Lab 7 homework 7
This week, we are going to up the difficulty a little with datasets that are a little messier (realistic)

The first dataset (oaks.csv) that we are going to look at is a study on the impact of temperature and precipitation on the fauna of ancient oak trees in Europe.
The dataset includes 6 columns:

1. Country
2. Tree circumference
3. Mean temperature of the warmest quarter
4. Mean precipitation during the warmest quarter
5. Number of specialist species found
6. Number of generalist species found

1) Identify one positive and one negative correlate of the number of specialist species found in each tree.

2) Find the strongest correlate of total number of species found on a tree. Plot your result and report your statistical test.

The second dataset (litter.csv) that we will be looking at today is focused on the impact of scavenging macroinvertebrates on leaf litter decay.

The dataset includes 5 columns:

1. A random id assigned by the researcher
2. Block (experiment had 4 replicate plots)
3. Treatment: the type of exclusion applied
    a. None: no macro invertebrates were excluded
    b. Large: only large macro invertebrates were excluded
    c. Small: large and small macroinvertebrates were excluded

3) Use what you have learned to analyze this dataset and make a statement about the impact of macroinvertebrates on leaf litter decay.

The final dataset (fish.csv) for today looks at the fitness of fish from two different habitats (open water and shallow water).
The dataset includes the following collumns:

1. Id: random number assigned byresearcher
2. Mass_1: mass at start of experiment
3. Mass_2: mass at end of experiment
4. Native_niche: habitat where the fry was collected
5. Test_niche: habitat where fish is living
    a. O: open water
    b. S: shallow water

4) What is the name for this type of experimental design

5) Is there an interaction between the type of habitat fish are from and their performance in a new habitat?

6) plot this dataset

Prepare a document with your answers to these questions and turn it in by Tuesday. If there are specific topics you would like to go over prior to the midterm please let me know in the next couple of days.