Coding Challenge : Airline Flight Performance Analysis

An airline company wants to analyze flight performance and customer experience to reduce delays and improve service quality.

Dataset (Sample Fields)

- Flight_ID

- Date

- Airline

- Origin_Airport

- Destination_Airport

- Scheduled_Departure

- Actual_Departure

- Scheduled_Arrival

- Actual_Arrival

- Status (On-time, Delayed, Cancelled)

- Passengers

Tasks

1. Data Cleaning:

   o Convert time columns into datetime.

   o Create a new column **Delay_Minutes**

   o Handle missing or cancelled flights.

2. Analysis:

   o Find **top 5 busiest routes (Origin → Destination)** by passenger count.

   o Calculate **average delay per airline**.

   o Identify **the airport with the highest cancellations**.

   o Find **the month with maximum on-time performance**.

3. Visualizations:

   o Bar chart of **average delay by airline**.

   o Line chart of **monthly flight volumes**.

   o Heatmap of **origin vs destination flight counts**.