SOC 4015/5050: Lab 09 - Correlations By Hand

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Directions

Please complete all steps below. Your your work "by hand" should be uploaded to your GitHub assignment repository by 4:15pm on Monday, November 5th, 2017.

Correlation by Hand

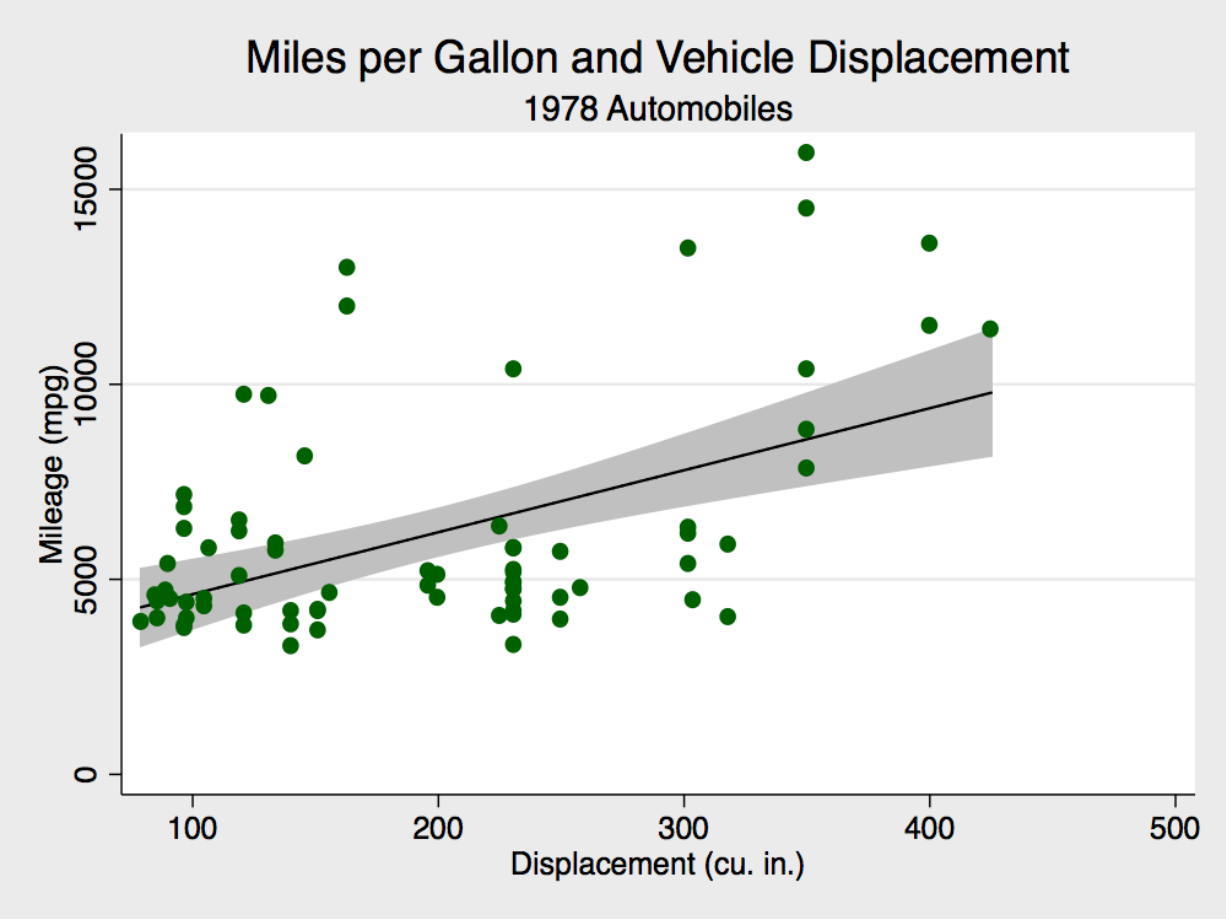
2010 Missouri Congressional Election Results

District	Population	Winner	Party	Incumbent	Turnout
1	587,000	Clay	1	1	184,779
2	706,600	Akin	0	1	265,632
3	625,300	Carnahan	1	1	203,085
4	680,000	Hartzler	0	0	225,056
5	634,000	Cleaver	1	1	191,423
6	700,000	Graves	0	1	221,912
7	722,000	Long	0	0	222,431
8	657,000	Emerson	0	1	195,999
9	683,000	Luetkemeyer	0	1	210,358

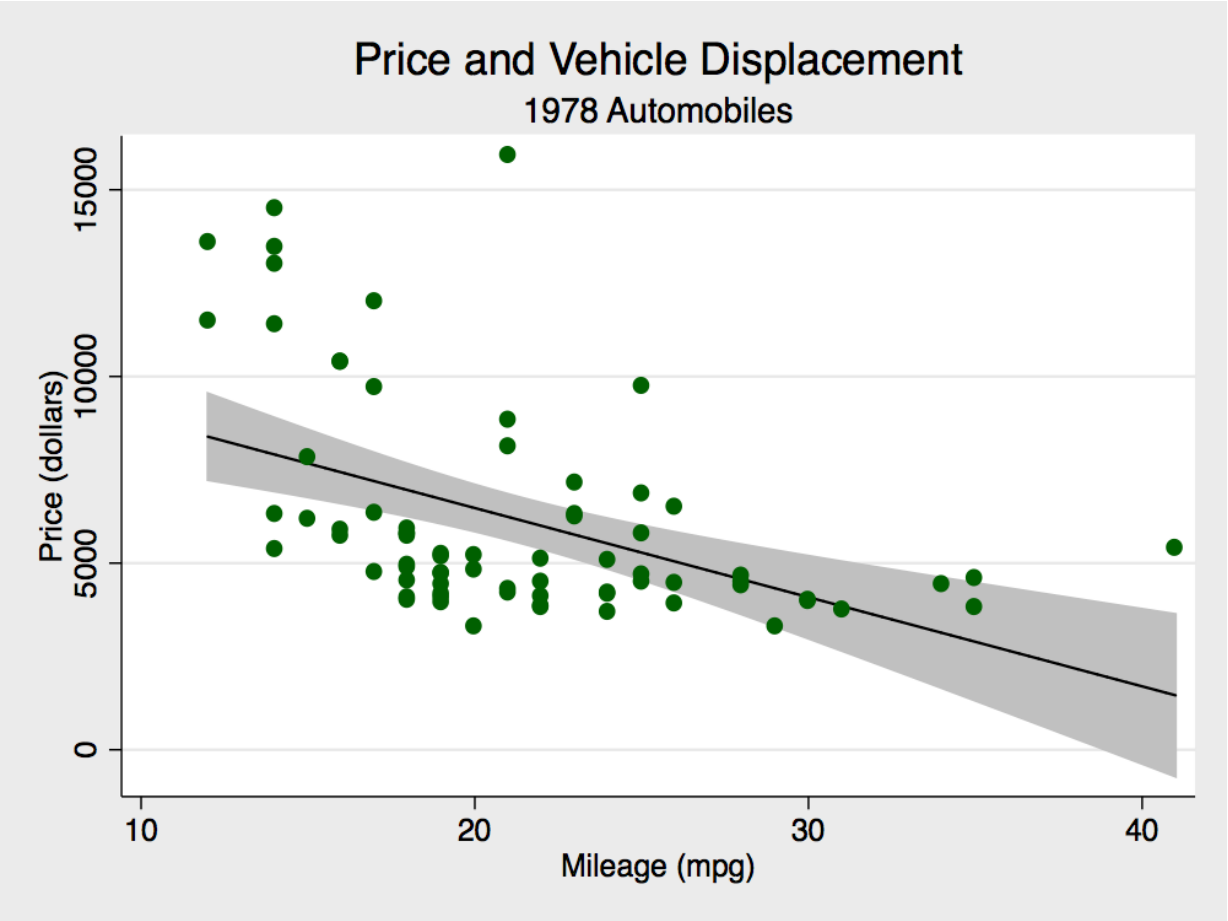
Notes: Party value labels are 0 = Republican and 1 = Democrat; Incumbent value labels are 0 = No and 1 = Yes

1. Calculate and fully interpret (including r^2) the correlation between population and turnout in the table above. Does turnout appear to follow population size?
2. Calculate and fully interpret (including r^2) the correlation between party and turnout in the table above. Are raw numbers of voters associated with turning out for races in which Democrats are the winners?
3. Calculate and fully interpret (including r^2) the correlation between incumbency and turnout in the table above. Are raw numbers of voters associated with incumbency?

Interpreting Scatterplots



4. Interpret the scatterplot above. What do you think the direction and strength of the associated correlation coefficient are? Does the "trend line" appear to be a good model for the data?



5. Interpret the scatterplot above. What do you think the direction and strength of the associated correlation coefficient are? Does the "trend line" appear to be a good model for the data?