Flight Performance Presentation

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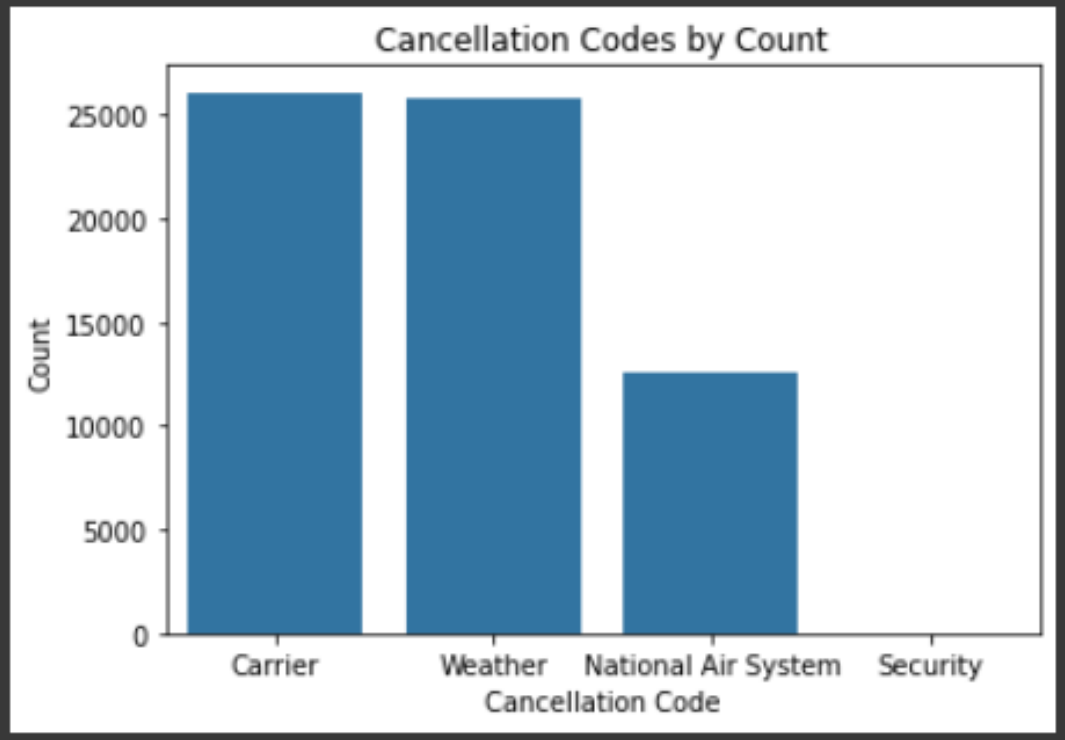
Investigation Overview

- The goal of the investigation is to dive deeper into flight performance data to understand the underlying factors causing flight delays as well as present carrier performance in terms of cancellations and delays.

Dataset Overview

- I had a problem trying to download the data because of its large size and the RAM was not enough for the device, so the analysis was done on the data for the year 2008 only

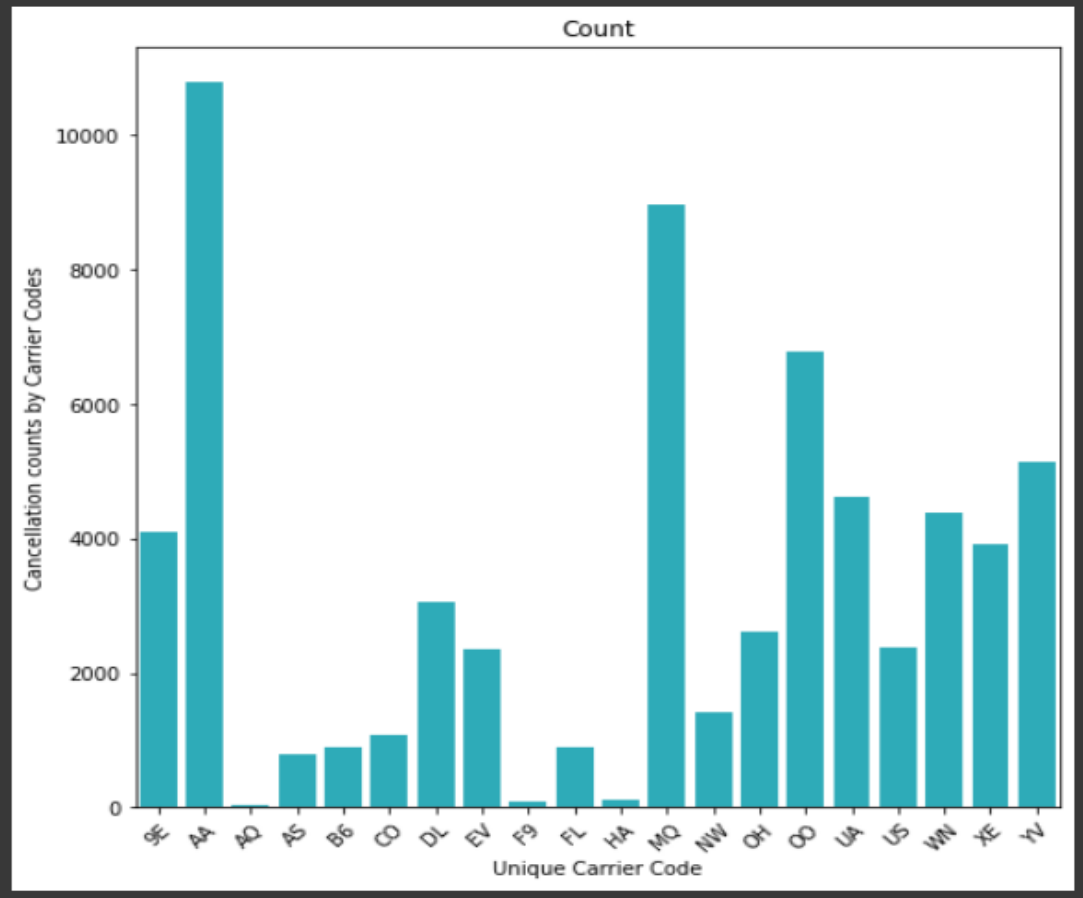
Which cancellation reason is most common?



From the graph above, it is clear that 'A' (Carrier) and 'B' (Weather) are the highest reasons for flight cancellations

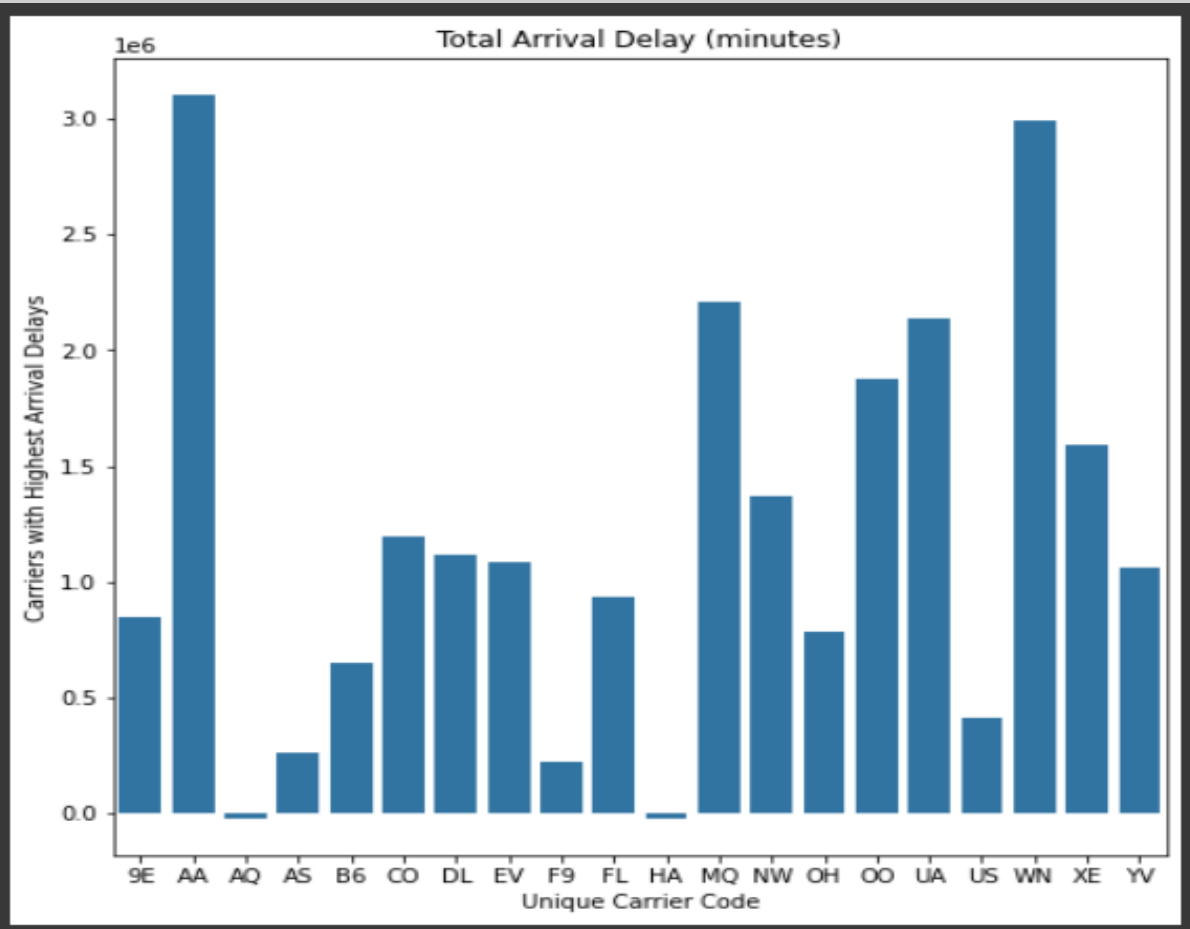
There was no flight cancellation due to security in 2008.

Which carrier had the most cancellations ?



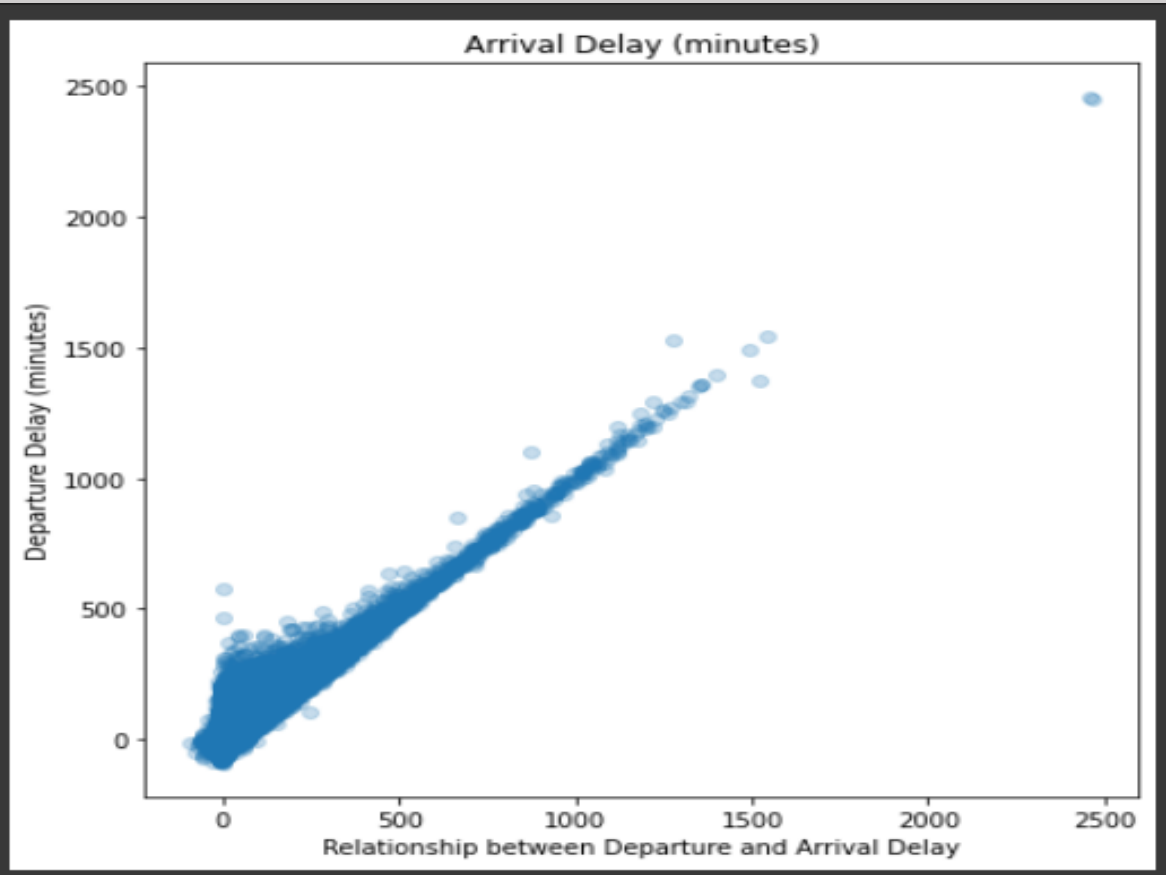
The highest number of canceled flights for the carrier is AA(American Airlines), MQ(Envoy Air), OO(SkyWest Airlines) are the top three carriers with highest cancellations. These cancellations include all four types (A,B,C,D).

Which carriers had the highest delays at arrivals?



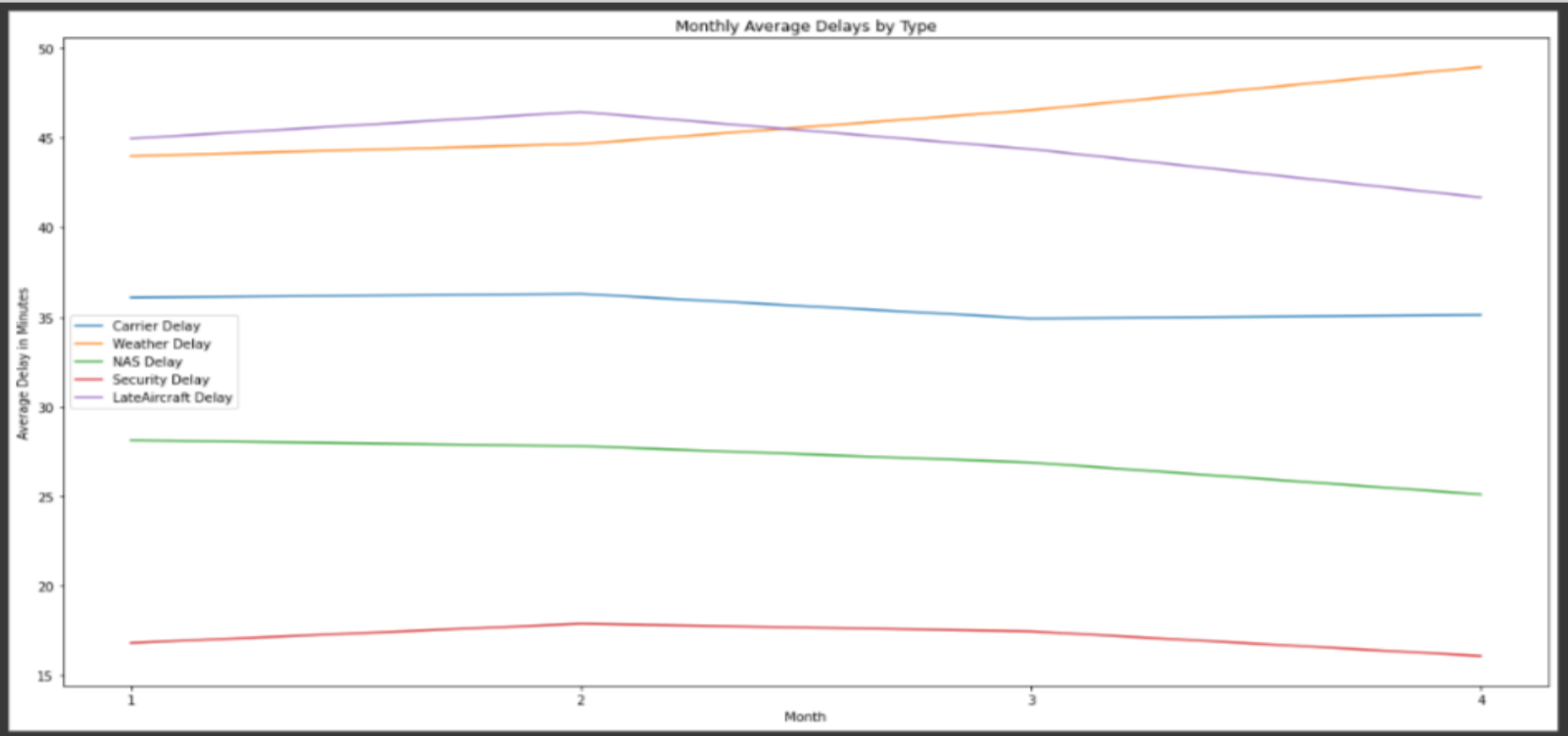
From the plot it can be seen that American Airlines has the highest arrival delays.

What is the relationship between departure and arrival delays?



The plot above shows a linear relationship between departure and arrival delays.

4) What was the major cause of delays for this year

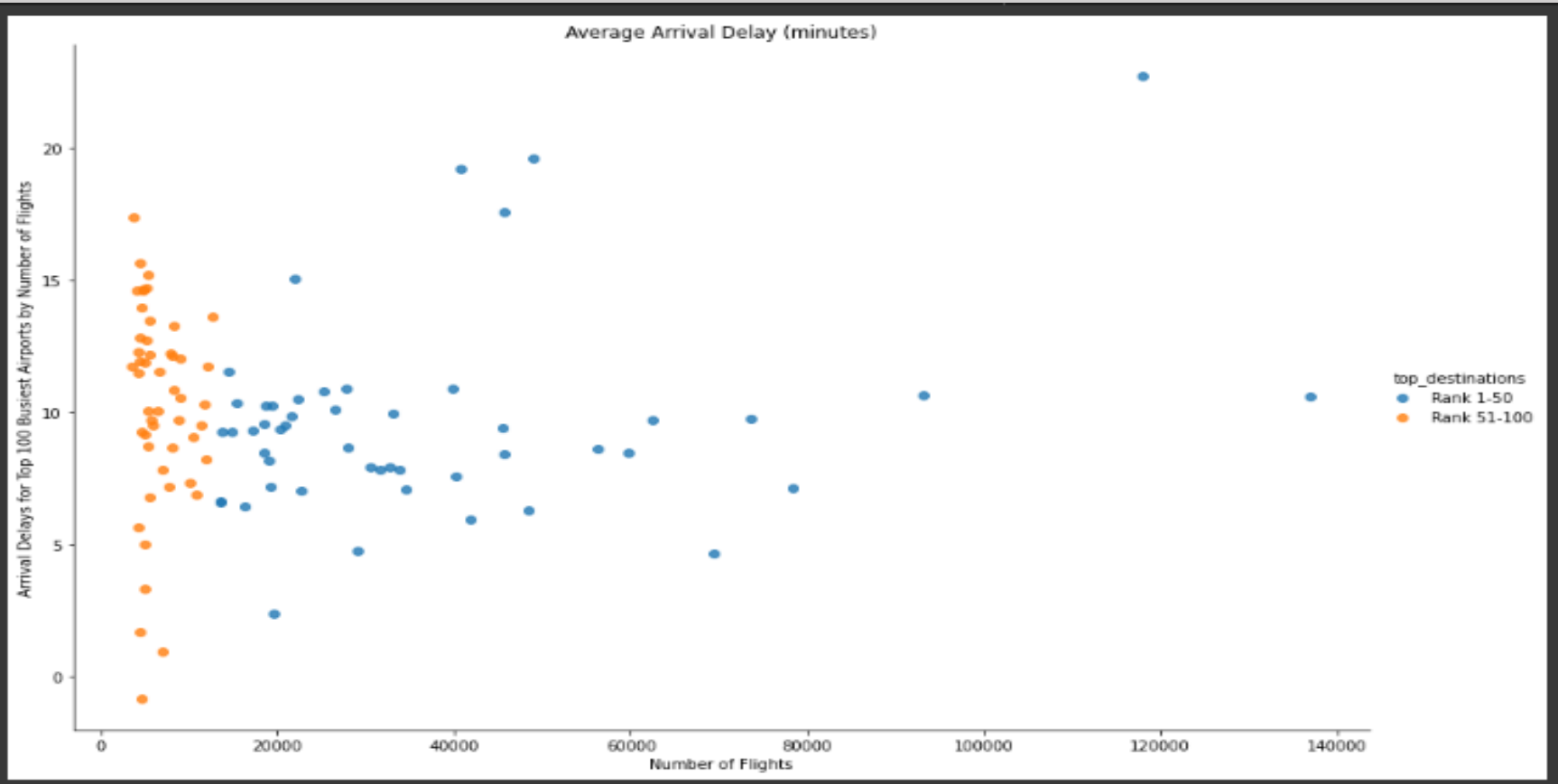


From the graph above, it can be seen that both weather and aircraft related delays contribute more to overall delays as compared to others.

It can be also observed that there is large variation in delays for these from month to month.

Delays due to security reasons is the least common with less variation.

Does the number of flights to destinations influence arrival delays?



The graph above shows that for the top 50 busiest destinations, the number of flights does have an effect on average arrival delay. This is not so much true for less busy airports that rank from 51-100.

Summary & Conclusions

- Carrier and weather-related cancellations were most common.
- American Airlines performed the worst in terms of both delays and cancellations.
- Weather related delays were more significant as we saw in the comparison of delay reasons.
- There is Linear relationship between departure and arrival delays
- The top 50 busiest destinations, the number of flights does influence average arrival delay and .
- The top 50 busiest Origin, the number of flights does influence average Departure delay