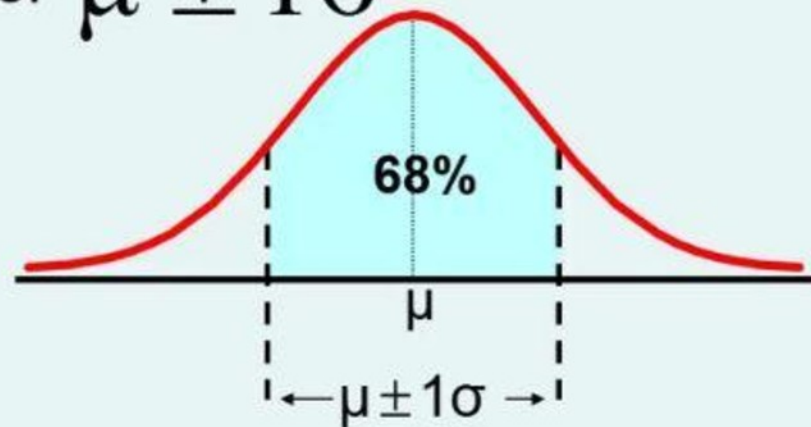


# Empirical Rule

# The Empirical Rule

- The empirical rule approximates the variation of data in a bell-shaped distribution
- Approximately **68%** of the data in a bell shaped distribution is within 1 standard deviation of the mean or  $\mu \pm 1\sigma$



# The Empirical Rule

- Approximately **95%** of the data in a bell-shaped distribution lies within two standard deviations of the mean, or  **$\mu \pm 2\sigma$**
- Approximately **99.7%** of the data in a bell-shaped distribution lies within three standard deviations of the mean, or  **$\mu \pm 3\sigma$**

