Dingoo Logistics Internship Challenge

Dingoo, a fast-growing logistics company, is looking for interns with strong analytical and problem-solving skills to optimize daily delivery operations. Your mission, should you choose to accept it, is to analyze Dingoo's delivery dataset and help cluster daily deliveries into efficient routes for vans.

Your Tasks:

1. **Exploratory Data Analysis (EDA)**
    - Perform a simple analysis of the full dataset, visualizing key characteristics (e.g., distribution of deliveries by location, density maps, etc.).
    - Try to uncover interesting relationships within the data, even though the dataset is relatively small.
2. **Daily Delivery Simulation**
    - Randomly extract a sample of **200 to 300 deliveries** from the full dataset to simulate a typical day's operations.
3. **Clustering for Delivery Routes**
    - Group the simulated deliveries into **clusters of 20 to 30 points** that are geographically close together.
    - If it's not possible to strictly enforce the limit, create meaningful clusters that optimize delivery efficiency.
    - The maximum number of points per cluster should be a configurable parameter.

Dataset Overview:

You will work with a dataset containing the following columns:

- `postalCode` – Client's postal code
- `locality` – Client's city or locality
- `fullAddress` – Complete address of the client
- `Latitude` – GPS latitude of the delivery location
- `Longitude` – GPS longitude of the delivery location

Expectations:

- Use **Python** and **any relevant libraries** (Pandas, Matplotlib, Seaborn, Scikit-learn, etc.).
- Provide **clear visualizations** to support your analysis.
- Write clean and **well-documented code** that explains your approach.
- Implement **a flexible clustering method**, ensuring delivery points are grouped logically for efficient van routing.

Deliverables should be:

- the code which you can do either in python files or in jupyter notebooks

- A small report of your findings which can be a google docs
- Anything you find relevant to include

Are you ready to take on the challenge? 🚀