SOC 4930/5050: Lab-03 - Anscombe's Quartet

Christopher Prener, Ph.D.

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Directions

Complete all of the following questions. Your answers "by hand" should be scanned and submitted as a `pdf` *image along with your well-formatted R Notebook source (the* `.Rmd` *file) and* `html` *output for Part 2. This assignment should be uploaded to your Assignments Repository by 4:15PM on Monday, September 18th, 2017.*

Part 1: Descriptive Statistics by Hand

Anscombe's Quartet

Dataset 1		Dataset 2		Dataset 3		Dataset 4	
x_1	y_1	x_2	y_2	x_3	y_3	x_4	y_4
10.0	8.04	10.0	9.14	10.0	7.46	8.0	6.58
8.0	6.95	8.0	8.14	8.0	6.77	8.0	5.76
13.0	7.58	13.0	8.74	13.0	12.74	8.0	7.71
9.0	8.81	9.0	8.77	9.0	7.11	8.0	8.84
11.0	8.33	11.0	9.26	11.0	7.81	8.0	8.47
14.0	9.96	14.0	8.10	14.0	8.84	8.0	7.04
6.0	7.24	6.0	6.13	6.0	6.08	8.0	5.25
4.0	4.26	4.0	3.10	4.0	5.39	19.0	12.50
12.0	10.84	12.0	9.13	12.0	8.15	8.0	5.56
7.0	4.82	7.0	7.26	7.0	6.42	8.0	7.91
5.0	5.68	5.0	4.74	5.0	5.73	8.0	6.89

For your given x and y vectors:

1. Calculate the median
2. Calculate the mean
3. Calculate the standard deviation
4. Calculate the range
5. Calculate the inter-quartile range

Part 2: Descriptive Statistics in R

Use the `anscombe` data frame saved in the `datasets` package to produce the following calculations for your given x and y vectors:.

6. Calculate the median
7. Calculate the mean
8. Calculate the standard deviation
9. Calculate the range
10. Calculate the inter-quartile range
11. Produce a summary statistics table

Use the `mtcars` data frame saved in the `datasets` package to produce the following:

12. Produce a standard frequency table for the variable `gear`
13. Produce a proportional table `gear`
14. Calculate the mean of the variable `mpg`