: CONNECT THE DOTS

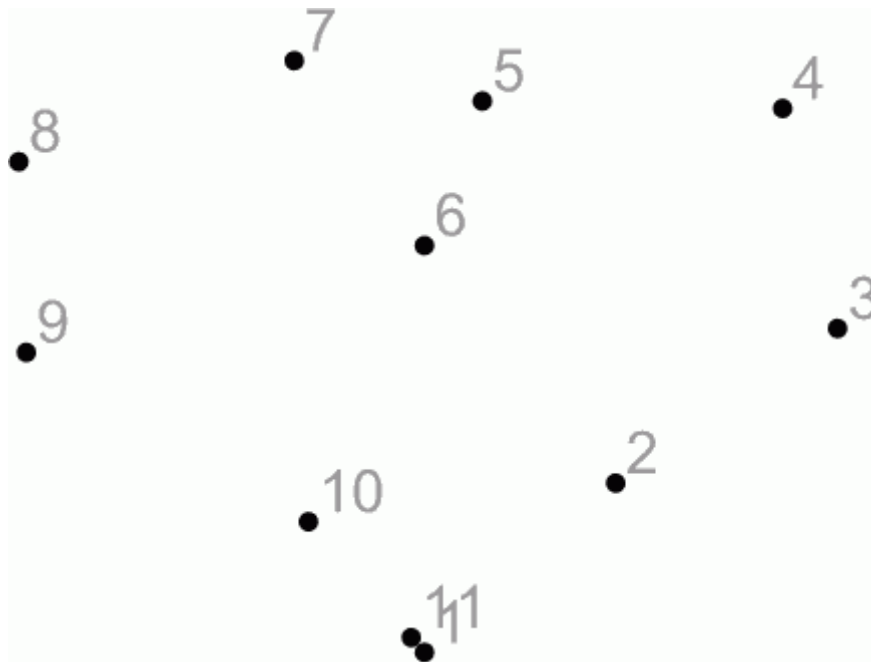
Select the heart shape path (not the sketched one) that was put aside earlier.

Select Extensions > Visualise Path > Number Nodes from the menu.

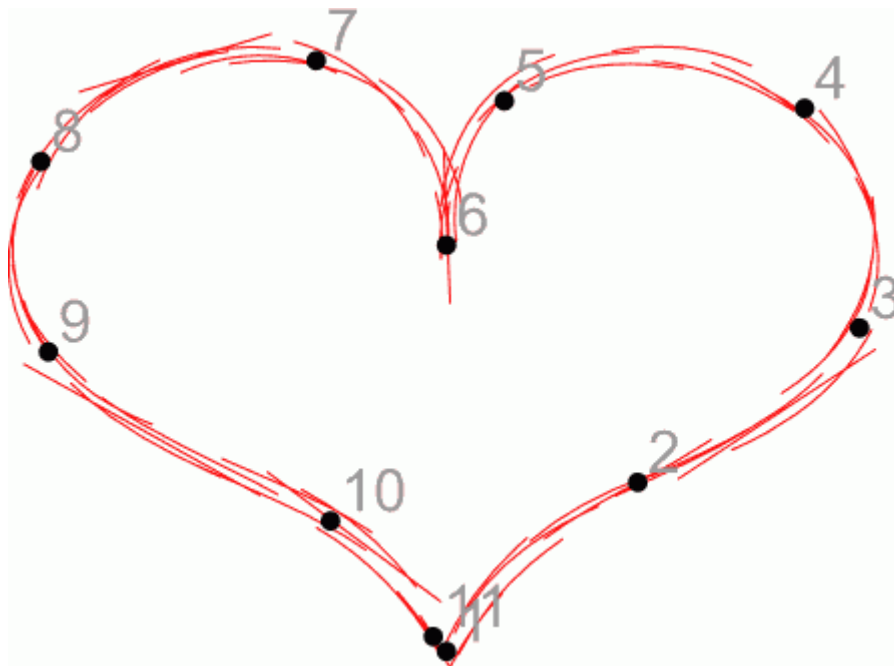


Use a font size and dot size to your likings.

Tick the "Live Preview" checkbox to preview the effect and press the Apply button when you are happy with the result.

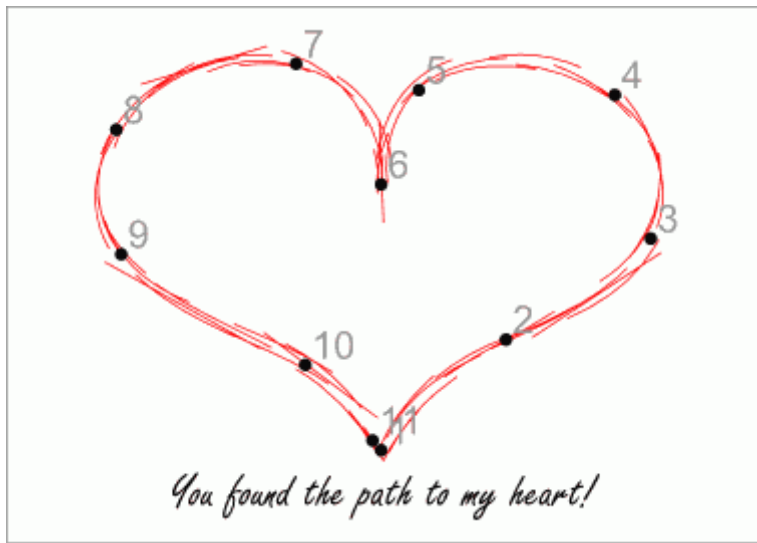


Move the duplicate sketched path over the numbered path.



Wow.. and that should have taken less than a minute :D

Add some romantic text "You found the path to my heart!" to make the design suitable for a nice greeting card for someone special.



Save your work.

That's all folks. As usual: feedback is as always highly appreciated.