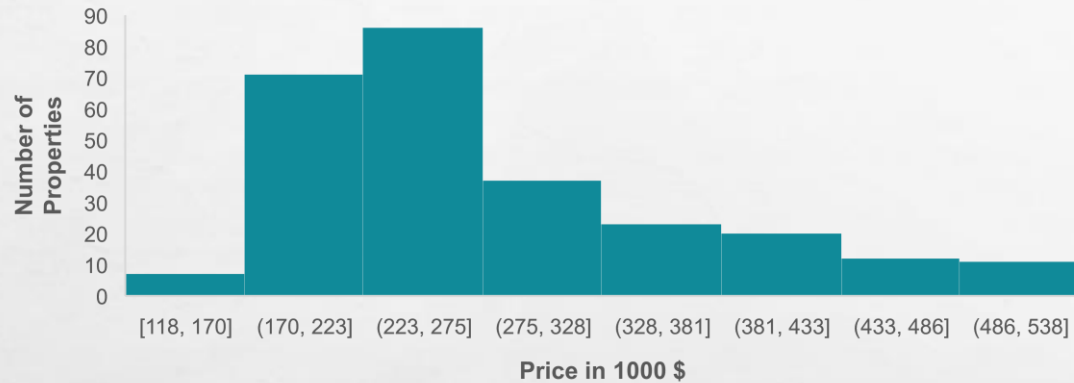


365  DataScience

HISTOGRAM 

Histogram

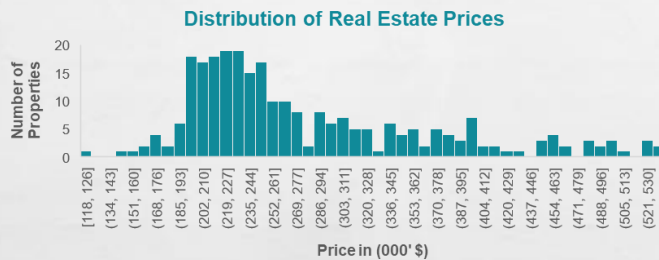
Histogram of Real Estate Prices



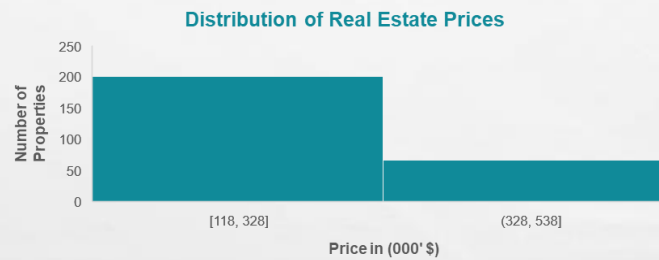
- **DISTRIBUTION OF A NUMERIC VARIABLE**
- **THE VARIABLE'S RANGE OF VALUES IS SPLIT INTO INTERVALS OR BINS**
- **Y-AXIS – NUMBER OF OBSERVATIONS WITHIN EACH INTERVAL (OR DENSITY)**

- **SIMILAR TO A BAR CHART, NO GAP BETWEEN BINS**
- **TO CREATE A HISTOGRAM**
 - **DETERMINE THE INTERVAL SIZE**
 - **CHOOSE THE NUMBER OF BINS**

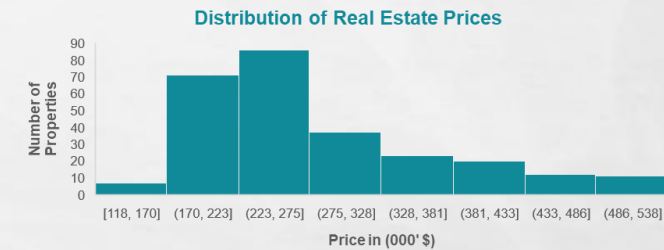
CHOOSING THE NUMBER OF BINS



**START WITH A VERY LARGE NUMBER TO
OBSERVE THE DATA PATTERN**



REDUCE THE NUMBER



**CHOOSE SEVERAL BINS, SUCH THAT THE
PATTERN IN THE DATA IS VISIBLE**

**There are scientific approaches, however, they are not often used in practice.
The reason is that real data has noise, is discrete, etc.**

Scott's rule - $3.49\sigma n^{-1/3}$

Sturge's Rule - $K = 1 + 3.322 \log_N$

Doane's Rule - $\log_2(n) + 1 + \log_2(1 + \frac{\sqrt{b}}{\sigma\sqrt{b}})$

COLORS

CHOOSE 2-3 COLORS FOR YOUR CHART



PREDETERMINED

COMPANY COLORS

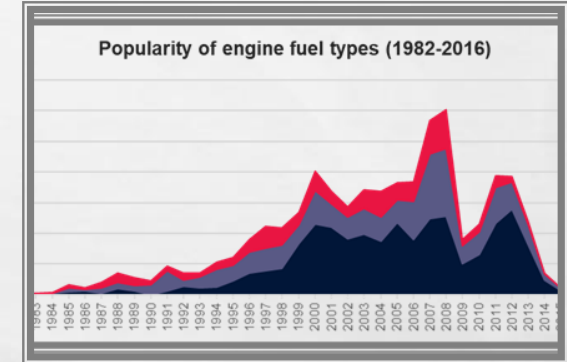
CLIENTS REQUEST SPECIFIC COLORS



ONLINE TOOLS

CREATE YOUR OWN CUSTOM PALETTE

WITH THE AID OF ONLINE TOOLS



OUR COLOR PALETTES

YOU CAN USE ANY OF OUR TEMPLATES

TO BUILD YOUR OWN GRAPHS AND CHARTS