**Nature**

Numbers do not only hold value. They hold meaning as well. With statistics, we try to find out what these large groups of numbers mean and what they tell about the entity they are quantifying. We do this by calculating statistically significant values that describe the numbers. In order to calculate these values, there needs to be a program that can take in a list of numbers and put out these values. Thus, this program was written in order to achieve this.

**Method**

The program first asks the client for two lists of numbers. After receiving these lists, the program uses complicated arithmetic algorithms to calculate values of statistical significance. These values are then outputted onto the terminal screen for the client to carefully read. This program has applications in statistics classes and data science.

**Steps**

First, the statistically significant values need to be converted from mathematical equations to programmable equations. All literal constants are replaced with named constants. Summation statements are translated to long arithmetic statements with plus signs in between each summation element. All squares are translated into an arithmetic statement multiplied by that same arithmetic statement. After the translation is complete, the statements are written in C code.

**Issues**

While writing the arithmetic statements, they began to violate the 80-character rule. I had to find the proper formatting guidelines for multiline arithmetic statements and apply them to my code. Even after that, it still looked messy, so I applied some line breaks and tabs in order to make it look more organized.

**Concepts**

I learned of the new math library that existed and read into it. It has many useful operations and transformations that could be helpful to me in the future. The website I used is listed in the references section.

**References**

<https://www.tutorialspoint.com/c_standard_library/math_h.htm>