SPSS & Excel practice

All data here was generated from this web page: http://generatedata.com/

For any individual question, you can choose to use SPSS or Excel. All data is available on the CS 130 Public folder or on the web.

You do not need to setup Value Labels for these problems but you may if you wish.

Problem 1

Import SPSSData_Class.csv into Excel. This is a text file delimited with *commas*.

There are four columns of data, ID, Major, Grade, and Year. Add a fourth column, Result, that will display PASS if the Grade is at least 60 and FAIL otherwise.

Save this file as an Excel Spreadsheet.

Import the new Excel Spreadsheet into SPSS.

Find the Median Grade.

Find the Median Grade for each Major.

Test the claim that Sophomores have a lower mean Grade than Seniors.

Test the claim that the mean Grade is different than 70.

How well does ID predict Grade?

Build a chart to display how many students are in each major.

What is the median grade for students that Passed the class and the median grade for students that Failed the class?

Test the claim: Bio majors do better than Chem majors in this course.

Which majors have the highest and second highest median grade? Is the difference between these top two majors mean grade statistically significant?

Problem 2

Import SPSSData_fish.csv into Excel. This is a text file delimited with *commas*.
This file contains data collected about fish in the Willamette. The data is made up but fish do exist.

Each fish has an ID number, length, and location caught. Fish were checked for damage to their fins (Yes or No). Fish were weighed, tagged, given a shot of antibiotics, and released back to the river. Later, the fish were re-caught and re-weighed to determine if the antibiotics had helped the fish gain weight.

Test the claim: fish with fin damage are likely to be smaller (shorter) than fish without damage.

How well does Length predict weight_1? How well does Length predict weight_2?

Does the data support the idea that the antibiotics helped the fish to gain weight?

What is the average length of the fish?

How many fish were caught at each location?

What is the median weight_1 and weight_2 of the fish?

How many fish were not caught a second time?

Does location 2A produce larger (longer) fish than location 1A in a statistically significant way?

Build a chart to show the number of fish caught at each location.

Build a chart to show the relationship between weight_1 and weight_2.

How many fish lost weight?

Problem 3:

Import the following data from the web into Excel and make any adjustments necessary. Then take the data into SPSS.

http://zeus.cs.pacificu.edu/shereen/cs130sp15/Trees.html

This file contains the height in feet of a number of trees. Some trees were on a mountain top, some trees were on the valley floor.

Find the mean, median, and standard deviation for the height of all trees.

Find the mean, median, and standard deviation for the mountain top trees.

Find the mean, median, and standard deviation for the valley trees.

Are valley trees taller than mountain top trees in a statistically significant way?

Build a histogram for the tree heights.

Are the trees measured taller than 120 feet in a statistically significant way?

Problem 4: Import the following data from the web into Excel and make any adjustments necessary. Then take the data in to SPSS.

http://zeus.cs.pacificu.edu/shereen/cs130sp15/Cars.html

This file contains data about the miles per gallon for a number of vehicles. The data is made up and flying cars do not exist.

The file contains data on a number of vehicles from Ford, Chevy, Honda, and Toyota. The MPG for each vehicle is listed as well as the type of vehicle (Car, Truck, Minivan).

Do Fords have better gas mileage than Chevys in a statistically significant way?

Do Cars have better gas mileage then Trucks in a statistically significant way?

Do these vehicles average more than 26 MPG in a statistically significant way?

Display how many of each type of vehicle were tested.

Display a histogram of the MPG for all vehicles.

Display a chart of the median MPG for all car types.

Display a chart of the median MPG for all car makers.

What is the mean and median MPG for each car maker?

Relatively Tricky Bonus: Go back to Excel and generate a random color for each vehicle (red, blue, silver, black).