

CS130/230 Assignment 4

StatView

Date Assigned: Friday, January 16, 2004

Date Due: Monday, January 19, 2004

Total Points: 60

For this assignment you are to tackle the following three problems using StatView. Save all of your solutions into one MS WORD document and call it "Your PUNET ID.doc". Make sure you label each problem and section correctly. For problem 2 you will also need to copy the StatView file to the drop folder. Again name this file "Your PUNET ID.svd".

Once you have completed all the problems, place your MS WORD document and the StatView file into the CS130 Drop folder. Make sure that it is there before 9am on Monday.

Problem 1 – Analysis of Car Data

Using the Car Data file within the STATVIEW data sets folder, please do the following:

- a) Compute the basic descriptive statistics for this data set, and cut and paste the table into your MS WORD document.
- b) Construct a **histogram** for the horsepower continuous variable, and cut and paste the graph into your MS Word document.
- c) Construct a **Pie chart** for the **weight** continuous variable and cut and paste the graph into your MS WORD document.
- d) Construct a **Bivariate scattergram** with **weight on the x-axis** and **horsepower on the y-axis**. Cut and paste the graph into your MS WORD document. Does there appear to be a correlation between weight and horsepower? Address this question briefly in the same MS WORD document.

Problem 2 – Sports Data

For this problem I want you to compare and contrast the careers of two sports persons using descriptive statistics. Search the Internet for this data. Also, you should just focus on one aspect of their careers. For example you could compare the homeruns of Joe DiMaggio and Mickey Mantle who both played for the Yankees.

Part I: Enter the data that you find into StatView. You might find it simpler to copy the data into an Excel spreadsheet then import that Excel spreadsheet into StatView.

Part II: Produce the descriptive statistics for this data.

Part III: Copy the descriptive statistics to your MS WORD document (the same one that you used in the previous problem) and discuss what the descriptive statistics tell you about each player. Be as detailed as possible.

Problem 3 – Hypothesis Testing

This question is rather open ended because I want you to have a better feeling for when to use each of the four tests we discussed this class.

Included with Statview is a folder entitled STATVIEW DATA SETS. Using any of the data sets in this folder, I would like you to run **eight** statistical tests of your choice (two of each type). **Please make sure that your tests are different than those we did in class as examples.**

(1) One sample t-test, (2) Paired t-test, (3) Z-test, (4) Unpaired t-test

Please cut and paste the results from your eight tests into your MS WORD document, and offer an interpretation of the results in each case. Make sure that your tests are genuine and your hypothesis reasonable and based on observed values. With each case state the null hypothesis and whether we should accept or reject the null hypothesis based on the p-value.