

Christopher Stone

121-521-7926

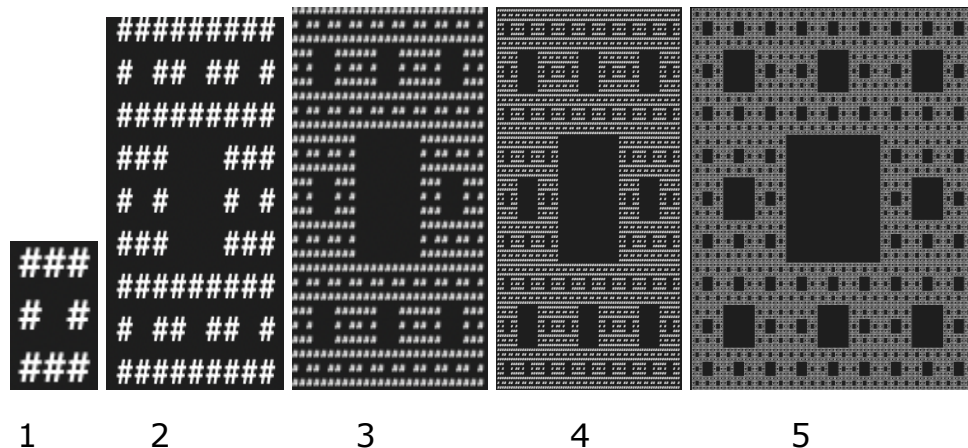
5/24/22

CSE355 Sierpinski

At the beginning of the year when we were first given some ideas of projects we could code / create for the end of the year, the ones that stood out to me the most were Carpet Fractals. I had seen carpet fractals in the past but never attempted to code and create one my own.

First a carpet fractal begins with a square, then it's broken down into a 3-by-3 grid where the center square is removed. Then the same is applied to the remaining subsquares.

Here is some of the art I was able to create with my program



STEP 1: Running the program.

open up terminal and locate the file sierpinski.cpp

type: `g++ sierpinski.cpp`

then type: `./a.out`

If everything works you should be presented with a small explanation of the project and what it does. Please enter the number of layers you want to create. Integers 1-3 will print the final result out to the terminal and integers > 3 will create a .txt file named carpet.txt which you can open up and view the final result that way. Above are some examples of results.

NOTE: zooming out of the result will make it easier to get the final result into a viewable range.

Essentially my code works by first asking the user to input a number. This project scales extremely fast so numbers 1-5 work best.

Then we scale the dimensions for the project by this

```
int rows = pow(3,n);  
int columns = pow(3,n);  
int dimensions = (rows * columns);
```

Where n is the input from the user.

- Each function of my code has a description of what it does.

Video attached of how it works!