

## Statistics 480, Homework 6, Spring 2003

1. How faithful is the Old Faithful Geyser in Yellowstone National Park? In the table below are the times (minutes) between eruptions of the Old Faithful Geyser during part of August 1985.

80	71	57	80	75	77	60	86	77	56
81	50	89	54	90	73	60	83	65	82
84	54	85	58	79	57	88	68	76	78
74	85	75	65	76	58	91	50	87	48
93	54	86	53	78	52	83	60	87	49
80	60	92	43	89	60	84	69	74	71
108	50	77	57	80	61	82	48	81	73
62	79	54	80	73	81	62	81	71	79
81	74	59	81	66	87	53	80	50	87
51	82	58	81	49	92	50	88	62	93

Both Minitab and JMP expect (in fact, require) that the data for a single variable be in a single column. The data above is actually a time series data set in order from left to right then down the rows (i.e. 80, 71, 57, . . . , 77, 56, 81, 50, 89, . . .). The data is on the course web page follow the link to Old Faithful Data at Homework #6. In both programs the data will be 10 rows and 10 columns. Experiment with Minitab's and JMP's "stack" commands to get the data into one column in the proper order before beginning this assignment.

- Use Minitab to obtain a time series plot of the data.
- Use JMP to obtain a time series plot of the data.
- What are the similarities and differences between the two programs in terms of the construction of time series plots?
- Use Minitab to obtain the mean, standard deviation, minimum, maximum, median, and quartiles for this data set.
- Use JMP to obtain the mean, standard deviation, minimum, maximum, median, and quartiles for this data set.
- What are the similarities and differences between the two programs in terms of the calculation of common descriptive statistics?
- Use Minitab to construct a histogram (use Minitab's defaults).
- Use JMP to construct a histogram (use JMP's defaults).
- Use Minitab to construct a histogram using "cutpoints" 30, 36, 42, 48, . . . , 108, 114, 120.
- Use JMP to construct a histogram using "cutpoints" 30, 36, 42, 48, . . . , 108, 114, 120.
- What are the similarities and differences between the two programs in terms of the construction of histograms?
- Use Minitab to construct a stem-and-leaf plot.
- Use JMP to construct a stem-and-leaf plot.
- What are the similarities and differences between the two programs in terms of the construction of stem-and-leaf plots?
- Use the hand tool in JMP to dynamically change the bins of the histogram. What value might there be in being able to adjust a histogram dynamically in this way? What would be required to get this same information from Minitab?

Turn in the Minitab and JMP output along with the answers to the questions.