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#####
# chapter 5, Summarization and Graphics
# 12/26/2017
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# Bike Lanes Dataset: BikeBaltimore is the Department of Transportation's bike program.
# https://data.baltimorecity.gov/Transportation/Bike-Lanes/xzfv-gyms
# Download as a CSV (like the Monuments dataset) in your current working directory

bike = read.csv("Bike_Lanes.csv",
               as.is=TRUE, na.strings=" ")
bike$type[bike$type==" "] = NA # OR do this

# 1. How many bike "lanes" are currently in Baltimore?
# You can assume each observation/row is a different bike "lane"

# 2. How many (a) feet and (b) miles of bike "lanes" are currently in Baltimore?

# 3. How many types of bike lanes are there? Which type has
# (a) the most number of and (b) longest average bike lane length?

tapply(bike$length, bike$type, mean, na.rm=TRUE)

# 4. How many different projects do the "bike" lanes fall into?
# Which project category has the longest average bike lane?
#use tapply

# 5. What was the average bike lane length per year that they were installed?
#use
bike$dateInstalled[bike$dateInstalled == "0"] = NA
#use tapply

# 6. (a) Numerically [hint: `quantile()`] and
# (b) graphically [hint: `hist()` or `plot(density())`]
# describe the distribution of bike "lane" lengths.

# 7. Then describe as above, after stratifying by
# i) type then ii) number of lanes

boxplot(bike$length~bike$type)
#use boxplot

#use tapply
```