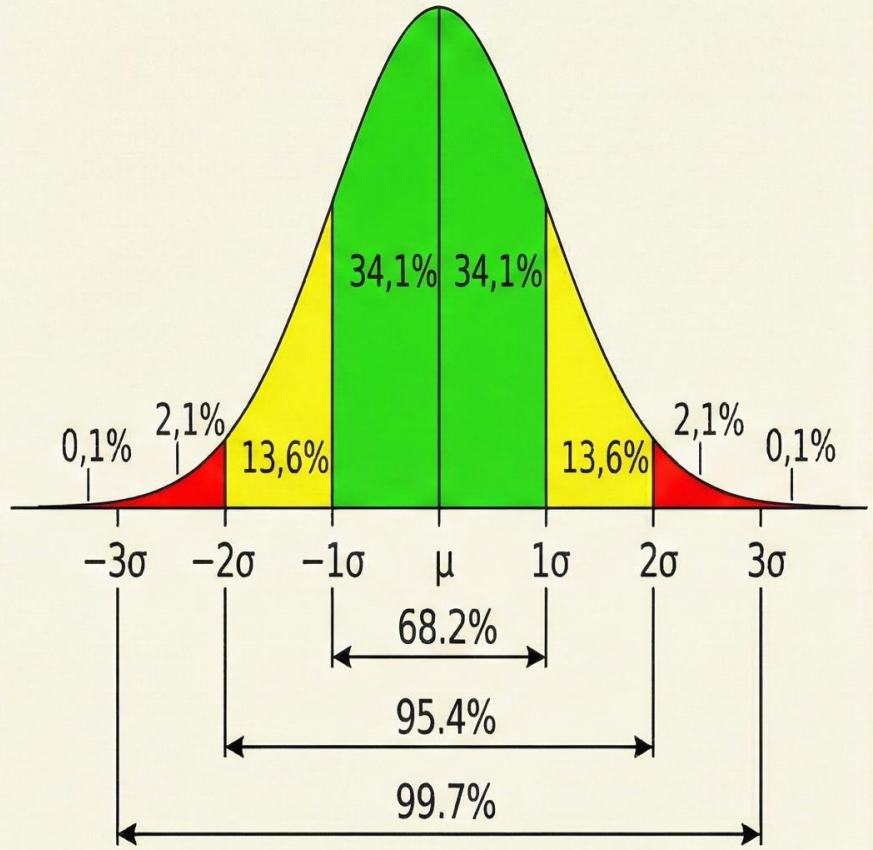
UNDERSTANDING THE NORMAL DISTRIBUTION

KEY CONCEPTS

- A Normal Distribution is a bell-shaped curve used to show how data is spread.
- The center of the curve is the mean (μ) — most values fall near this point.
- The curve is symmetrical — the left and right sides look the same.
- In a normal distribution, data is spread using standard deviations (σ).
- Areas under the curve show probabilities — center area is largest, meaning most values occur there.



EMPIRICAL RULE & INTERPRETATION

- 68.2% of the data lies within ±1σ of the mean.
- 95.4% of the data lies within ±2σ of the mean.
- 99.7% of the data lies within ±3σ of the mean.
- 34.1% + 34.1% = 68.2% is the middle green region (most common values).
- Small percentages (2.1%, 0.1%) on the far sides represent rare/extreme values.