Data Analysis and Visualization Project Report

Project Title: Data Cleaning, Analysis, and Dashboard Creation for Naukri.com Dataset

Objective:

The main goal of this project was to analyse the Naukri.com dataset by performing data cleaning, mathematical operations, visualization, and dashboard creation to extract meaningful insights.

Project Workflow:

1. Data Cleaning (Using Pandas)

- Loaded the dataset using **Pandas**.

- Checked for missing values and handled them using appropriate techniques (e.g., filling with mean/median or dropping).

- Removed duplicate records to ensure data integrity.

- Standardized column names and corrected inconsistent data formats.

- Filtered out irrelevant data to make the dataset more precise.

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2. Mathematical Operations (Using NumPy & Pandas)

- Applied **NumPy** functions for statistical analysis (mean, median, mode, standard deviation).

- Used **Pandas** to group and aggregate data for better understanding.

- Performed custom calculations to derive new insights.

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3. Data Visualization (Using Matplotlib & Seaborn)

- Used **Matplotlib** for line charts, bar plots, and histograms to visualize trends.

- Applied **Seaborn** for heatmaps, box plots, and scatter plots to understand relationships between variables.

- Highlighted patterns and anomalies in job postings, salaries, and job demand.

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4. KPI Analysis (Using Seaborn & Matplotlib)

- Identified **Key Performance Indicators (KPIs)** like:

  - Top job categories with the highest postings.

  - Salary distribution trends.

  - Geographical distribution of jobs.

  - Demand for specific skills.

- Used **Seaborn** to create correlation heatmaps to analyze variable relationships.

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5. Dashboard Creation (Using Excel)

- Exported the cleaned and processed data to Excel.

- Used **Pivot Tables and Pivot Charts** to create dynamic summaries.

- Designed an interactive **dashboard** displaying key insights (e.g., job demand per city, salary trends).

Conclusion:

- Successfully **cleaned and structured** the dataset.

- Performed **statistical and mathematical operations** to extract key insights.

- Created **impactful visualizations** to showcase trends and patterns.

- Designed an **Excel dashboard** for easy interpretation of findings.

This project demonstrates proficiency in **data analysis, visualization, and reporting**, which can be useful for decision-making in job market trends.

Would you like me to add any additional details or specific insights?