a.

Opening the file Boston.csv.

Reading line l

heading: rm,medv

The new length is 506

Closing file Boston.csv.

Number of records: 506

Stats for rm:

The sum of the rm is: 3180.03

The mean of the rm is: 6.28463

The median of the rm is: 6.2085

The range of the rm is: 5.219

Stats for medv:

The sum of the medv is: 11401.6

The mean of the medv is: 22.5328

The median of the medv is: 21.2

The range of the medv is: 45

The covariance of the rm and medv is: 4.49345

The correlation of the rm and medv is: 0.69536

Program terminated.

C:\Users\abitu\source\repos\Assignment_1\x64\Debug\Assignment_1.exe (process 14072) exited with code 0.

Press any key to close this window . . .

b. Working with R built-in functions is very convenient, you just need to call the functions, in C++, it's a bit tedious , you must define what each function, that's define the data type of the argument, what the function does using the argument, the function's return data type.

c. Sum is the total added value in a data set, computed by adding each value in the set.
The mean is the average value in a data set, it is found by adding all numbers in the data set and then dividing by the number of values in the set.
The median is the middle value when a data set is ordered from least to greatest.
The range is the difference between the highest and lowest values within a set of numbers, can be calculated by subtracting the smallest number from the largest number in the set.
The above descriptive statistical values convert raw data into understandable data, help describe data points in a constructive way such that we get patterns that fulfill every condition of the data, and enables you to identify similarities among variables, thus making you ready for further statistical analyses.

d. Covariance measures how changes in one variable are associated with changes in a second variable, and correlation is a statistical measure that expresses the extent to which two variables are linearly related , they change together at a constant rate. Both provide insightful information to machine learning, describing simple relationships among data, ultimately supporting the machine to learn and predict analysis for other data.