

# Week 2 Classwork/Homework Assignment

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For the assignment, you will submit a R Markdown (.rmd) file and the compiled document as both a pdf and html. Make sure that the compiled documents will display all the required code to get your results.

1. Write and execute a chunk of code that performs each of these operations. For each line of code, annotate it to describe what it will do when run.
  - Print the line “Here are my answers for Question 1.”
  - Compute the product of six and five.
  - Compute eight to the fifth power.
  - Compute the product of two variables

2. Use the following set to complete the following operations.

{13.0, 1.0, 5.0, 8.0, 1.0, 0.0, 34.0, 2.0, 21.0, 0.0, 3.0} (1)

- Using the set, create a vector named *Ornacia*.
  - Determine the length of the vector.
  - Find the highest values and the positions of the value(s).
  - Find the lowest value(s). Display the lowest values(s).
  - Find the position of value 21.
  - Order the vector from the lowest to highest numbers.
  - Create a new vector, *Ornacia.Even*, which are only the values of the even positions in the vector.
  - Append the following numbers to the end of the vector *Ornacia* {55.0, 89.0}
  - Create a new vector, *Ornacia.Half*, which contains all half of all the values of *Ornacia*.
3. Import the dataset “eBird\_BotGarden\_2016.csv”. These are estimated abundances of birds seen at the State Botanical Gardens of Georgia (Athens, GA) each week of 2016. Perform the following operations:
    - Plot the weekly abundance of the Northern Flicker as a bar graph.
    - Plot the weekly abundance of the Barred Owl, Canada Goose and Red Shouldered Hawk on a single line graph.
  4. Using the eBird data (from question 3), write a function that will calculate the average abundance of a specified species for the year. Your function should have two arguments/inputs: the dataset and the name of the species. The output should be a single number (the average). Find the average abundance for the Canada Goose. (Hint: The *names* function will return the column names of a data frame.)
  5. Using your averaging function, write script to create a new dataframe containing the names and average abundance of every species that has an average abundance greater than 5 individuals. Your resulting data frame should have two columns: the name of the species and their average abundance.