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**Project :** Flight Data Analysis (FDA)

**Project Objectives**

**Objective 1: Analyze Flight Performance and Trends**

1. What is the average delay time across all flights?

2. Which airline has the highest percentage of on-time flights?

3. Identify the top 5 most delayed routes in terms of average delay time.

4. Determine the total number of canceled flights for each airline.

5. What is the average journey time (scheduled and actual) for each route?

**Objective 2: Assess Airline and Route Efficiency**

6. Which airline operates the most number of flights?

7. Which routes have the shortest and longest scheduled journey times?

8. Calculate the percentage of delayed flights for each airline.

9. Identify the routes with the highest average delay minutes.

10. For each airline, calculate the average delay time per flight.

**Objective 3: Passenger and Traffic Insights**

11. Which airports had the highest total passengers boarding in 2023?

12. Identify the top 10 busiest routes based on the number of flights.

13. What is the average distance of flights departing from each airport?

14. For each city, calculate the total number of flights departing and arriving.

15. Which state has the highest number of originating flights?

**Objective 4: Weather Impact on Flights**

16. Analyze the correlation between precipitation levels and average delay minutes.

17. Identify the top 5 airports with the worst visibility conditions.

18. How does wind speed impact the average delay time at each airport?

19. For each weather condition (e.g., rain, fog), calculate the average delay time.

20. Determine the average delay time for flights under clear weather conditions.

**Objective 5: Cancellations Analysis**

21. What are the most common reasons for flight cancellations?

22. For each airline, calculate the percentage of flights canceled.

23. Which routes have the highest number of cancellations?

24. Determine the average scheduled and actual journey time for canceled flights.