Recitation week 3-4

Scatterplot, correlation, regression

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- Which are the categorical variables?

- Which are the numeric variables, their means etc... => column statistics

The data

mpg - Miles per Gallon

cyl - # of cylinders

disp - displacement, in cubic inches; expression of an engine's size indicator of the power an engine might be capable of producing

hp - horsepower

drat - driveshaft ratio

wt - weight

qsec - 1/4 mile time; a measure of acceleration

vs - 'V' or straight - engine shape

am - transmission; auto or manual

gear - # of gears

carb - # of carburetors.

Mtcars

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  - Add a linear trend line; show equation and R^2.

Mtcars

- Which cars are more fuel efficient; heavier or lighter cars?

  - Calculate the correlation coefficient.

  - Plot, comment

Economics

- Do a time series plot of unemployment

- Do a time series plot of population

- Is there a relationship between population and unemployment?

Msleep

- Do mammals with bigger brain sleep more?

    - Correlation, scatterplot, trendline (which is better; linear or exponential?)

- What about heavier animals? Do they sleep more?

    - Correlation, scatterplot, trendline (which is better; linear or exponential?)

column name	Description
name	common name
genus	taxonomic rank
vore	carnivore, omnivore or herbivore?
order	taxonomic rank
conservation	the conservation status of the mammal
sleep_total	total amount of sleep, in hours
sleep_rem	rem sleep, in hours
sleep_cycle	length of sleep cycle, in hours
awake	amount of time spent awake, in hours
brainwt	brain weight in kilograms
bodywt	body weight in kilograms