For this Ponder and Prove activity, I worked alone. In my exploration of the ideas however I used many ideas that were discussed in class. In particular, I used and adapted a portion of code that Brother Neff provided for use in order to better explain the purpose and function of the C+2 function.

While examining the C+2 and f functions, I struggled to identify any significant similarities between the two outside of the obvious similarities. Namely, both being pairing functions, each takes two inputs and each returns a single natural number. The differences between these two functions were much easier to find. C+2 only works for pairings where the second input parameter is larger or equal to the first. Additionally, the f function uses each natural number to represent each pairing where the C+2 function loses an integer of each of its diagonal patterns.

The similarities between the f and g functions were much easier to identify. Both of these functions map a natural number to all values that they are intended to map to and use the process of squaring and then manipulating the inputs to assign those values. They differ in what they consider to be a natural number. As in all of the mathematical world, there is discussion and controversy over the idea of 0 being a natural number. g() includes 0 as a valid input and therefore starts the natural number assignments with the value 0 at the location in the table representing the pair 0, 0 while f() begins the process with the value 1 at 1,1.