NYC Restaurant Data Analysis Python Visualization Report

As part of the NYC Restaurant project, Python was used to transform MongoDB query results into **insightful visualizations**. After extracting and cleaning the data, Pandas and Seaborn/Matplotlib were leveraged to explore restaurant distribution, ratings, and cuisine trends.

Key Visual Insights

1. **Cuisine Popularity**
    a. A bar chart highlighted the most common cuisines across NYC.
    b. American, Chinese, and Italian cuisines dominated the restaurant landscape.
2. **Borough Distribution**
    a. A count plot showed the distribution of restaurants by borough.
    b. Manhattan had the highest concentration of restaurants, followed by Brooklyn and Queens.
3. **Grade & Rating Trends**
    a. Visualizations compared average inspection scores across cuisines.
    b. Higher inspection grades were generally linked with restaurants in Manhattan.
4. **Geospatial Perspective**
    a. Scatter plots mapped restaurant locations by latitude and longitude, giving a geographic sense of clustering in Manhattan's downtown core.

Tools & Libraries Used

- **Pandas** for data manipulation.
- **Seaborn & Matplotlib** for creating bar charts, count plots, and scatter plots.
- **PyMongo** for integrating MongoDB data into Python workflows.

Business Impact

These visualizations provided clear evidence of cuisine diversity, borough-based restaurant clustering, and quality distribution. The insights can guide investors, food delivery platforms, and health inspectors in **targeting specific neighborhoods or cuisines for business and policy decisions**.