

1. What is the unit of observation in the data frame in the slides?
2. Come up with four questions that can be posed using the variables in this dataset:
  - One that can be answered via a summary
  - One that can be answered via a generalization
  - One that can be answered via a prediction
  - One that can be answered via a causal claim.
3. Name a variable which has an ambiguous (could be numerical or categorical) type to you. Then, sketch *two* visualizations of this plot: one where the variable is treated numerically, and one where the variable is being treated categorically. In each plot:
  - depict a shape which reflects *your expectation* of the phenomenon;
  - label your axes and provide a title.
4. What is your guess for the units/format used to record the departure time? Said another way, what would a value of 1517 represent?

5. What filter would you use to extract the flights that left in the springtime destined for Portland, Oregon? Draw a sketch of this smaller data frame showing at least the columns used in the filter.
6. What mutation would you use to create a column that records **TRUE** for flights leaving during or after March 2020 and **FALSE** otherwise?
7. What mutation would you use to create a column that records the average speed of a plane during its flight, in miles per hour? *Hint: think about the units of the variables needed to complete this mutation, and perform any unit conversion that is necessary.*
8. Provide one **dplyr** pipeline that calculates the mean departure delay for Oakland and San Francisco Airports. Provide a sketch of the resulting data structure with correct dimensions.