SQL Project: Airlines

Question 1. Write a query to retrieve all the data from the Airlines table.

Answer 1. select \* from airlines;

Insights: -

The query SELECT \* FROM Airlines; retrieves all columns and rows from the Airlines table, offering a comprehensive view of the dataset. This approach is valuable for gaining an initial understanding of the table's structure, including the types of data it holds and the relationships between different columns. By viewing the complete data, you can identify patterns, outliers, or potential issues that might need further exploration. However, since the query returns the entire dataset, it may result in a large output, especially if the table contains many records, which might necessitate further filtering or summarization in subsequent queries for more focused analysis.

Question 2. Retrieve all records where the year is 2015.

Answer 2. select \* from airlines

where year = 2015;

Insights: -

The query SELECT \* FROM Airlines WHERE year = 2015; retrieves all records from the Airlines table specifically for the year 2015. This allows for focused analysis on data from that year, helping to identify trends, performance, or other significant insights related to airline operations in 2015. By narrowing down the data to a specific year, you can make more targeted observations and comparisons, such as changes in passenger numbers or freight volumes compared to other years.

Question 3. How many records are there in the Airlines table?

Answer 3. select count (\*) from airlines;

Insights: -

The query SELECT COUNT (\*) FROM Airlines; returns the total number of records in the Airlines table, providing a quick overview of the dataset's size. Knowing the record count is essential for understanding the scope of the data, which can impact analysis strategies and processing time. It also helps in assessing the completeness of the dataset, as an unexpectedly low or high count might indicate data collection issues or the need for further investigation into the data's origin and coverage.

Question 4. Retrieve only the AIRLINE\_NAME and PASSENGERS\_TO\_INDIA columns.

Answer 4. select AIRLINE\_NAME, PASSENGERS\_TO\_INDIA from Airlines;

Insights: -

The query SELECT AIRLINE\_NAME, PASSENGERS\_TO\_INDIA FROM Airlines; extracts only the AIRLINE\_NAME and PASSENGERS\_TO\_INDIA columns, focusing on the relationship between airlines and their passenger traffic to India. This targeted data selection is useful for analyzing and comparing the performance of different airlines based on the number of passengers they transport to India. It simplifies the dataset, making it easier to perform specific analyses such as identifying the top carriers or examining trends in passenger flow without the distraction of unrelated data.

Question 5. Retrieve all records for the airline "INDIGO".

Answer 5. select \* from Airlines where AIRLINE\_NAME = 'INDIGO';

Insights: -

The query SELECT \* FROM Airlines WHERE AIRLINE\_NAME = 'INDIGO'; retrieves all records related to the airline "INDIGO" from the Airlines table. This focused query allows for in-depth analysis of INDIGO's operations, such as passenger traffic and freight volumes to and from India. By isolating INDIGO's data, you can assess the airline's performance, identify trends specific to its operations, and compare its metrics against those of other airlines within the same dataset. This level of detail is useful for targeted analysis, strategic planning, or competitive benchmarking.

Question 6. What is the total number of passengers who travelled to India?

Answer 6. select sum(passengers\_to\_india) from airlines;

Insights: -

The query SELECT SUM(PASSENGERS\_TO\_INDIA) FROM Airlines; calculates the total number of passengers who travelled to India across all airlines and time periods represented in the dataset. This aggregate figure provides a comprehensive overview of inbound passenger traffic, which is essential for understanding the overall scale of travel to India. It can be used for market analysis, planning for infrastructure needs, or assessing the impact of tourism and business travel on the country. This data point is crucial for stakeholders interested in the broader trends of air travel to India.

Question 7. Get the total number of passengers to India for each airline.

Answer 7. SELECT AIRLINE\_NAME, SUM(PASSENGERS\_TO\_INDIA) AS Total\_Passengers\_To\_India

FROM Airlines

GROUP BY AIRLINE\_NAME;

Insights: -

The query SELECT AIRLINE\_NAME, SUM(PASSENGERS\_TO\_INDIA) AS Total\_Passengers\_To\_India FROM Airlines GROUP BY AIRLINE\_NAME; calculates the total number of passengers traveling to India for each airline, grouped by the airline name. This analysis provides a clear comparison of how different airlines contribute to inbound travel, highlighting which carriers are the most significant in terms of passenger volume. It is particularly useful for understanding market share, identifying leading airlines in the India travel segment, and assessing the competitive landscape within the industry.

Question 8. Retrieve records for airlines that had more than 100,000 passengers to India in the year 2015.

Answer 8. select \* from airlines where year = 2015 and passengers\_to\_india > 100000;

Insights: -

The query SELECT \* FROM Airlines WHERE year = 2015 AND passengers\_to\_india > 100,000; retrieves records of airlines that transported more than 100,000 passengers to India in 2015. This targeted query highlights the major airlines that played a significant role in passenger traffic to India during that year, filtering out smaller contributors. Analyzing these records can provide insights into the leading carriers in terms of volume, their operational capacity, and possibly their influence on the market in 2015, making it valuable for performance evaluation and competitive analysis.

Question 9. List the airlines in descending order of the total freight sent to India.

Answer 9. SELECT AIRLINE\_NAME, SUM(FREIGHT\_TO\_INDIA) AS Total\_Freight\_To\_India

FROM Airlines

GROUP BY AIRLINE\_NAME

ORDER BY Total\_Freight\_To\_India DESC;

Insights: -

The query SELECT AIRLINE\_NAME, SUM(FREIGHT\_TO\_INDIA) AS Total\_Freight\_To\_India FROM Airlines GROUP BY AIRLINE\_NAME ORDER BY Total\_Freight\_To\_India DESC; lists airlines based on the total amount of freight they sent to India, arranged in descending order. This ranking provides a clear view of which airlines are the most significant players in freight transportation to India, helping to identify the dominant carriers in this sector. It is valuable for understanding market dynamics, evaluating logistics capabilities, and recognizing key contributors to India's import supply chain.

Question 10. Calculate the difference between passengers traveling to and from India for each airline.

Answer 10. SELECT AIRLINE\_NAME, (PASSENGERS\_TO\_INDIA - PASSENGERS\_FROM\_INDIA) AS Passenger\_Difference FROM Airlines;

Insights: -

The query SELECT AIRLINE\_NAME, (PASSENGERS\_TO\_INDIA - PASSENGERS\_FROM\_INDIA) AS Passenger\_Difference FROM Airlines; calculates the difference between the number of passengers traveling to India and those traveling from India for each airline. This metric, known as the passenger difference, helps to identify whether an airline has more inbound or outbound traffic, which can indicate trends such as an airline's popularity for inbound tourism or business travel versus its outbound services. Understanding these differences is crucial for airlines to balance capacity and optimize their operations for better efficiency and profitability.