***Nature***

Creating a variable for every element of a long list is very tedious especially if one is going to use Dr. Neeman’s input files. To get around this, arrays need to be used in order to make the program more efficient and scalable for large sets of data.

***Method***

This program first requires the user to input a single integer representing the number of elements in both of their lists. Next, the user is required to enter the elements of their two lists in pairs. Finally, the user will then be greeted with a variety of one and two variable statistically significant values which can then be taken in order to perform other calculations or analyze.

***Steps***

To create this program, I first wrote out all of the constants and variable I would need for the program to work. This meant making sure that no unnamed constants were in the program such as 0 or 1. Next I wrote code to take user input for the number of elements in each list as well as the elements in each list. This was done by using for loops and control variables to iterate through each index of the list from 0 until the number of elements. Finally, a variety of arithmetic operators were used in combination with each other to produce statistically significant values, which were then outputted to the user for further analysis.

***Issues***

One issue was that the calculations to produce the correlation coefficient between the two lists was too long and it was getting too messy to read. To fix this problem, I first calculated the numerator of the correlation coefficient as well as the denominator. I then divided these two numbers to calculate the correlation coefficient of the two lists. This led to cleaner and more readable code.

***Concepts***

Through this programming project, I learned how to create arrays in C, something that I was always afraid of. I now know how to allocate and deallocate memory in C properly without burning my computer. With this knowledge I can go on to create programs that can handle large amounts of data.

***References***

None