MoP — Using NLQ (Natural Language Query) in Power BI

Objective

To explore **Natural Language Query (NLQ)** capabilities in Power BI that allow users to ask questions in plain English without writing DAX or SQL and automatically generate visual insights.

Step-by-Step Procedure

Step 1: Import Your Dataset

1. Launch **Power BI Desktop**.
2. Click **Home -> Get Data -> Text/CSV**.
3. Browse and open the provided file:
   `telecom_kpi.csv`
   (Contains columns like customer_id, usage_gb, churn_flag, region, revenue_inr, etc.)
4. In the preview window, click **Load** to import it into Power BI.

Result:
The dataset appears in the Fields pane — ready for analysis.

Step 2: Access the Q&A (NLQ) Feature

1. Go to the **Insert** tab -> click **Q&A Visual**.
2. A text box will appear with the message:
   "Ask a question about your data."
3. This is where you can type questions in simple language (no coding).

Concept:
Power BI uses AI to interpret your words, map them to dataset columns, and auto-generate visuals.

Step 3: Try Your First Query

1. Click inside the Q&A box and type:
2. `Total calls_made in the dataset`
3. Press **Enter**.
4. Power BI automatically generates a **bar chart** showing churn counts or percentages across regions.

Observation:
The visualization type changes based on the kind of question - e.g., tables, pie charts, bar charts, or line graphs.

Step 4: Explore More Questions

Try additional queries like:

- `average usage_gb by region`
- average arpu_inr by region
- `Number of customers by contract_type`
- `Total calls_made in the dataset`

Tip:
Notice how Power BI chooses the best-fit visual (chart/table) for each query.
This shows how **NLQ converts business questions into analytics**.

Step 5: Add to Dashboard

1. When you find a visualization you like, click the **Pin icon** on the top right.
2. Choose **"New Dashboard" -> Name it Telecom Insights -> Pin**.

Result:
The visual is added to a shareable dashboard useful for reporting and team presentations.

Step 6: Observe the Intelligence

- Keep experimenting with questions.
- Power BI starts to "learn" the dataset as you interact.
- It begins to **auto-suggest phrases** or **predict question intent**.

Key Concept:
This adaptive learning helps Power BI recommend **relevant queries and visuals** automatically — similar to an AI assistant for data.

Learning Outcome

After completing this MoP, students will:

- Understand how NLQ bridges the gap between **data and decision-making**.
- Be able to **query and visualize data** using natural language.
- Know how to **pin visuals and build dashboards** in Power BI.
- Appreciate how **AI-driven analytics** simplifies complex queries.