🎯 Statistics for Data Science – Full Roadmap

💙 1. Basics of Statistics

- What is Statistics?
- Population vs Sample
- Data Types → Numerical, Categorical, Ordinal
- Scales of Measurement → Nominal, Ordinal, Interval, Ratio
- Descriptive vs Inferential Statistics

💙 2. Data Collection & Visualization

- Methods of Data Collection
- Frequency Distribution
- Graphical Representations:
  - Histogram
  - Bar Chart
  - Pie Chart
  - Box Plot
  - Scatter Plot

💜 3. Descriptive Statistics

- Mean, Median, Mode
- Range, Variance, Standard Deviation
- Coefficient of Variation (CV)
- Percentile & Quartile
- Interquartile Range (IQR)
- Skewness & Kurtosis (Shape of data)

💚 4. Probability Basics

- Probability Rules (Addition, Multiplication)
- Conditional Probability
- Independent vs Dependent Events
- Bayes' Theorem

- Random Variables (Discrete, Continuous)
- Probability Distributions

💛 **5. Probability Distributions (Very Important for Data Science)**

- Uniform Distribution
- Bernoulli Distribution
- Binomial Distribution
- Poisson Distribution
- Normal Distribution (bell curve)
- Standard Normal (Z-score)
- Exponential Distribution