

Take a look at Figure 1. This figure shows a fractal called the Dragon Curve.

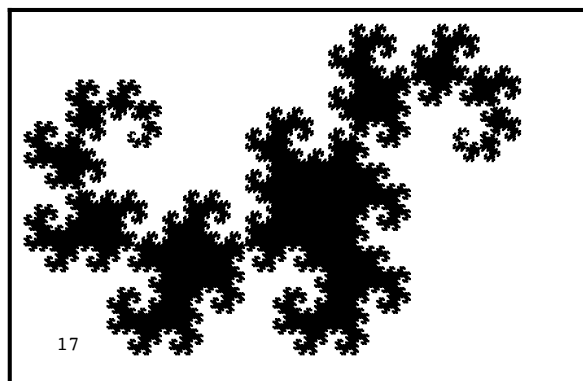
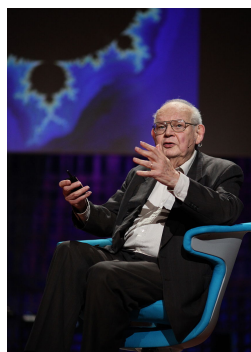
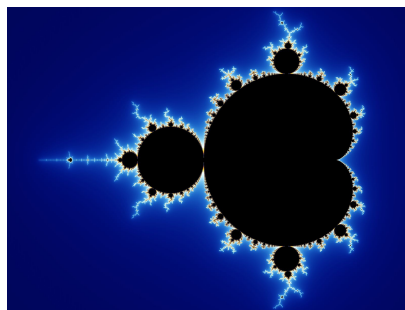


Figure 1: The Dragon Curve at step 17.

This curve is a fractal, a term first used by Benoit Mandelbrot. You can find a picture of him in Figure 2a. Perhaps the most famous fractal is the Mandelbrot set. Take a look at Figure 2b. A fractal curve is a curve that shows details on every length scale. A simple square which is not a fractal, shows no new feature as soon as you look at it, at length scales smaller than its side.



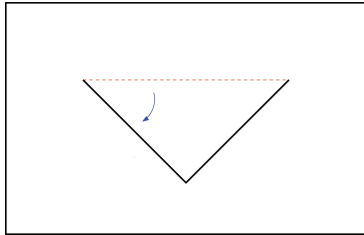
(a)



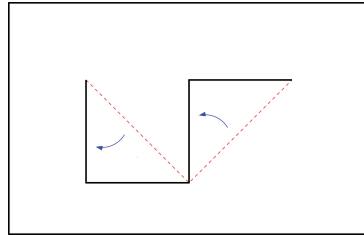
(b)

Figure 2: Mandelbrot (a) Benoit Mandelbrot; (b) Mandelbrot set. (All images are from Wikipedia)

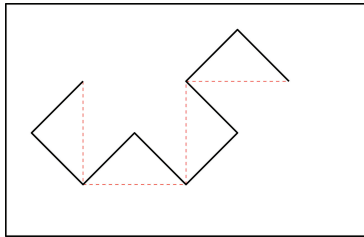
Back to the dragon curve, it can be constructed using the subsequent steps shown in Figure 3. The complete dragon curve is made with infinite steps.



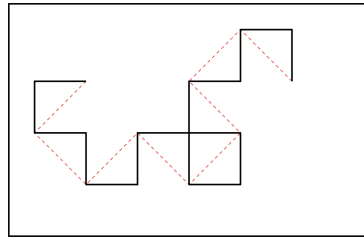
(a) Dragon curve, step 1.



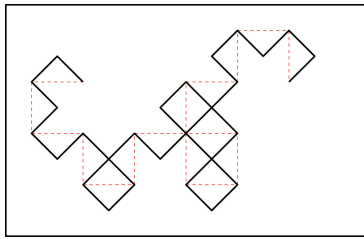
(b) Dragon curve, step 2.



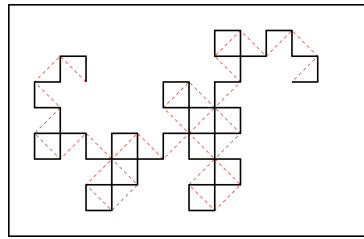
(c) Dragon curve, step 3.



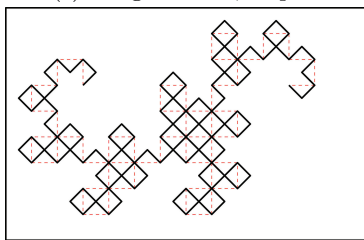
(d) Dragon curve, step 4.



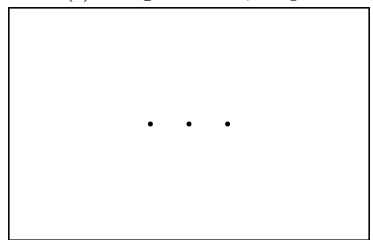
(e) Dragon curve, step 5.



(f) Dragon curve, step 6.



(g) Dragon curve, step 7.



(h) Many steps remain.

Figure 3: The dragon curve at different steps of evolution. Note that we have devoted a complete page to this figure