Lab 1

Cindy J. Pang

Lab 1B, MWF 12:00-12:50pm

Week 1 – August 8, 2024

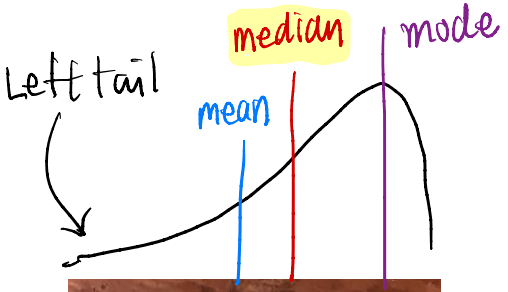
General Rule of Thumb: Skewed Distr → use median, Multiple modes → mode.
Symmetric → Mean

Describing a Distribution – Measures of Center

— mean → average of all values, $\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i$
— median → middle value, $x_1 \leq \ldots \leq x_n$
— mode → most common value

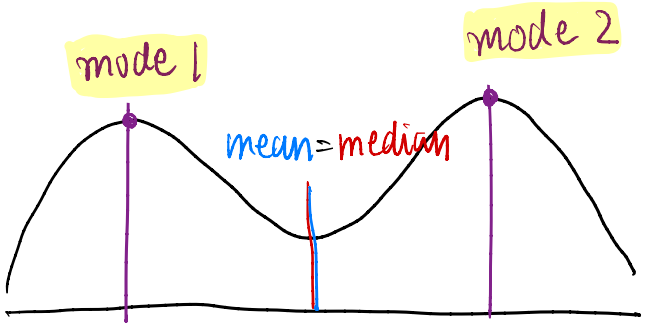
Left Skew Distribution

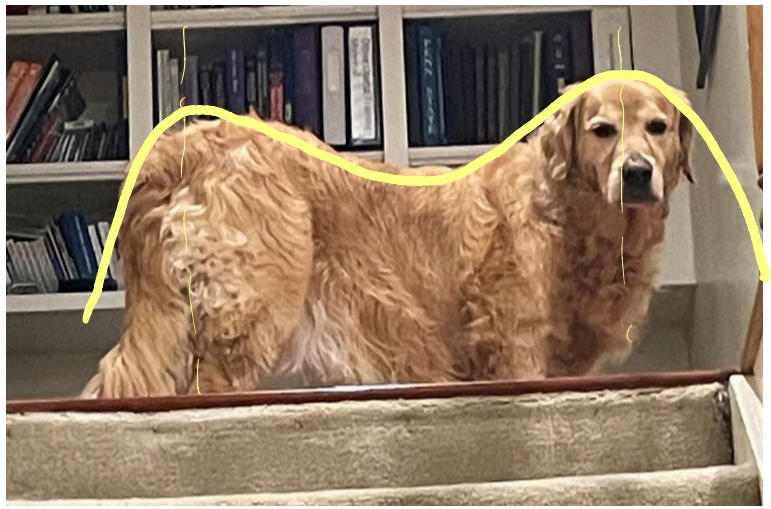
mean < median < mode



Left Foot

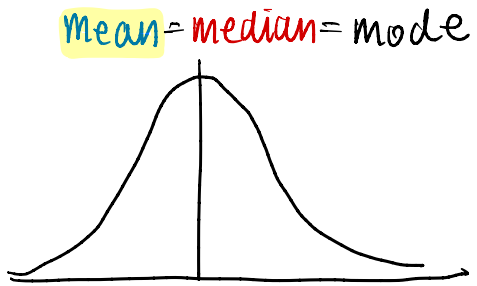
Bimodal Distribution

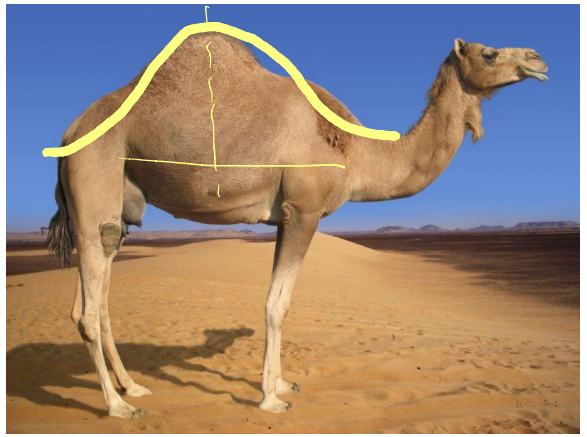




Bimodal Laken

Symmetric Distribution

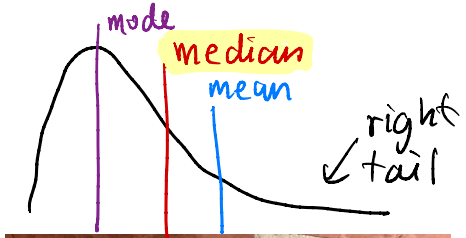




Symmetic Camel

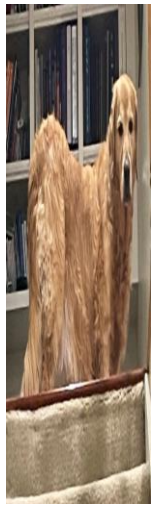
Right Skew Distribution

mean > median > mode



Right Foot

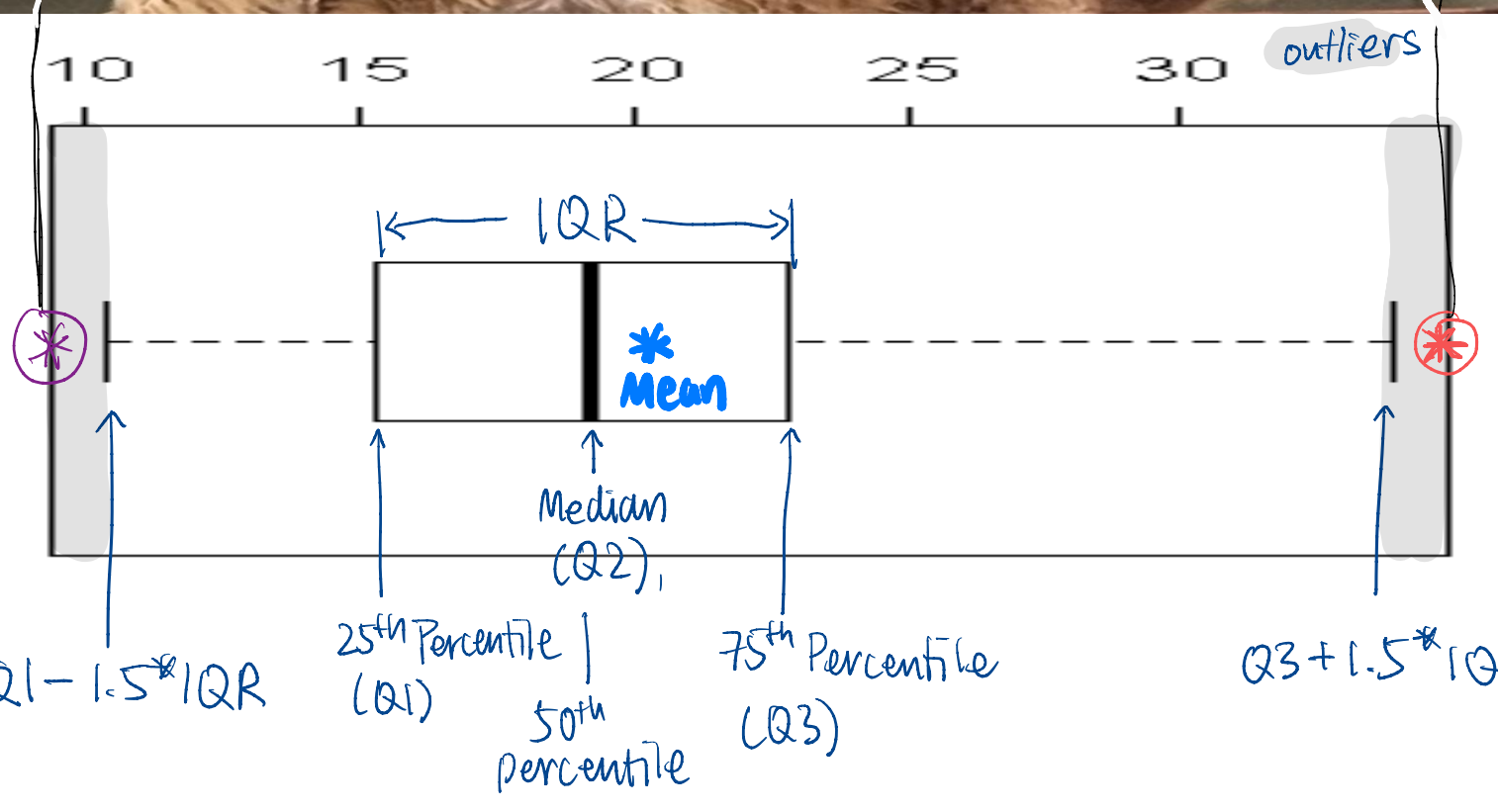
Describing a Distribution – Measures of Spread



Most Common Measures:

- Range = Max − Min
- Interquartile Range (IQR)
  = 75th Percentile (Q3) − 25th Percentile (Q1)
- Standard Deviation (sd)
- Variance

Q What is the range?



Stem & Leaf Plot

15, 16, 21, 23, 23, 31, 35, 39, 40, 41, 46, 55, 56

- another way to visualize your data as a "bar chart"
- allows you to see the distribution of the values
- Not commonly used.

Stem & Leaf Plot

15, 16, 21, 23, 23, 31, 35, 39, 40, 41, 46, 55, 56

1	5 6
2	1 3 3
3	1 5 9
4	0 1 6
5	5 6

Symmetric Distr.