/GROUP 1

Snowstorm East Coast 2010

Julian, Khaldoun, Tina, Yixin

/AGENDA

01 TOPIC

02 PROCESS

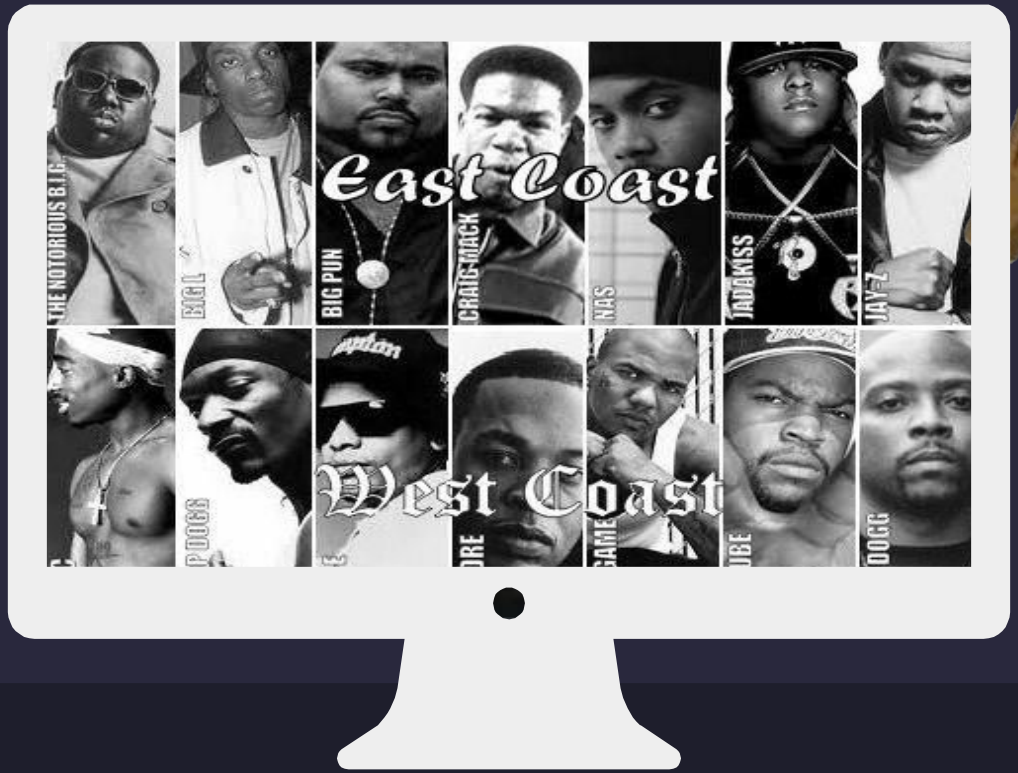
03 CODING

04 HYPOTHESES

05 PLOTTING

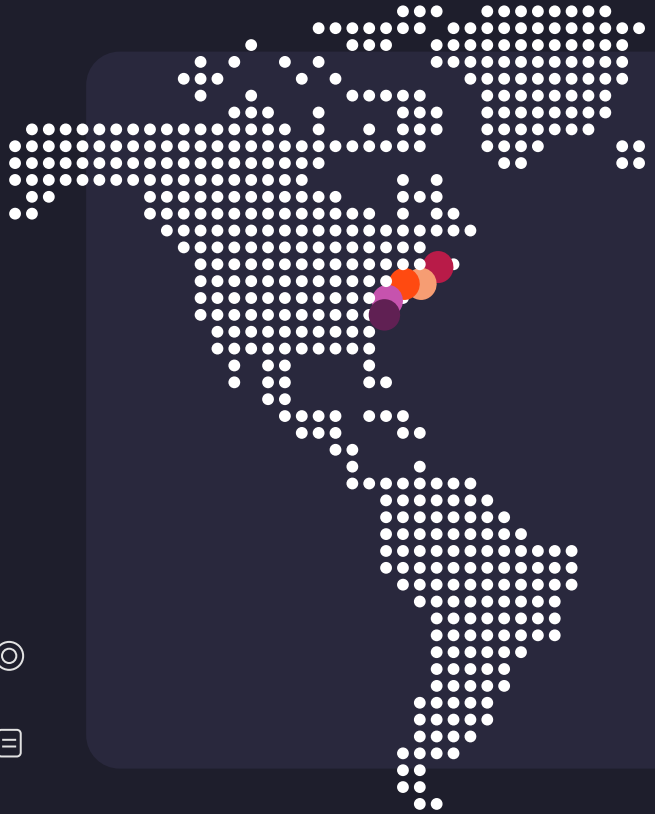
/ INTRO INTO TOPIC

EST



AST

/ INTRO INTO TOPIC



/DECEMBER 2010

Mon	Tue	Wed	Thu	Fri	Sat	Sun
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6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

/JANUARY 2011

Mon	Tue	Wed	Thu	Fri	Sat	Sun
					1	2
3	4	5	6	7	8	9
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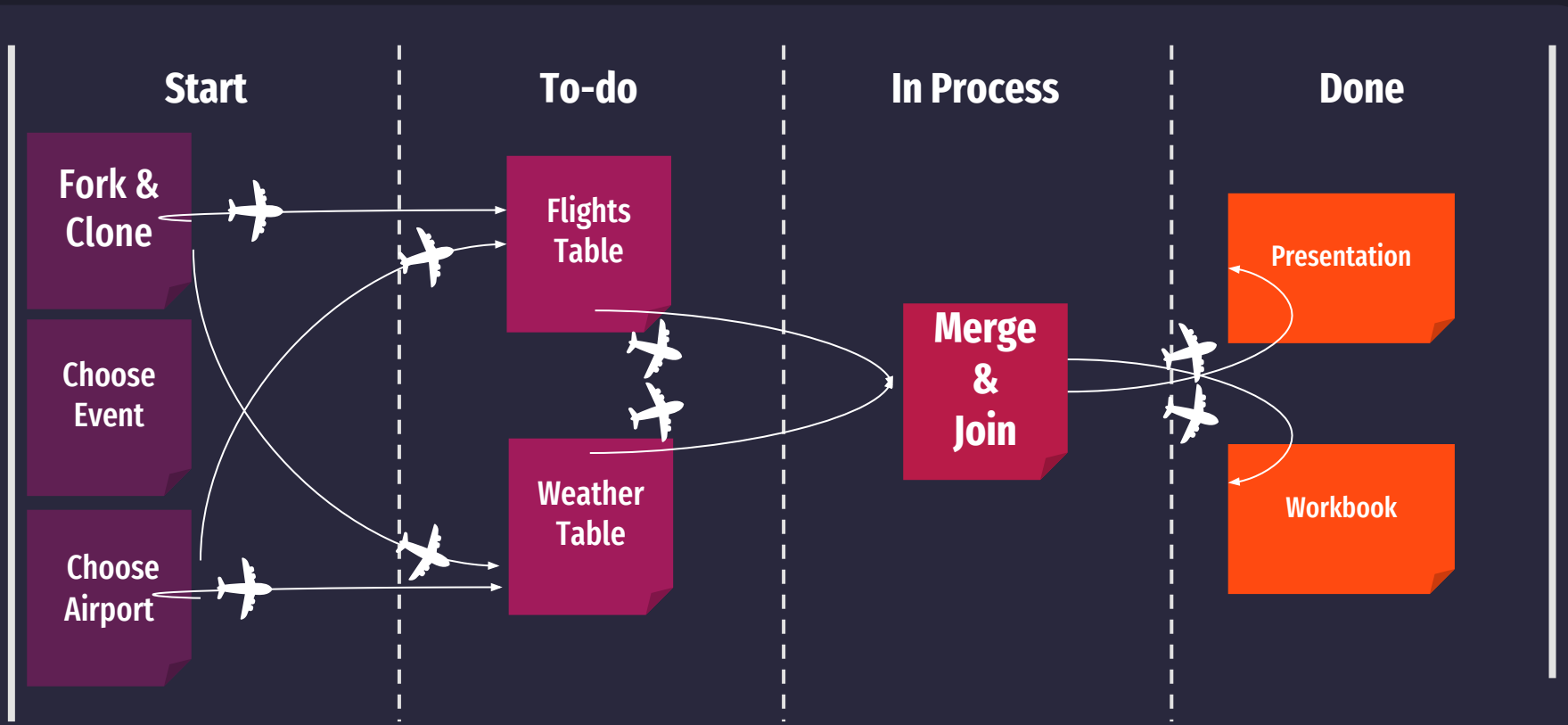
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

/ KANBAN // CODING /// PROCESS



/FILGHTS Table

/GET FLIGHTS DATA

Download and read csv files

Website: https://transtats.bts.gov

/DATA CLEANING

Keep and rename useful columns

Transfer datatype and clean NULLs

/SQL & JOIN

Connect to SQL Database + JOIN on Airport Tables

Read in python

/CLEANING

Data cleaning again

/WEATHER Table

/GET DAILY STATION DATA

Api: Meteostat (RapidAPI)
Columns: weather_station_id and further weather statistics, e.g. The maximum snow depth in mm

/DATA CLEANING

Replace weather_station_id with airplane_name (for merging)
Keep useful columns
Transfer datatype

/CREATING DATAFRAME

Weather table is ready

/COMBINED Table

HOW:
Left Join

CONDITIONS:
origin_name (Flights DB) = airport_name (Weather DB) AND Flight_date (Flights DB) = weather_date (Weather DB)

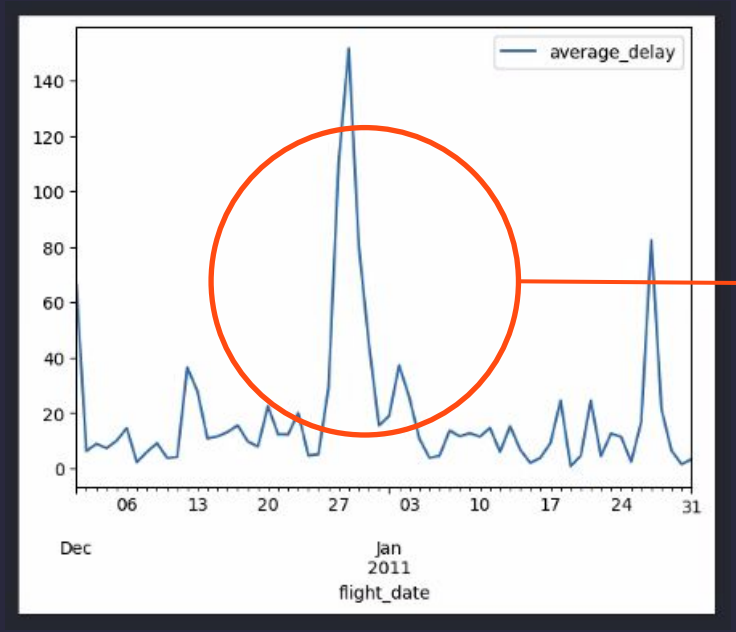
MERGE:
Flights Table & Weather Table

DATA CLEANING

/ HYPOTHESIS (1)

"Is there a discernible correlation between the duration of a snowstorm and the average delay of departure?"

— **HYP / GROUP 1**



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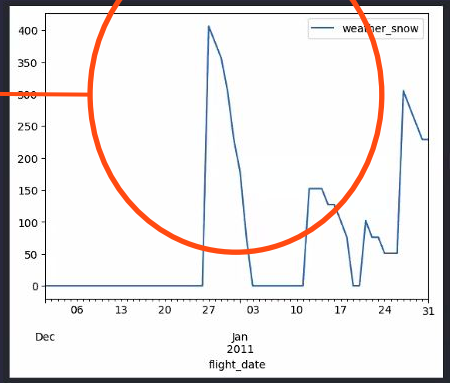
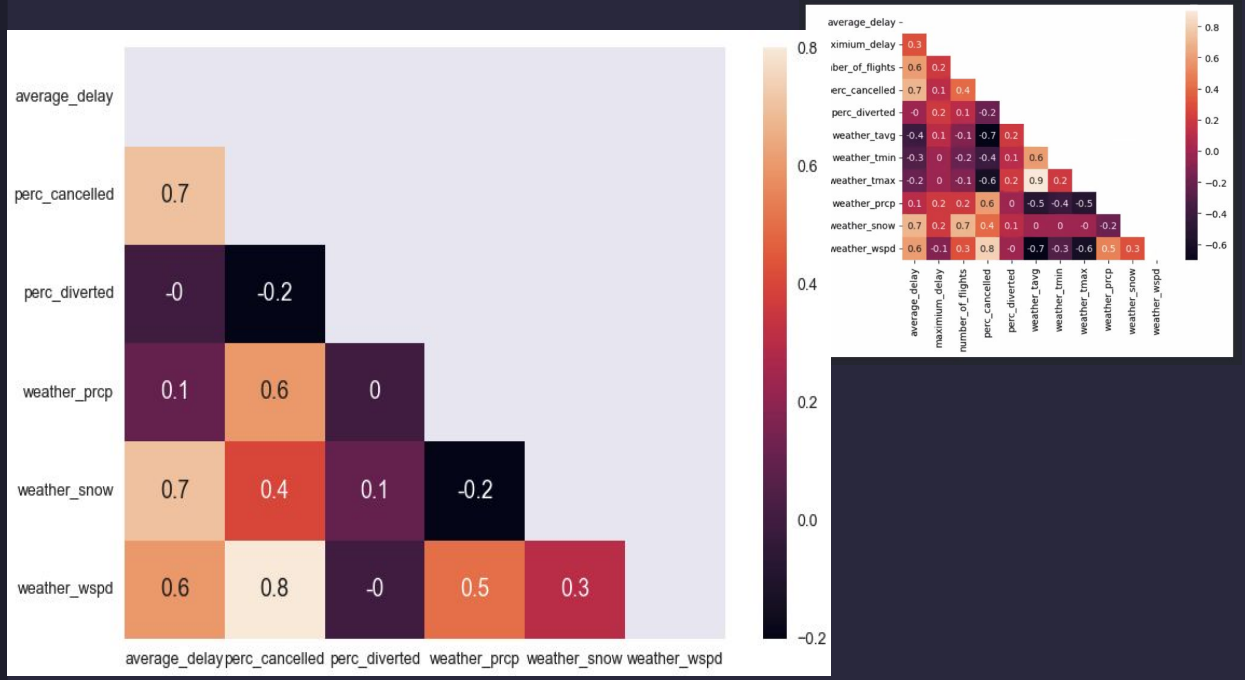


/ HYPOTHESIS (2)

“Among rain, snowfall, and wind strength, which meteorological factor has the strongest correlation with delayed departure time?”

— HYP / GROUP 2

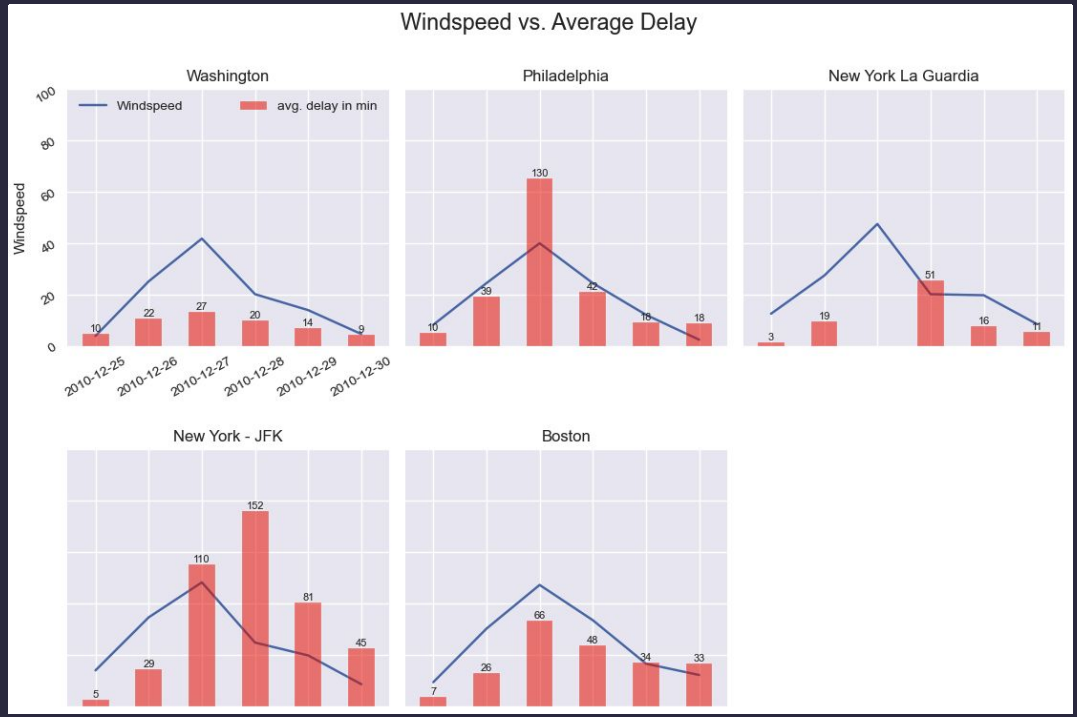


"Focus on success, not distractions."

/ WINDSPEED vs. AVERAGE DELAY

/ CONCLUSION

Correlation does not imply causation!



/ SNOWFALL vs. AVERAGE DELAY

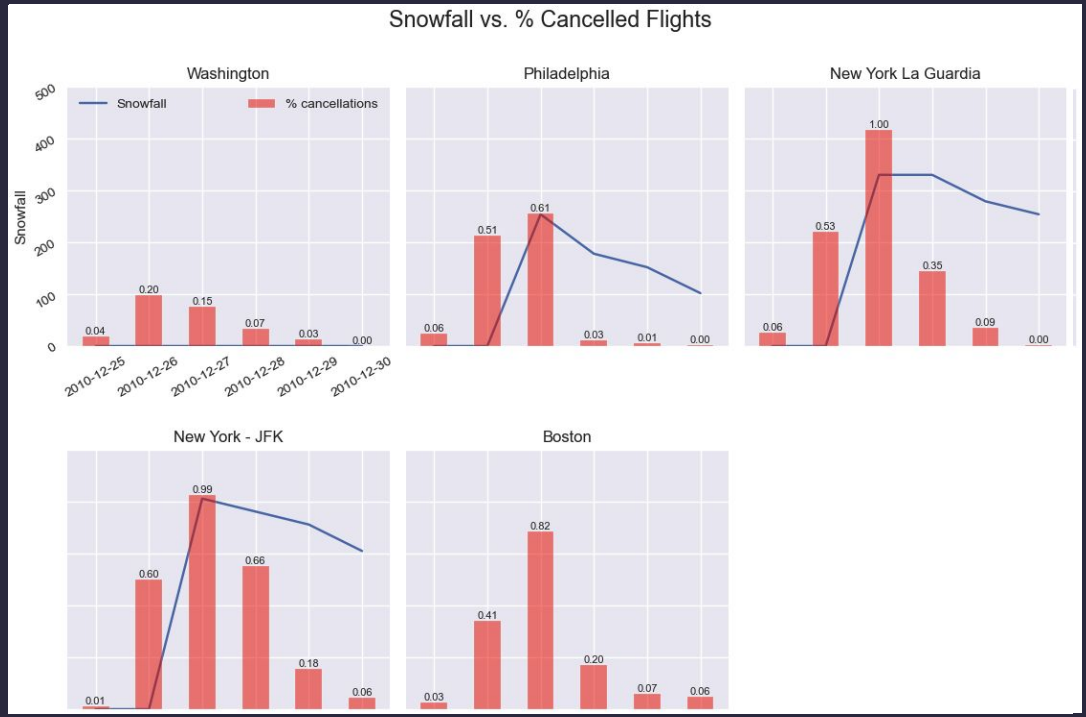
/CONCLUSION

Snowfall is correlated and causally related

/ SNOWFALL vs. CANCELLED

/CONCLUSION

Snowfall is correlated and causally related



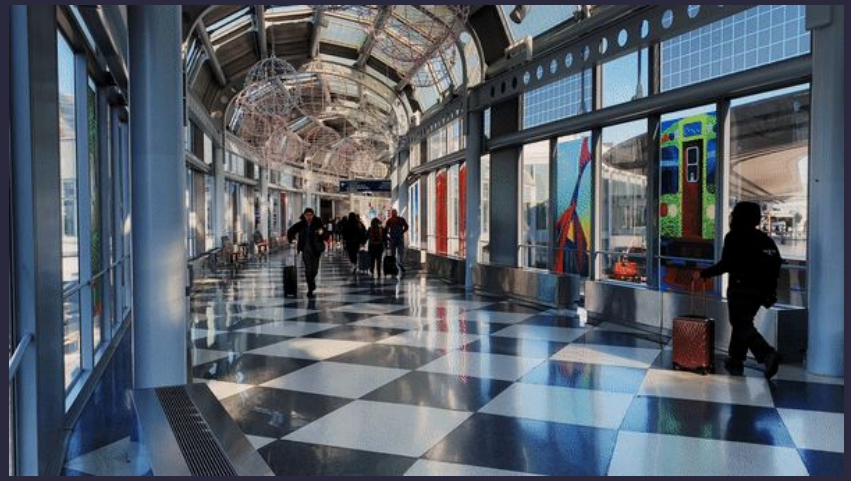
/READY TO TAKE OFF?

/WANT TO SEE OUR NOTEBOOK?

/DO YOU HAVE ANY QUESTIONS?

/DO YOU HAVE ANY COMMENTS?

/DO YOU HAVE ANY SUGGESTIONS?



- /NEXT STEPS: EXPAND TIMEFRAME TO 2009 AND COMPARE TO 2010