a.

b.

Naturally, R was significantly easier and quicker to use as opposed to C++.

For R, it was as simple as calling the wanted pre-built function on the intended data.

For C++, many lines of code had to be written just to extract the information. Additionally, the code to do necessary tasks such as iterate through every value had to be coded manually. The programmer also had to sort the values to get the median. Overall, it was very time consuming and tedious.

c.

The mean of a set of numbers is the average value. It is found by adding up all the values and then dividing by the number of values used.

The median of a set of numbers is the middle value. It is found by sorting a set and if the total number of entries is odd, the middle value is the median. If the total number of entries is even, then the two middle values are added up and divided by 2.

The range is the maximum difference between any two entries of data. It is found by subtracting the smallest value from the largest value.

All of these values help people to make sense of data. For example, a shop can use the range on sales to figure out what kind of shoppers they best attract. If the mean of sales is high with a small range, then it's likely that their cheaper options/products aren't well received and only those who can afford the more expensive products think they are worth it. All of this can be learned without needing to use machine learning.

d.

Covariance is by what amount two different variable change together. Such as for every 1 change in x, y changes by 5. It can either be positive (where an increase in one reflects an increase in another) or negative (where an increase in one represents a decrease in another).

Correlation is similar, but the actual amount they change by isn't important. Instead, it's the percentage of accuracy of the covariance. If some values don't change by 5 but instead 4 or 6, then the correlation is decreased. It too can be either positive or negative.

This would be useful in helping machine learning identify trends within data and help it predict future data.