**Part 1. Applied Statistics**

1. **Basic Statistical Notions:**
   1. Population
   2. Sample
   3. Types of data: discrete, continuous, categorical
   4. Mean (Descriptive statistics)
   5. Variance (Descriptive statistics)
2. **Mean (Measures of central tendency):**
   1. *Type of Means* 
      1. [Arithmetic Mean (AM)](https://en.wikipedia.org/wiki/Mean#Arithmetic_mean_(AM))
      2. Geometric Mean (GM)
      3. [Harmonic mean (HM)](https://en.wikipedia.org/wiki/Mean#Harmonic_mean_(HM))
   2. *Mean Derivatives*:
      1. Mode
      2. Median
      3. Relation of Mean, Mode and Median.
3. **Outliers and visualization**
   1. Outliers
   2. Quartiles, percentiles
   3. Box-and-whisky plot
4. **Variance (Measures of deviation)**
   1. Variance deviation (R)
   2. Standard deviation
   3. Variance indicators:
      1. Oscillator ratio
      2. Variance ratio
5. **Impact of Grouping Towards Mean and Variance**
6. **Correlation and dependence of variables**
   1. Covariance
   2. Correlation
   3. Application of Covariance and Correlation

**Part 2 Probability and Distributions**

1. **Law of large numbers:**
   1. Chebyshev’s Theorem (Expected Value vs. Mean)
   2. Bernoulli’s Theorem (Probability vs. Frequentist Probability)
   3. Sample