MEAN: $\bar{x} = \frac{x_1 + x_2 + \cdots + x_n}{n} = \frac{1}{n}\sum_{i=1}^{n} x_i$

Std Dev. $\sigma = \sqrt{\frac{\sum_{i=1}^{n}(x_i - \bar{x})^2}{n-1}}$ Bessel's Correction

$n-1$ ↑ degrees of freedom

$$\min_m \left(|x_1 - m| + |x_2 - m| + \cdots + |x_n - m| \right)$$

$$\min_m \left\{ |10-m| + |15-m| + |16-m| + |22-m| + |18-m| \right\}$$

↖ median Pick the middle one

$$\min_{\bar{x}} \left\{ (10-\bar{x})^2 + (15-\bar{x})^2 + (16-\bar{x})^2 + (22-\bar{x})^2 + (18-\bar{x})^2 \right\}$$

↖ mean

$$\bar{x} = \frac{1}{n} \sum_{i=1}^{n} x_i$$

$$\sigma^2 = \frac{\sum_{i=1}^{n} (x_i - \bar{x})^2}{n}$$

L_1-stats

Mean Absolute Deviation (MAD)

$$MAD = \frac{\sum_{i=1}^{n} |x_i - m|}{n}$$

10, 15, 16, 22, 18

$m = 16$

$$= \frac{|10-16| + |15-16| + |16-16| + |22-16| + |18-16|}{5}$$

$$= \frac{6 + 1 + 0 + 6 + 2}{5-1}$$