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# chapter 6 Data Cleaning and Plotting Lab A
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# 12/26/2017

## Download the "Real Property Taxes" Data from my website (via
OpenBaltimore):
## note you don't need to unzip it to read it into R

# 1. Read the Property Tax data into R and call it the variable `tax`

# 2. How many addresses pay property taxes?

# 3. What is the total city and state tax paid?

# 4. What is the 75th percentile of city and state tax paid by ward?

# 5. Split the data by ward into a list:

# Using `tapply()` and `table()`
#     a. how many observations are in each ward?

#     b. what is the mean state tax per ward

#     c. what is the maximum amount still due?

# 6. Make boxplots using base graphics showing cityTax
#     by whether the property is a principal residence or not.

# 7. Subset the data to only retain those houses that are principal
residences.
#     a) How many such houses are there?

#     b) Describe the distribution of property taxes on these
residences.

# 8. Convert the 'lotSize' variable to a numeric square feet variable.
#     Tips: - Assume hyphens represent decimal places within
measurements.
#           - 1 acre = 43560 square feet
#           - The hyphens represent inches (not decimals)
#           - Don't spend more than 5-10 minutes on this; stop and
move on

# 9.a) Plot your numeric lotSize versus cityTax on principal residences.
#     b) How many values of lot size were missing?

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## Read in the Salary FY2015 dataset

# Baltimore_City_Employee_Salaries_FY2015.csv

# 10. Make an object called health.sal using the salaries data set,
#     with only agencies of those with "fire" (or any forms), if
any, in the name
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# 11. Make a data set called trans which contains only agencies that
contain "TRANS".

# 12. What is/are the profession(s) of people who have "abra" in their
name for Baltimore's Salaries?

# 13. What is the distribution of annual salaries look like? What is the
IQR?

# 14. Convert HireDate to the `Date` class - plot Annual Salary vs Hire
Date

# 15. Plot annual salary versus hire date.
#           Hint: first convert to numeric and date respectively

# 16. Create a smaller dataset that only includes the
#       Police Department, Fire Department and Sheriff's Office.
#   a. How many employees are in this new dataset?

# 17. Replot annual salary versus hire date, color by Agency using base
plotting
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