Project Title:

Airline Data Management and Analysis Using Power BI

Problem Statement:

The airline industry operates with numerous complexities, requiring effective data management and insights into flight schedules, passenger details, and ticketing systems. This project aims to analyze airline operations for improving efficiency and customer satisfaction.

Datasets Used:
Flight_Information **Ticket_Information** **Passenger_Information**

1. **Flight Information:** Includes FlightID, FlightNumber, Airline, Destination, and Status.
2. **Passenger Information:** Includes PassengerID, FlightID, and SeatNumber.
3. **Ticket Information:** Includes TicketID, FlightID, and BookingStatus.

Objective:

To analyze and visualize airline data for operational insights, passenger management, and ticket booking trends using Power BI.

Tasks and Marks Distribution

1. Data Preparation and Cleaning (10 Marks)

- **Extract and transform data** in Power Query.
- Clean data: remove duplicates, handle missing values, and format columns.
- **Deliverables:** Screenshot of Power Query Editor showing cleaned data.

2. Data Modeling (10 Marks)

- **Create relationships** between datasets (FlightID as the key).
- Understand cardinality and configure the model appropriately.

- **Deliverables:** Screenshot of the data model with relationships.

3. Enhanced Data Insights (10 Marks)

- Add a **conditional column** to classify flights as "Best" or "To Be Improved" based on status.
- Use **"Column from Examples"** to extract the flight number from FlightNumber.
- **Deliverables:** Screenshot of the transformed data.

4. Calculations Using DAX (10 Marks)

- Calculate:
    - Total passengers for a specific flight.
    - Total tickets booked.
    - Filtered table showing "Best" flights only.
- **Deliverables:** Screenshot of DAX calculations and results.

5. Visualization and Interactive Features (20 Marks)

- Create visuals for:
    - Passenger count by airline.
    - Ticket booking statuses.
    - Flights by airline and destination.
- Add interactive features for:
    - Destination and Airline.
    - Quick views.
    - Airline-specific pages.
- **Deliverables:** Screenshots of all visuals and interactive features.

6. Final Dashboard and Power BI Service (20 Marks)

- Design a **comprehensive dashboard** with key visuals and insights.
- Configure **Row-Level Security (RLS)** for Airline A data and assign it to a user.
- Set up a **schedule refresh** at 5 PM daily.

- **Deliverables:** Screenshot of the published dashboard and RLS configuration.

Project Submission:

- The whole project should be submitted in a word file showing all tasks wherever with calculations, reporting features and dashboard with screenshots and the final submission should be in PDF file.

Video Submission (20 Marks)

- **Content:** 3-5 minute video explaining:
    - Introduction to the project.
    - Problem statement.
    - Key findings and insights.
- **Evaluation:** Video quality, clarity of explanation, and presentation.

Evaluation Criteria:

- Quality of analysis and visualizations.
- Clarity in explanations and insights.
- Adherence to instructions and deliverables.