Hi, my name is Xiaoquan Huang. And this is my project 1 on sierpinski triangle.

Here is my program

What is a Sierpinski Triangle?

Sierpinski Triangle is a fractal based on triangle with four equal triangles inscribed in it. The central triangle is removed and each of the other three are treated as the original was, and so creating an infinite regression in a finite space.

So what exactly is a fractal?

A fractal is a geometric construction that is self-similar at different scales. A fractal shape will look exactly the same no matter what size it is viewed at.

There are many applications in technology which use fractal design. Such as Fractal Antennas, Fractal Networks, Neuroscience, computer graphics etc.

A fractal antenna is an antenna that uses a fractal, self-similar design to maximize the length, or increase the perimeter of material that can receive or transmit electromagnetic radiation within a given total surface area or volume. A fractal antenna’s response differs marked from traditional antenna designs, in that it is capable of operating with good-to-excellent performance at many different frequencies simultaneously. Normally standard antennas have to be “cut” for the frequency for which they are to be used – and thus the standard antennas only work well at the frequency. This makes the fractal antenna an excellent design for wideband and multiband applications. In addition, the fractal nature of the antenna shrinks its size, without the use of any components, such as inductors or capacitors.

A good example of a fractal antenna is in the form of a shrunken fractal helix in which each line of copper is just a small fraction of a wavelength.