De Casteljau’s algorithm of building the 3-point bezier curve:

Draw control points. In the demo above they are labeled: 1, 2, 3.

Build segments between control points 1 → 2 → 3. In the demo above they are brown.

The parameter t moves from 0 to 1. In the example above the step 0.05 is used: the loop goes over 0, 0.05, 0.1, 0.15, ... 0.95, 1.

For each of these values of t:

On each brown segment we take a point located on the distance proportional to t from its beginning. As there are two segments, we have two points.

For instance, for t=0 – both points will be at the beginning of segments, and for t=0.25 – on the 25% of segment length from the beginning, for t=0.5 – 50%(the middle), for t=1 – in the end of segments.

Connect the points. On the picture below the connecting segment is painted blue.