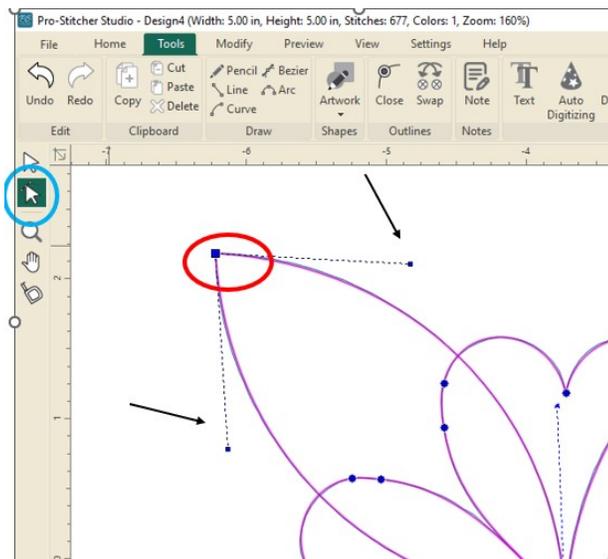


Anchor points are the blue dots in PS Designer that generate the lines associated with the design. It is all done by the software with some behind-the-scenes math formulas. Anchor points also have two handles, which allow the designer to manipulate the amount of curve.

When using the **Shape tool** (turquoise circle below), the design has pink lines with anchor points. When an anchor point is selected, it becomes a larger blue square. This is shown in the red circle below. The black arrows below indicate the anchor handles.

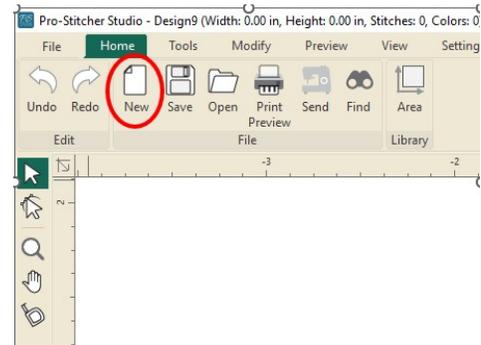


There are four types of anchor points.

- Line
- Cusp
- Smooth
- Symmetrical

This tutorial will tell what each type does and when to use it.

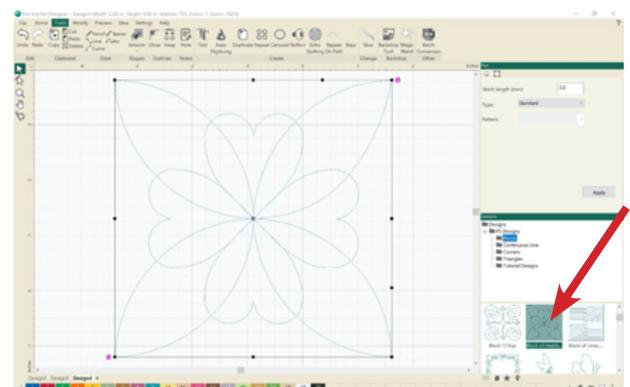
- Create a new Design by choosing the **Home** tab then **New**.



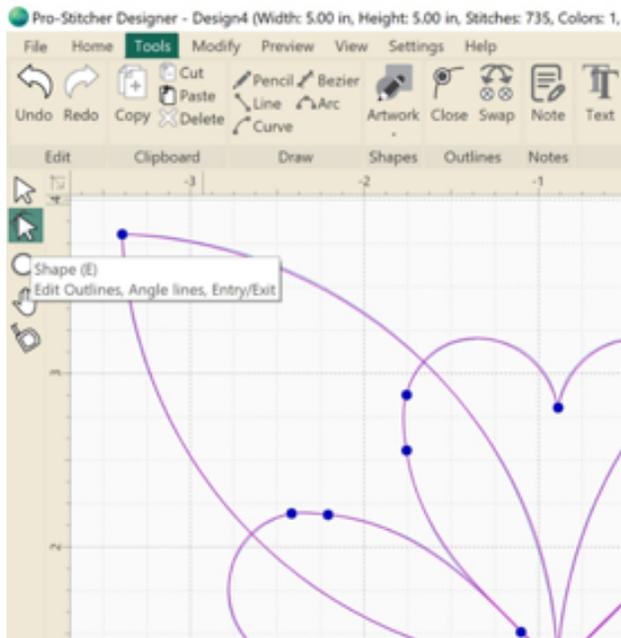
- In the lower right hand side bar, select the **Designs** icon for the artwork library.



- Click **Designs**-> **PS Designs**-> **Blocks** and then scroll down to select **Block of Hearts**. Click, drag, and drop this block into the design workspace.

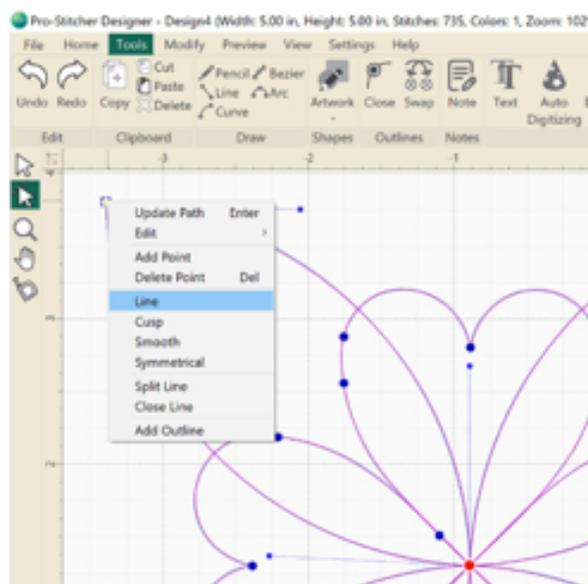


- Click the **Shape Tool** on the left side tool bar to reveal the anchor points in this design. The anchor points will show up as blue dots. Green or red dots are the entry and exit points for stitching.



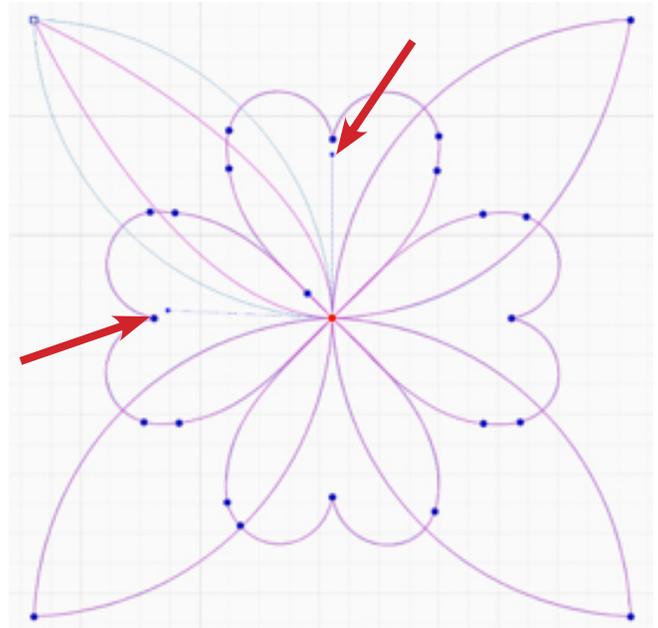
LINE: Line is used to make corners. The Line option basically, discards any handles or additional information that would add curve to a line.

- Right Click on the **furthest northwest anchor point**.
- Select **Line**, which will change this anchor point.



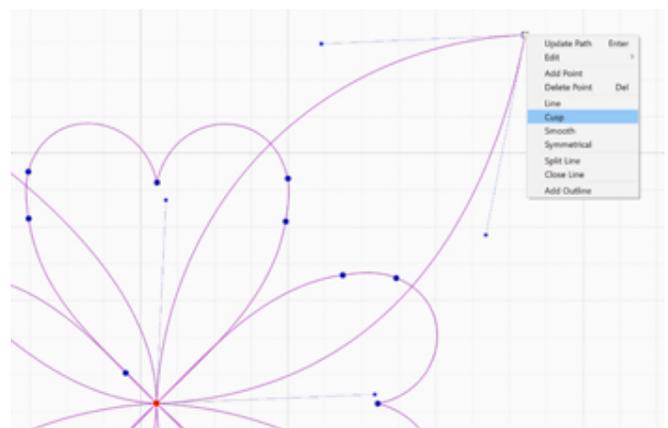
By choosing Line, any curve associated with that point has been removed.

Notice that the pink lines coming into the point still appear to have curve in them. This is a result of the anchor point at the other end of the line. It has long stretched-out handles which creates the curve. (Red arrows are pointing to handles.) A line anchor point will not have handles.



CUSP: A cusp is an anchor point with two independently moving handles. Cusp points give the most control over a design.

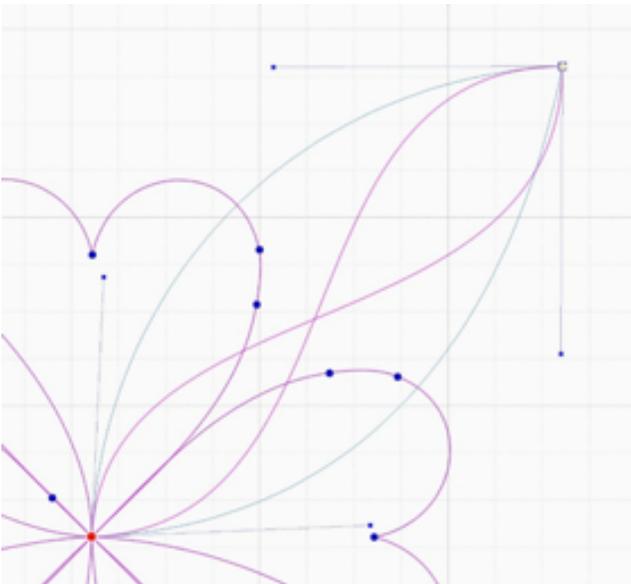
- Right Click on the **furthest northeast anchor point**.
- Select **Cusp**, which will change the anchor point.



- While still in the **Shape Tool**, click and drag the cusp anchor point's handles to change the shape.

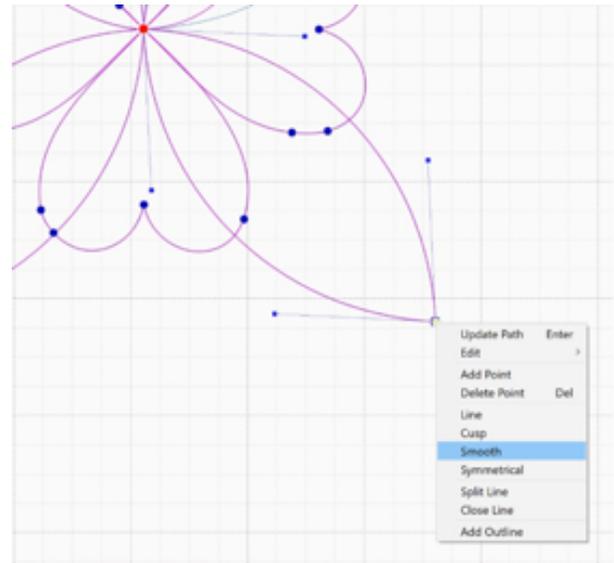


NOTE: Crossing the handles from one side to the other will create a loop. It is a neat effect. Try that next.

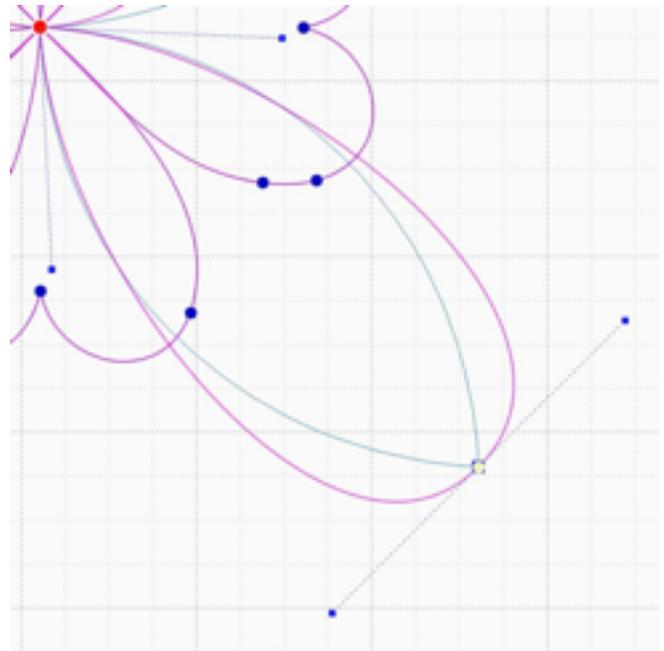


SMOOTH: The Smooth anchor point option simply balances the handles on the right and left side of the anchor point. The objective is generally to flatten out the curve associated with the chosen anchor point.

- Right Click on the furthest **southeast anchor point**.
- Select **Smooth**, to change the anchor point.



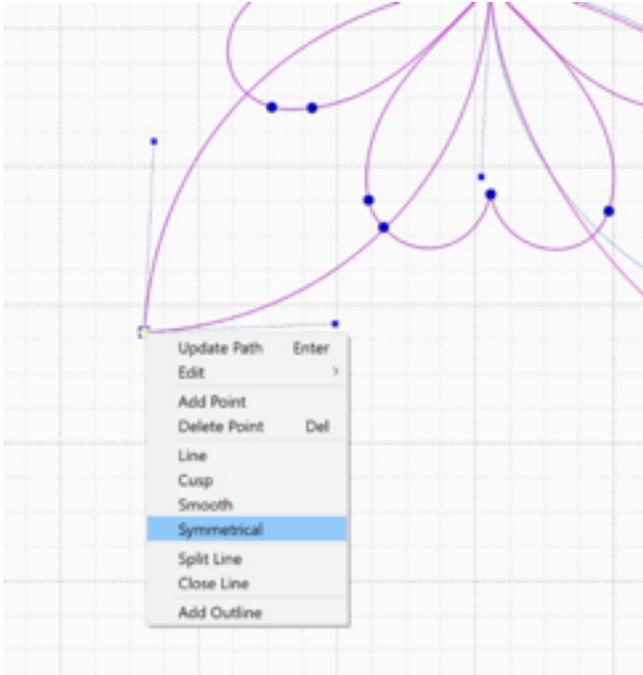
Notice how the anchor point's handles are automatically in a near straight line with each other to create a full round (smooth) curve, rather than a more sharply pointed curve.



- Click to drag either one of the handles. Find that they move around the anchor point together. The handles can, however, be shortened or lengthened independent of each other.

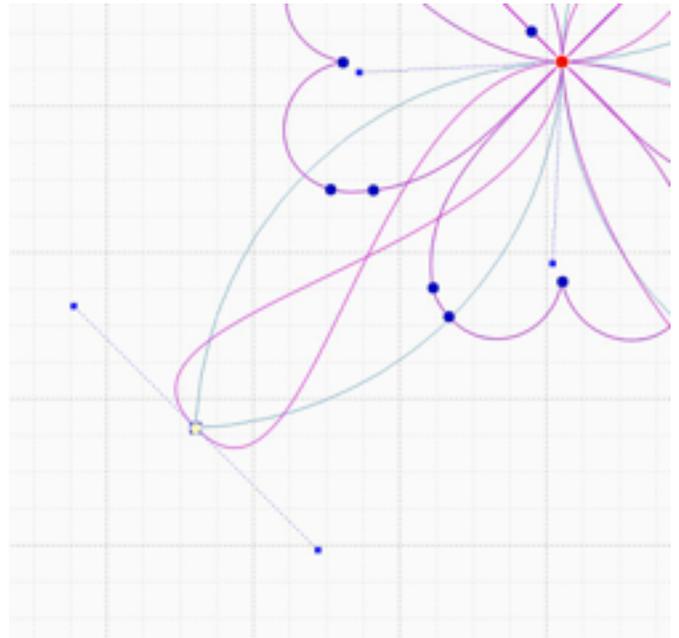
SYMMETRICAL: Change to a symmetrical anchor point to create handles that move symmetrically to each other in rotation and length.

- Right Click on the furthest **southwest anchor point**.
- Select **Symmetrical**, which will change this anchor point.

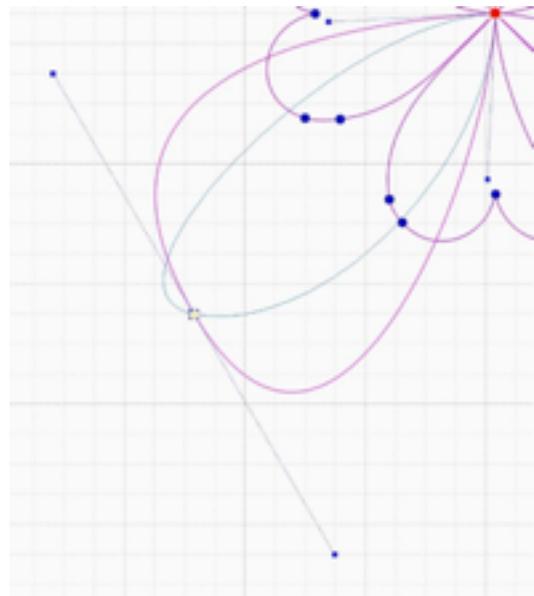


Notice the handles are now symmetrical. They enter and exit the node at the same angle and are exactly the same length.

This particular design has this petal flipping itself around when the anchor point is changed. This is due to how it was originally designed. Use the handles to "unflip" it.



- Click and drag either handle to see it move in tandem with the other side.



- Depending on the design customization and needs, choose the anchor point type that best suits the work.