US AIRLINE FLIGHT ROUTE & FARES ANALYSIS  
FIELDS TERMINOLOGY

**1. Year**

* **What it means**: This column shows the **year** (e.g., 2020, 2021) when the flight data was recorded.
* **Why it's useful**: You can analyze trends over time like passenger growth, fare changes, or airline performance by year.

**2. Quarter**

* **What it means**: Shows the **quarter of the year** (1 to 4) — each quarter represents three months:
  + Q1 = Jan–Mar
  + Q2 = Apr–Jun
  + Q3 = Jul–Sep
  + Q4 = Oct–Dec
* **Why it's useful**: Helps identify **seasonal travel patterns**, like more flights during summer or holidays.

**3. citymarketid\_1**

* **What it means**: This is a unique numerical **ID for the origin city market**.
* **Why it's useful**: Some cities have multiple airports (e.g., New York has JFK and LGA). This ID groups them under a single city market.

**4. citymarketid\_2**

* **What it means**: Unique ID for the **destination city market** (same purpose as above, but for arrival city).
* **Why it's useful**: Helps in city-to-city level analysis, regardless of which airport was used.

**5. city1**

* **What it means**: **Name of the departure/origin city** (e.g., Chicago, Atlanta).
* **Why it's useful**: Human-readable and helpful for creating charts or filters in dashboards.

**6. city2**

* **What it means**: **Name of the arrival/destination city**.
* **Why it's useful**: Same as city1, but for destination — used in route analysis.

**7. airportid\_1**

* **What it means**: Unique ID for the **departure airport**.
* **Why it's useful**: Identifies the specific airport within a city — useful for airport-level performance analysis.

**8. airportid\_2**

* **What it means**: Unique ID for the **arrival airport**.
* **Why it's useful**: Same as airportid\_1, but for destination — important for detailed routing analysis.

**9. airport\_1**

* **What it means**: The **airport code or name** of the origin airport (e.g., JFK for New York, LAX for Los Angeles).
* **Why it's useful**: Helps in route visualizations and maps. Easier to read than numerical airport ID.

**10. airport\_2**

* **What it means**: Airport code or name of the destination airport.
* **Why it's useful**: Same as above, but for arrival airport.

**11. nsmiles**

* **What it means**: The distance in **nautical miles** between the two airports.
* **Why it's useful**: Used to calculate travel distance, cost per mile, and flight efficiency.

**12. passengers**

* **What it means**: The **total number of passengers** who traveled on that route in the given year and quarter.
* **Why it's useful**: This is a **key measure of demand** — useful to compare popularity of routes or carriers.

**13. fare**

* **What it means**: The **average ticket price** (fare) paid by passengers for this route.
* **Why it's useful**: Helps analyze pricing trends, revenue potential, and affordability.

**14. carrier\_lg**

* **What it means**: The **airline code** of the **largest carrier** (i.e., the airline with the highest market share) on the route.
* **Why it's useful**: Tells you who dominates the route.

**15. large\_ms**

* **What it means**: The **market share** of the large carrier (as a percentage).
* **Why it's useful**: Shows how dominant that airline is on the route — for example, 80% market share means almost all flights on that route are by them.

**16. fare\_lg**

* **What it means**: The **average fare charged by the large carrier**.
* **Why it's useful**: Allows you to compare the pricing of the biggest airline versus others.

**17. carrier\_low**

* **What it means**: The airline code of the **low-cost carrier** (e.g., Southwest, Spirit) on the route.
* **Why it's useful**: Tells you which budget airline operates on the route.

**18. lf\_ms**

* **What it means**: The **market share** of the low-fare carrier (as a percentage).
* **Why it's useful**: Useful for competition analysis — how much of the market is served by low-cost airlines.

**19. fare\_low**

* **What it means**: The **average fare charged by the low-fare carrier**.
* **Why it's useful**: Helps you compare budget airline prices versus traditional ones.

**20. Geocoded\_City1**

* **What it means**: The **latitude and longitude** (or geolocation) of the origin city.
* **Why it's useful**: Helps in **map visualizations** and calculating real-world distances or travel patterns.

**21. Geocoded\_City2**

* **What it means**: Geolocation of the destination city.
* **Why it's useful**: Same as above — helpful in geographic analysis and plotting routes on a map.

**22. tbl1apk**

* **What it means**: This is a **unique identifier (Primary Key)** for each record or row.
* **Why it's useful**: Ensures each row is unique — important for data integrity, joining tables, or building indexes.