Classroom Activity-4

Real-Life Data Analysis Challenge

Gamification

Objective:

Students will collect real-life data based on a topic of their choice and use statistical methods to analyze it. They will compute **Frequency, $p(x) = \frac{f}{\sum f}$, Normal Distribution, Graph of normal distribution.**

Instructions:

1. Choose a Real-Life Data Set:

- The data should be related to real-world scenarios.
  Examples:
- Heights vs. Shoe Sizes of Family Members
- Daily Study Hours vs. Exam Scores
- Monthly Expenses vs. Monthly Savings
- Temperature vs. Electricity Bill
- Number of Steps Walked vs. Calories Burned
- If a student wants to choose the data of their own choices then they must first convey the idea and data with the class teacher for its significance.

Collect Data (Minimum 30 Observations):

- Gather at least 30 data points related to the chosen topic.
- Ensure data is recorded accurately in a tabular format

Perform the Following Statistical Calculations:

- Frequency
- Probability using frequency $\boldsymbol{p(x) = \frac{f}{\sum f}}$
- Normal distribution
- Graph of normal Distribution with respect to the bin data (It should be of bell shaped)

Expected Learning Outcomes:

- Understand how statistics applies to real-life scenarios.
- Learn to calculate and interpret key statistical measures.

- Develop analytical and presentation skills.