SOC 4930/5050: Lab-12 - Bivarite Regression

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Directions

Please complete all steps below. Your your well formatted R Notebook (`.Rmd` file) and `html` output should be uploaded to your GitHub assignment repository by 4:15pm on Monday, November 20th, 2017. Use the `auto17` data from `testDriveR` for both models.

Regression Model 1

1. Construct a dissemination ready scatter plot of the relationship between fuel cost (`fuelCost`) and engine size (`displ`). Include a linear regression line on the plot and color the points based on the number of gears (`gears`).
2. Construct a hypothesis and null hypothesis for the relationship between fuel cost (`fuelCost`) and engine size (`displ`).
3. Construct a regression equation modeling how `displ` affects `fuelCost` using LaTeX syntax.
4. Execute a bivariate regression model that shows how `displ` affects `fuelCost`. For this model, do not use robust standard errors. Fully interpret the results of this model.

Regression Model 2

5. Construct a hypothesis and null hypothesis for the relationship between fuel cost (`fuelCost`) and highway fuel efficiency (`hwyFE`).
6. Construct a dissemination ready scatter plot of the relationship between fuel cost (`fuelCost`) and highway fuel efficiency (`hwyFE`). Include a linear regression line on the plot and color the points based on the number of cylinders (`cyl`).
7. Construct a regression equation modeling how `hwyFE` affects `fuelCost` using LaTeX syntax.
8. Execute a bivariate regression model that shows how `hwyFE` affects `fuelCost`. For this model, do not use robust standard errors. Fully interpret the results of this model.