ps2 basic statistics (due in 2 weeks)

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1. Dropout rate is a serious problem. Professor X hypothesizes that counselling not only helps at the university level (`https://www.nytimes.com/2014/05/18/magazine/who-gets-to-graduate.html?_r=0`), but also at primary and secondary levels. She gathered the follwing data:

school name	dropout rate (perc)	avg hrs counselling per pupil per week
fabulous haddonfield	2	3
average deptford	10	2
average glassboro	7	2
average blackwood	10	2
gritty camden	70	0

   (a) Compute the mean, median, and mode of dropout rate–which measure describes the data best? Explain.

   (b) **covered next week:** Do a scatterplot (can do it by hand or using software), what do you conclude? Do you find evidence to support professor's X hypothesis? **BONUS: calculate correlation**

2. Taking into account comfort and degree of luxury, there are many transportation options, but for sake of argument, let's assume that for a particular journey there are 3 options ranging from least comfortable/luxurious to most: Greyhound, Spirit Airlines, and United Airlines. Number of compliments and complains are one way to asses customer experience. Researchers have gathered some data:

   100 people traveled on Greyhound, 75 people complained, and only 5 complimented. 500 people traveled on Spirit, no one complained, neither complimented. Astonishing 1,000 people complained about United Airlines, and only 100 complimented. At the same time, United had many travellers: 2,000.

   Based on these data, do you find support for a hypothesis that the more comfort/luxury, the better the consumer experience? Again, as always, show your work.

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general directions (always the same):

- ps is due in Sakai's dropbox by the beginning of the class
- keep it short; max: 5 single spaced pages; typically way less, say 1 or 2
- if you are stuck, email listserv early! also can email listserv if you want some feedback and make sure you are on the right track, etc
- show your work, a "naked" number won't do! unless indicated otherwise, always do calculations by hand
- likewise, numbers should be interpreted–we are not only interested in calculating values of interest, but we are interested in their meaning! whenever you calculate your final quantity if interest, interpret it!
- if your handwriting is bad, please type
- i may want to discuss your assignment in class, which should be beneficial to you and give you more feedback; if however, you'd like to keep it private, let me know!