RED & WHITE SINCE2008
SKILL EDUCATION
SHAPING SKILLS FOR SCALING HIGHER...!!!

Title: Analyzing Income Distribution and Household Demographics
Duration: 4 Hours
Type: Theory + Practical

🎯 Objective:

You are a data analyst working for a socio-economic research organization. Your task is to analyze a dataset containing information about household demographics, incomes, and education levels. Through this project, you will explore types of data, apply statistical concepts, calculate descriptive statistics, and analyze distribution properties including skewness and kurtosis.

🧩 Dataset Structure (Generate from an AI Tool)

The dataset should contain at least **150+ records** with the following columns:

Column Name	Data Type	Description
Household_ID	Categorical	Unique household identifier
Age_of_Household_Head	Numerical	Age of the head of household
Household_Income	Numerical	Monthly income in local currency
Education_Level	Categorical	Primary / Secondary / Graduate / Post-Grad
Family_Size	Numerical	Total number of family members
Owns_House	Categorical	Yes / No
Urban_Rural	Categorical	Urban or Rural

📌 Task Checklist

- Use visualization (boxplot, histogram) to compare household income across different education levels or urban/rural areas.

📈 Visualizations

- Histogram and KDE (Kernel Density Estimation) plot
- Boxplot comparing Family Size by Education Level
- Distribution Curve for Age vs. Income

✅ Submission Guidelines

- Include practical implementation in a Jupyter Notebook, Excel/Sheets, or screenshots.
- Label all charts clearly and write short interpretations under each result.
- **GitHub Repository**:
  - Create a GitHub repository to host your project.
  - Upload your project files, including source code, and documentation to the repository.
  - Add a document (PDF) explaining theory concepts with definitions.
  - Ensure that you provide a clear and descriptive README.md file.

Remember to follow the instructions provided professionally, make suitable assumptions wherever necessary, and avoid copying code or content from unauthorized sources. Good luck with your project work!

Fundamental Booster
Mathematics & Advanced Statistics

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