STAT 251  Statistical Inference for Management I  Winter 2015

Quiz 7: Measures of variability

Taken on Tues Jan 20. You may work with a group of as many as 4 students, submitting one quiz with all names, provided that you all contribute to the work. You may use your notes.

For questions 1 and 2, consider three students with the following quiz scores:
   - Barney: 0, 1, 1, 1, 2, 2, 2, 2, 2, 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 4, 5
   - Charlene: 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5

1. Which student has the smallest standard deviation? (Do not bother to calculate its value.)

2. Which student has the largest standard deviation? (Do not bother to calculate its value.)

3. What effect does adding 5 to every value in a dataset have on the standard deviation? Explain your answer.

4. What effect does doubling every value in a dataset have on the IQR? Explain your answer.

5. Create a hypothetical example of 10 exam scores (between 0 and 100) with the properties that the inter-quartile range equals 0 and the standard deviation does not equal zero.