You will turn in comments and the script created in this assignment on Blackboard.

**Questions:**

Logical Operators:

1. Use logical operations to get R to agree that “two plus two equals five” is FALSE.
2. Use logical operations to test whether 8 ^ 13 is less than 15 ^ 9.

Scripts:

1. Use the Rstudio toolbars to open a new script.
2. Use the save button to save it to disk as “Using R lab.R”.
3. Write some comments at the top of the script indicating the script is your lab.
4. Save the rest of the assignment in your script, and upload that .R file as your lab. Be sure to answer the questions above by pasting what you typed or answering the question asked.

Variables:

1. Create a variable called potato whose value corresponds to the number of potatoes you've eaten in the last week. Or something equally ridiculous.
2. Print out the value of potato by typing the variable name in the console or script.
3. Calculate the square root of potato using the sqrt() function.
4. Print out the value of potato again to verify that the value of potato hasn't changed.
5. Reassign the value of potato to potato \* 2.
6. Print out the new value of potato to verify that it has changed.
7. Try making a character (string) variable (cheese) and a logical variable (happiness).
8. Try creating a variable with a “missing” value NA.

Vectors:

1. Create a numeric vector with three elements using c().
2. Create a character vector with three elements using c().
3. Create a numeric vector called age whose elements contain the ages of three people you know, where the names of each element correspond to the names of those people.
4. Use “indexing by number” to get R to print out the first element of one of the vectors you created in 23 or 24.
5. Use logical indexing to return all the ages of all people in age greater than 20.
6. Use indexing by name to return the age of one of the people whose ages you've stored in age

Dataframes:

1. Load the airquality dataset.
2. Use the $ method to print out the Wind variable in airquality.
3. Print out the third element of the Wind variable.
4. Create a new data frame called aq that includes only the first 10 cases. Hint: typing c(1,2,3,4,5,6,7,8,9,10) is tedious. R allows you to use 1:10 as a shorthand method!
5. Use logical indexing to print out all days (ie. cases) in aq where the Ozone level was higher than 20.
   1. What did the output do with NA values?
6. Use subset() to do the same thing. Notice the difference in the output.
7. Using the airquality dataframe, subset into two separate data frames; one with just the Ozone, Solar.R, Wind, and Temp variables, and the other one with just the Month and Day variables.
8. After using the subset() function, use the cbind() function to combine them back into one dataset.
9. Create a TooWindy variable inside aq, which is a logical variable that is TRUE if Windy is greater than 10, and FALSE otherwise.
10. Use the length() function to determine the number of observations in the airquality dataframe.
11. Calculate the mean and standard deviation of one of the variables in airquality.
12. Make a table of the Temp values.
13. Make a histogram of the Ozone column. Is it a normal distribution? Why or why not?

Functions:

1. Make a simple function to calculate x + 6.
2. Use that function add 6 to the Temp column in airquality.

Packages:

1. Install the ggplot2 package.
2. Install the car package.
3. Install the ez package.
4. Load the car library.

Working Directories:

1. Set the working directory to your folder you have the dataset stored in.

Files:

1. Import the CSV file provided on Blackboard.