



# Analysis on Airline Flight Delays

For Improved Customer Experience

**Group 5**

# Our Team:



- Meutia Putri
- Industry Analyst
- Mvtiaree@gmail.com



- Anjali Patel
- Industry Analyst
- anjalid991998.com



- Sairohit Chowdhary
- Unpaid Intern
- sairohitchowdhary@gmail.com



# Introduction

- Covid-19 hit airline industry the hardest.
- Flight delays were significantly higher with more than 12,000 delays in the U.S during the forth of July weekend (Josephs, 2022).
- Delays impact not only passengers but airlines.
- To minimize customers' dissatisfaction, Expedia, has hired us as industry analysts to provide insights on flight delays among 16 airlines in North America.



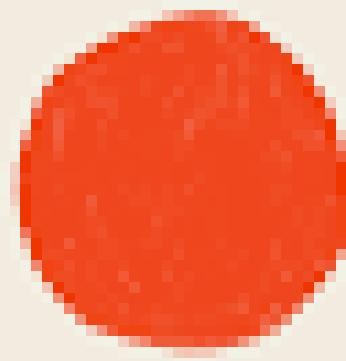
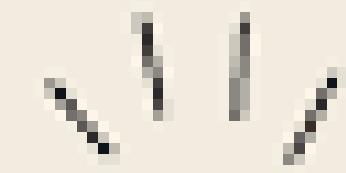
# Our Goals



To provide a strong insight on delayed flights and how we can avoid long wait time for customer.



Optimizing Customer booking experience on Expedia with flight delay suggestions.



# TECHNOLOGIES USED

These are the various tools used from the Hadoop environment



HIVE



Zeppelin



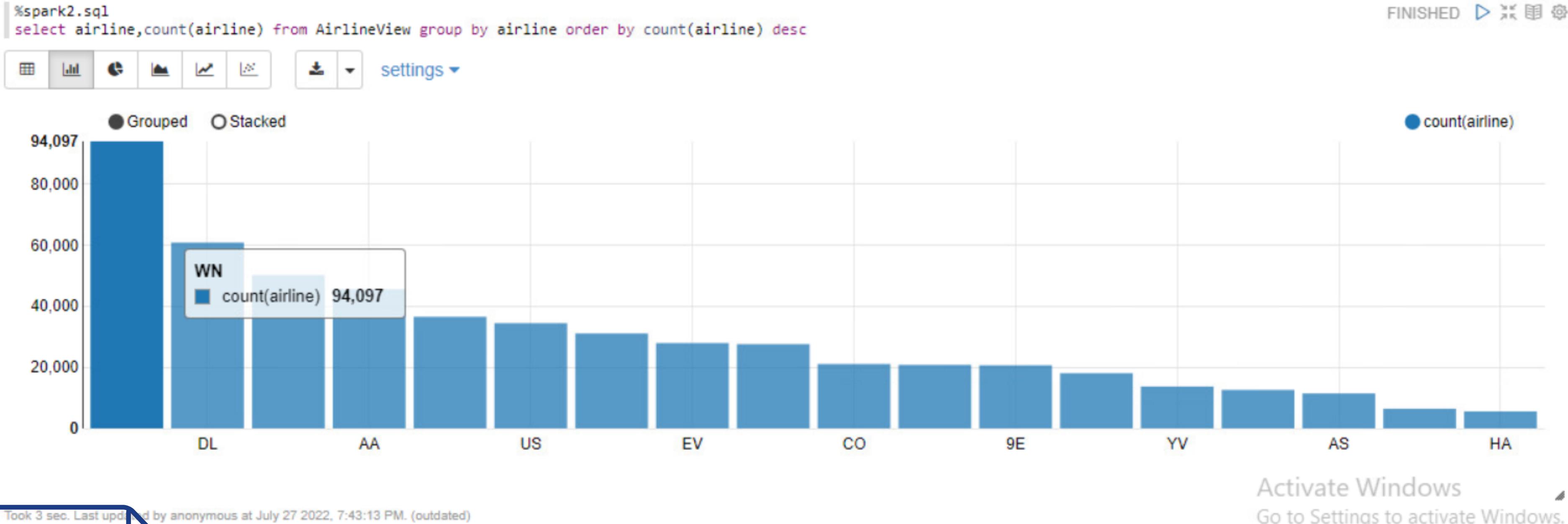
Hbase



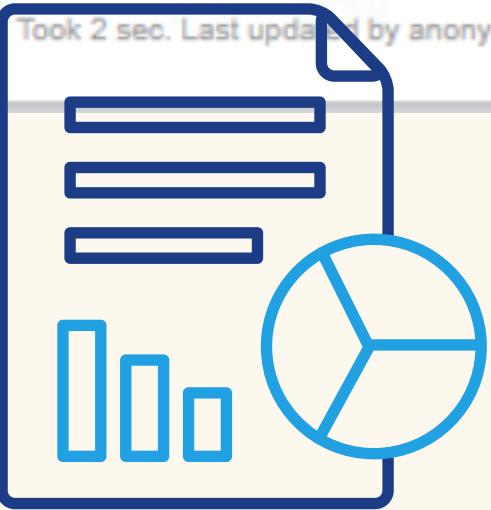
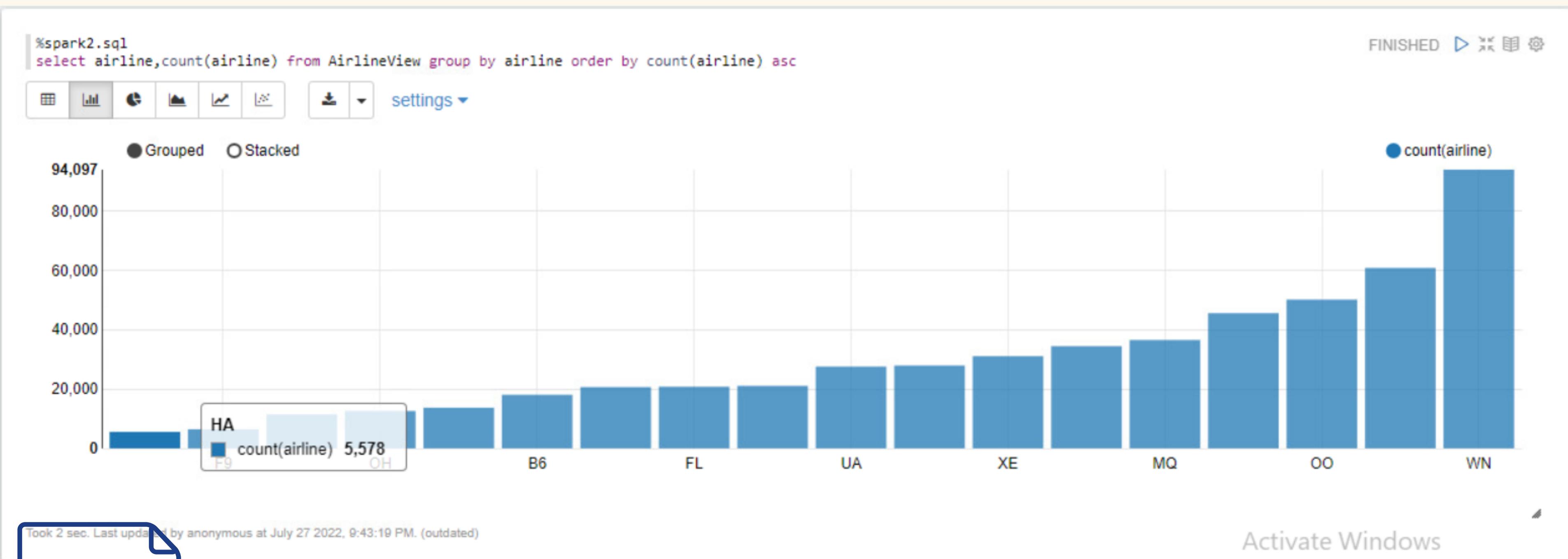
HDFS



# Which Airlines have the most number of Flights?



# Which Airlines have the least number of flights?



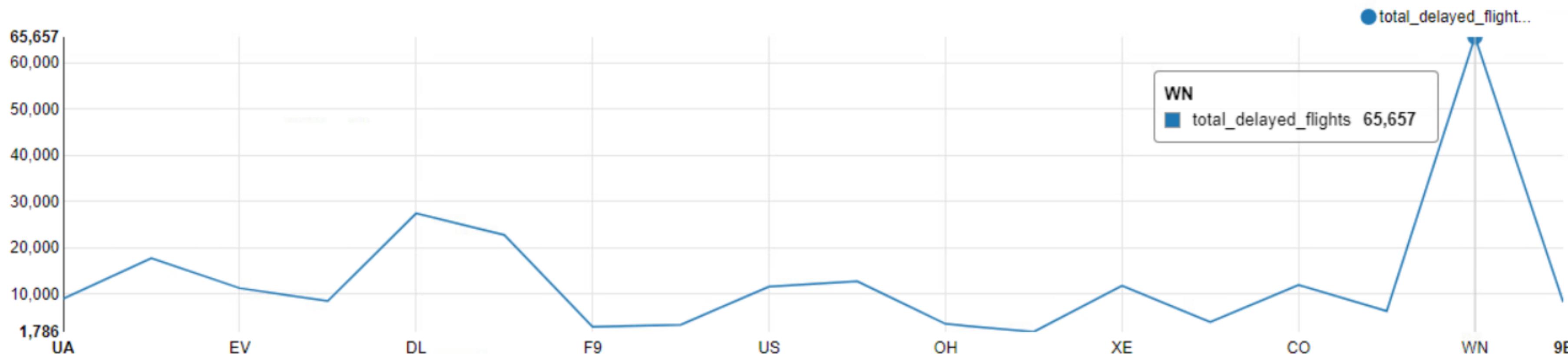
# Which Airlines have the most delayed flights?

```
%spark2.sql  
select a.Airline, count(b.Delay) as total_delayed_flights  
from AirlineView a JOIN Airline1View b on a.id=b.id  
where b.delay=1  
group by a.airline
```



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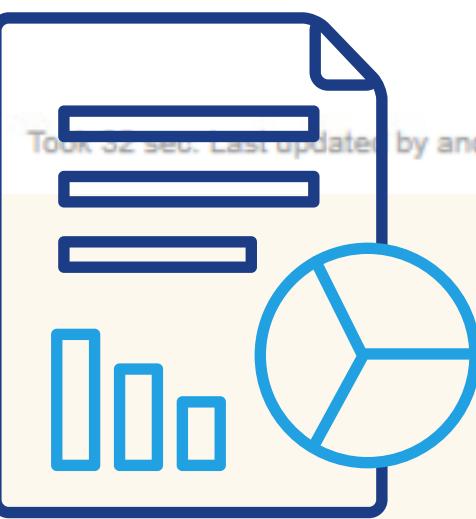
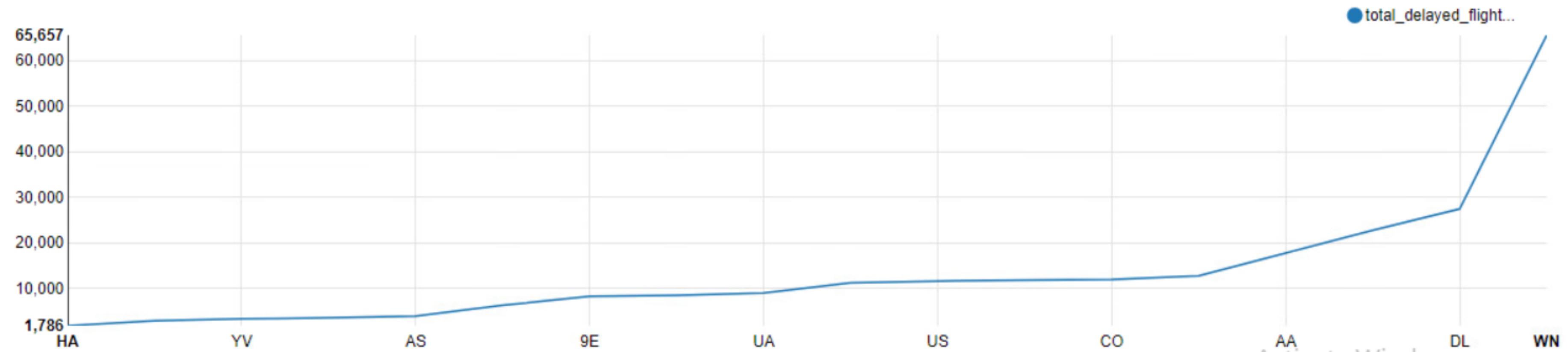
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# Which Airlines have the least delayed flights?

```
%spark2.sql  
select a.Airline, count(b.Delay) as total_delayed_flights  
from AirlineView a JOIN Airline1View b on a.id=b.id  
where b.delay=1  
group by a.airline  
order by count(b.delay) asc
```

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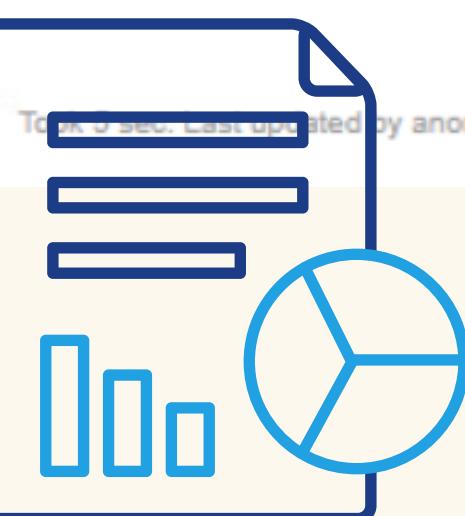
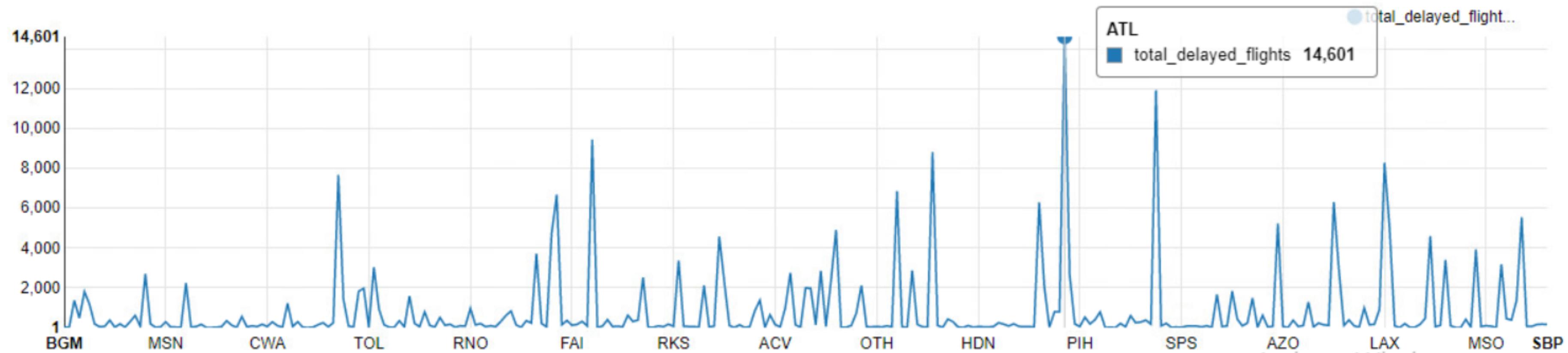
# Which airport has the most delays based on the flight's Origin Airport?

```
%spark2.sql  
select a.AirportFrom,count(b.Delay) as total_delayed_flights  
from AirlineView a JOIN Airline1View b on a.id=b.id  
where b.delay=1  
group by a.AirportFrom
```

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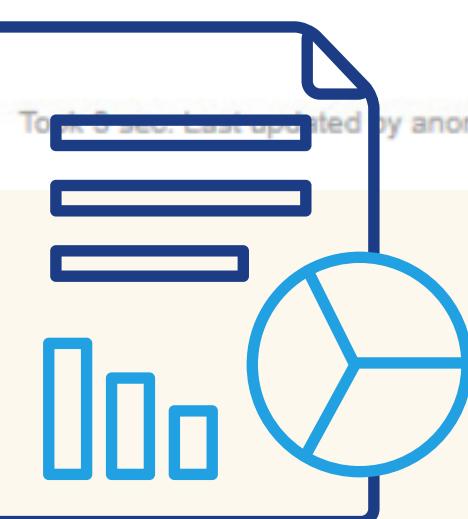
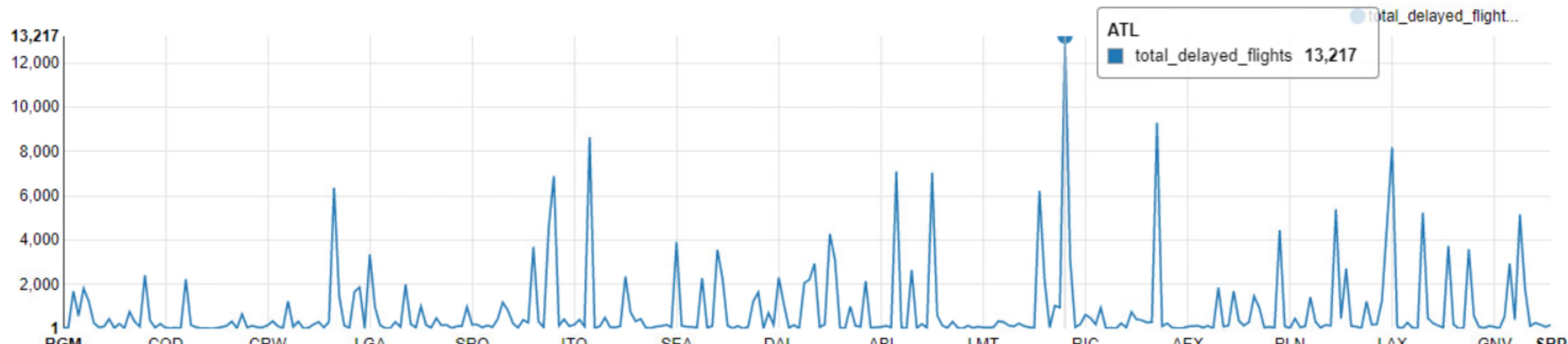
# Which airport has the most delays based on the flight's Destination Airport?

```
%spark2.sql  
select a.AirportTo,count(b.Delay) as total_delayed_flights  
from AirlineView a JOIN Airline1View b on a.id=b.id  
where b.delay=1  
group by a.AirportTo
```

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Total 9 rows. Last updated by anonymous at July 27 2022, 9:27:01 PM. (outdated)

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# Does the delay depend on the flight's departure day of the week?

```
%spark2.sql  
select DayOfWeek, count(Delay) as total_delayed_flights  
from Airline1View  
where delay=1  
group by DayOfweek
```

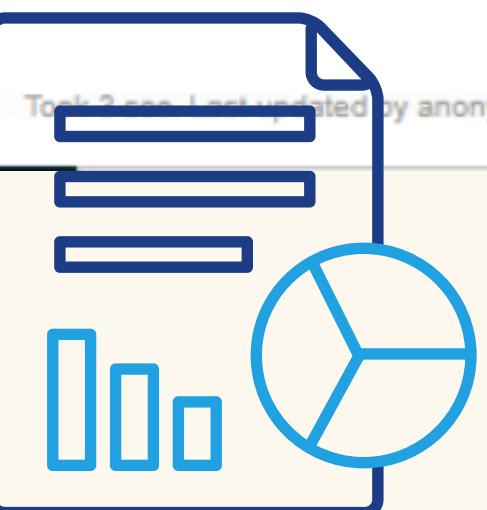
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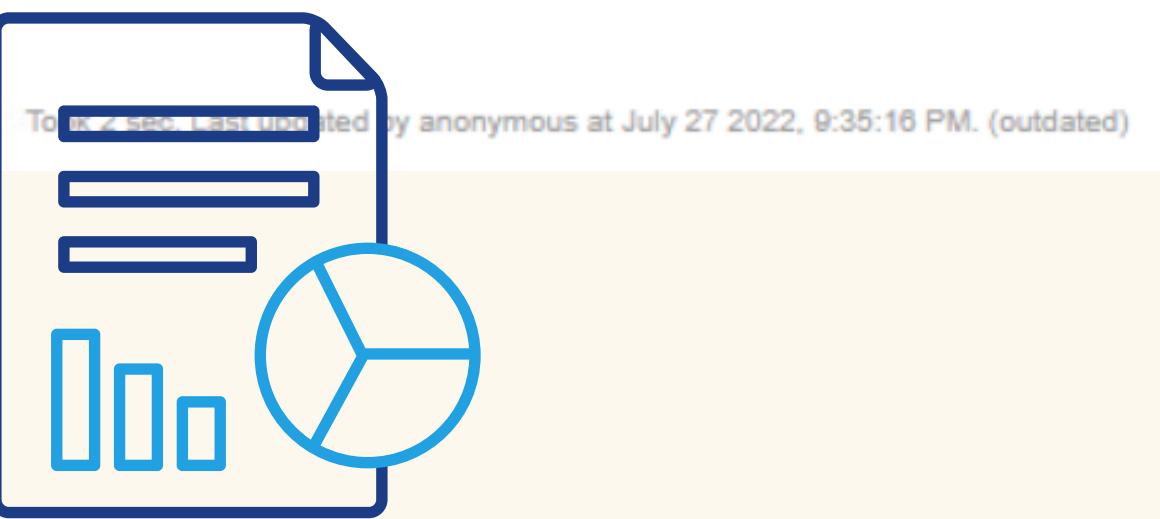
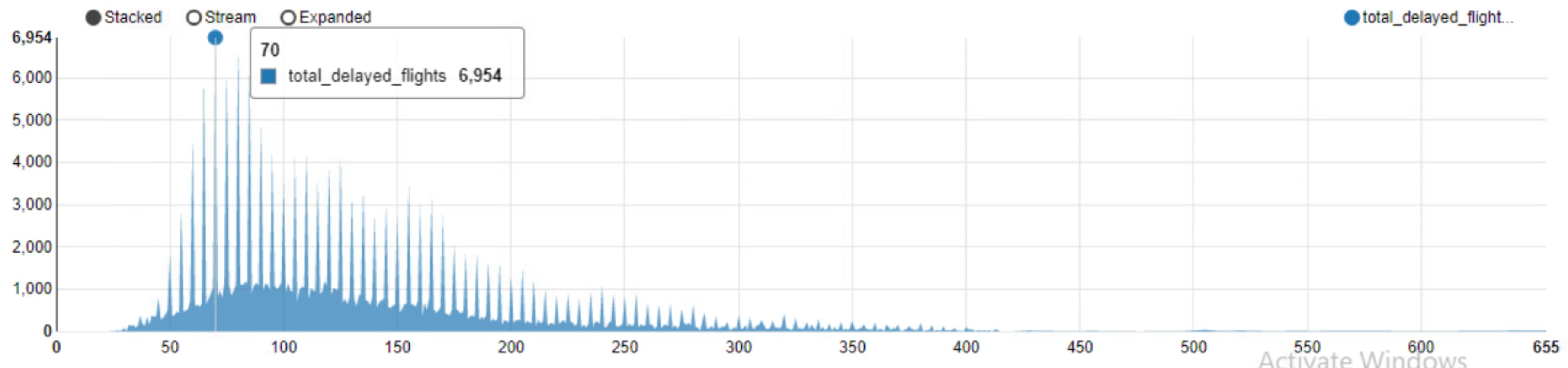
# Does the duration of the flight play a role in the flight being delayed?

```
%spark2.sql  
select Length as Duration_Of_Flight, count(Delay) as total_delayed_flights  
from Airline1View  
where delay=1  
group by Length
```



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# Conclusion



Amount of flights delayed depends on flights per airline.



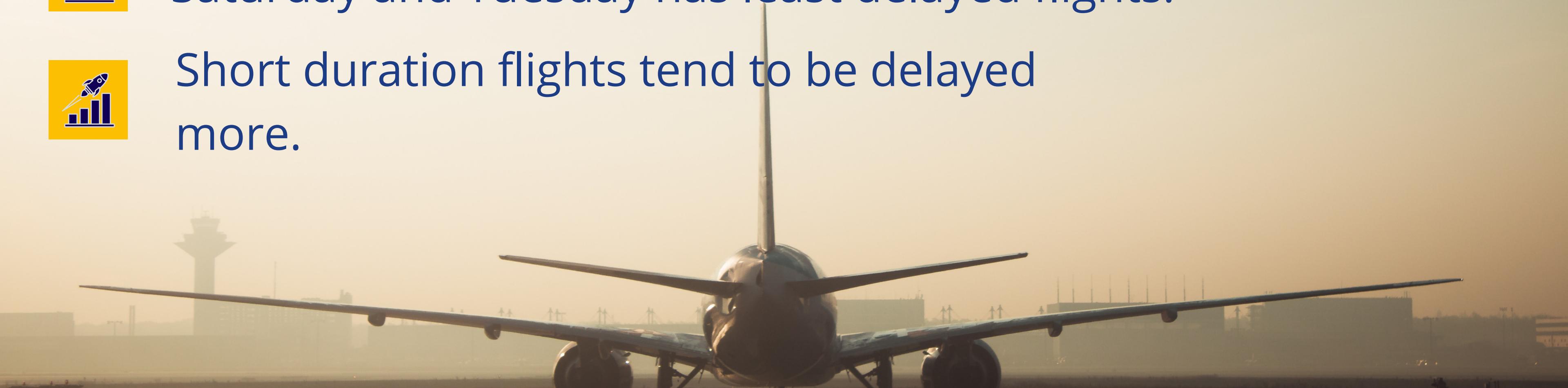
Atlanta is worst airport when it comes to delayed flights.



Saturday and Tuesday has least delayed flights.



Short duration flights tend to be delayed more.





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&

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stress behind

