**Assignment 4**

**What is this code doing in R. explain**

**First code**

**> X<- c(0.301,0.176,0.125,0.097,0.079,0.067,0.058,0.051,0.046)**

**> Y<- c(1, 2,3,4,5,6,7,8,9)**

**> Dev <- (Y - mean(Y))^2**

**> Dev**

**> sum(Dev\*X)**

**> stdv<-sqrt(sum(Dev\*X))**

**> stdv**

The code above creates two lists of numerical values. It then creates a variable called ‘Dev’ which is a list of the variances of Y. Then ‘Dev’ is printed. It then prints out the sum of multiplying the list ‘Dev’ by ‘X’. It will first multiply the two lists, put them in a list and then sum up all the values. Lastly, the code saves the square root of that sum to a variable called ‘stdv’ and prints out this value.

**Second code**

**> i <− c(1:5)**

**> for (n in i) print(n \* 10)**

**The second code creates a list of values from 1 to 5. Then the for loop iterates through the list and prints each value multiplied by ten. So the results will be 10, 20, 30, 40, 50.**

**Third code**

**> even <− 0**

**> while(even < 10) {even <− even+ 2**

**+ print(even)}**

First the code sets the variable ‘even’ equal to 0. Then, using a while loop it prints out each even value. It adds 2 to even and then prints that number until 10 is reached. So the output will be 2, 4, 6, 8, and 10. Then the while loop concludes because even is equal to 10