SESSION PLAN

Session Name	Summarizing Data with Statistics

Learning Outcomes

- Learn different types of data
- Summarize the data visually
- Calculate different characteristics of data like central tendency, dispersion and distribution
- Identify relationships between variables

Prerequisites for the Student

- Summarizing Data with Statistics - Go through the concept and solve the tasks and assessments.

Student Activities

- Discuss with the Mentor what you have learned.
- Overview of Summarizing Data with Statistics
    - Measures of Central Tendency
    - Measures of Dispersion
    - Distribution of Data
    - Correlation
- Philip takes four tests and scores the following marks. 42, 38, 45, 40
    - First, tell them to write code using formula.
    - Write a code to calculate his median and mean scores.
    - If he scores 45 in his next test, does his mean score increase or decrease? Find his new mean score.
    - Which has increased by greater percent, his mean score or his median score?
    - Determine the mean and median, if he scores 72 in his next test(i.e add an outlier 72). Describe the effect the outlier has on the mean and median?
- Find the mode for 8,6,2,4,6,8,10,6 ?
- Analyze the performance of your class in the first Cohort taken at GreyAtom
  Scores: 11, 7.5, 8.5, 10, 10, 10.5, 5.5, 10, 9, 9.5, 5.25, 8, 6.5, 10.5, 8.75, 0, 6, 6, 6.75, 8.75, 0, 9.5, 7.5, 8.5, 7
    - How is the spread of the scores? Calculate Range, Mean Absolute Deviation, Standard Deviation
    - Find the 25th percentile, 50th percentile and 75 percentile for this data.
- Practice problems on Measures of Central Tendency, Measures of Dispersion, Distribution of Data, Correlation.
    - Refer the GitHub repo for problems
- Quiz on Summarizing Data with Statistics.
- Questions and Discussion on doubts - AMA

Next Session

- Concept - Introduction to Probability.
- Key topics to be highlighted - highlight where they would need to spend more time and importance w.r.t Data Science.
    - Motivation for Probability
    - Terminology of Probability
    - Conditional Probability
    - Bayes theorem
    - Probability Distributions