

## STAT 480, Homework 10, Spring 2003

In order to assess the accuracy and precision of some common computer programs used to do statistical calculations, we have some Nasty Data (courtesy of Leland Wilkenson). The data consist of 9 very large numbers, Big, and 9 numbers that vary by very little, Little. The data are given below.

Big	Little
99999991	0.99999991
99999992	0.99999992
99999993	0.99999993
99999994	0.99999994
99999995	0.99999995
99999996	0.99999996
99999997	0.99999997
99999998	0.99999998
99999999	0.99999999

We wish to test out the built in statistical functions for calculating basic summary statistics.

1. Evaluate SAS, JMP, Excel and Minitab.
  - (a) Use SAS and PROC UNIVARIATE, to obtain the mean and standard deviation for both Big and Little. Turn in your SAS program, and output of PROC PRINT and PROC UNIVARIATE.
  - (b) Use JMP and Distribution, to obtain the mean and standard deviation for both Big and Little. Turn in a print out of the JMP worksheet, and the output from Distribution.
  - (c) Use Excel and Tools - Data Analysis - Descriptive Statistics to obtain the mean and standard deviation for both Big and Little. Turn in the Excel worksheet with the data and the output of Descriptive Statistics.
  - (d) Use Minitab and Stat - Basic Statistics - Display Descriptive Statistics to obtain the mean and standard deviation for both Big and Little. You may have trouble getting Minitab to display the Little data values. Once you have entered one of the little values, right click on the column that have the Little data values in and choose Format Column - Numeric choose a Fixed decimal with 10 places. Turn in a print out of the Minitab worksheet, and the output from Display Descriptive Statistics.
2. Give the correct values for the mean and standard deviation for the Big and Little sample data. You should be able to reason out how to find these even if your calculator, and some computer programs, will not be able to do the calculations.
3. Which of the programs; SAS, JMP, Excel and/or Minitab got the correct answers? the incorrect answers?