AIRPORT DATA ANALYSIS

DETAILED PROJECT REPORT

MUKESH B

PROJECT DETAIL

Project Title	**: Airport data Analysis**
Technology	: Business Intelligence
Domain	: Aviation
Project Difficulty level	: Advanced
Programming Language Used	: Python
Tools Used	: Jupyter Notebook, MS Excel, Tableau

OBJECTIVE

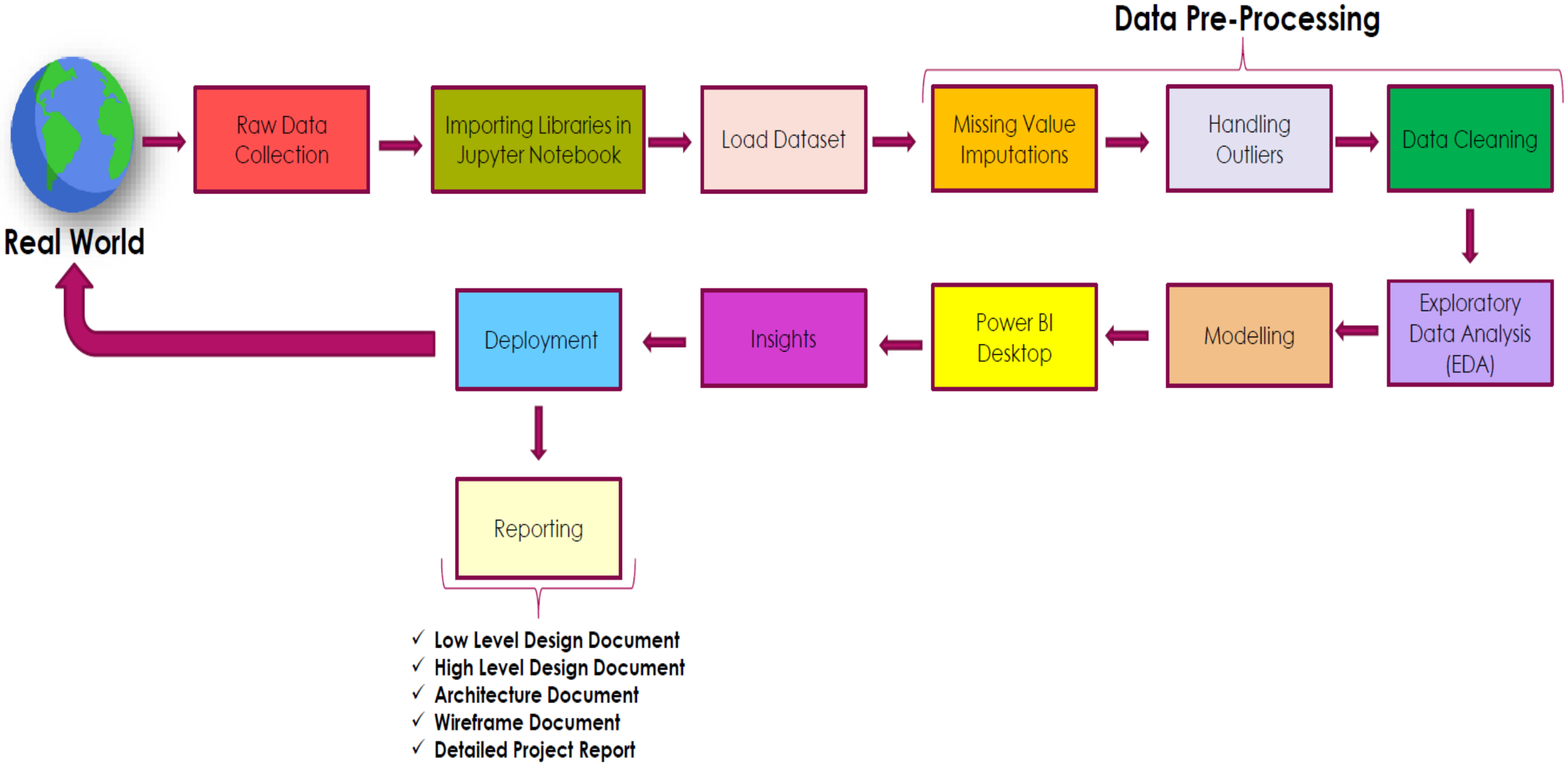
- The goal of this project is to analyse the Flight travel occurrence, based on a combination of features that describes the Airport data.

PROBLEM STATEMENT

- In this data analysis, where the various flights are going and what are the busiest and lengthiest routes from the airport have to be concluded in the dashboard.

- The objective of the project is to perform data visualization techniques to understand the insight of the data. This project aims to apply various Business Intelligence tools such as Tableau or Power BI to get a visual understanding of the data.

ARCHITECTURE

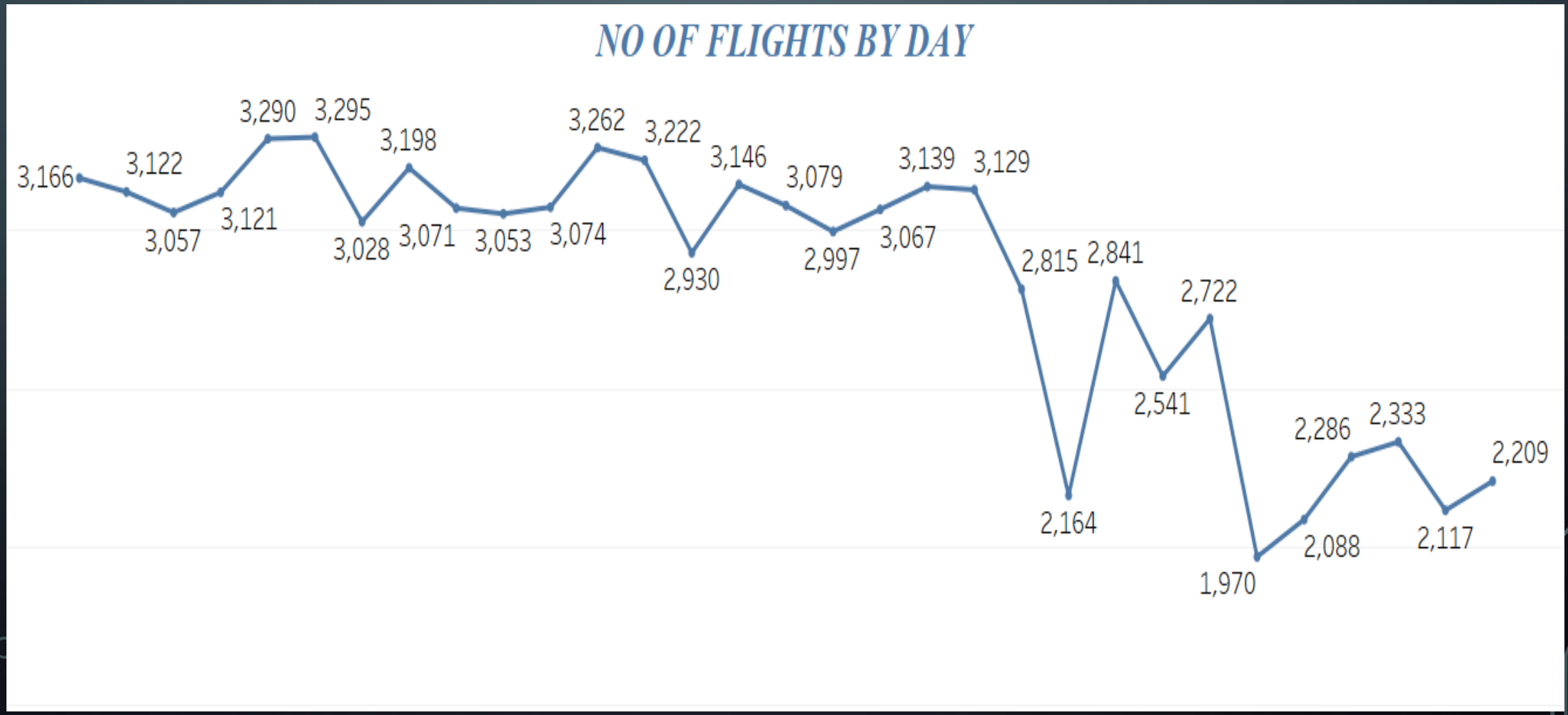


DATASET INFORMATION

- Geometry Coordinates 0 0: Flight start point Coordinate(Float)
- Geometry Coordinates 0 1: Flight start point Coordinate(Float)
- Geometry Coordinates 1 0: Flight destination point Coordinate(Float)
- Geometry Coordinates 1 1: Flight destination point Coordinate(Float)
- Geometry Type : Multipoint (String)
- Properties Edtf Cessation: Flight Departure date & time
- Properties Edtf Inception: Inception code
- Properties Flysfo Actual Timestamp: Actual time stamp
- Properties Flysfo Airline: Arline code
- Properties Flysfo Base Airline: Airline code
- Properties Flysfo Base Flight Number: Flight no
- Date: Flight Date
- Properties Flysfo Estimated Timestamp: No of Flight hours
- Properties Flysfo Event: Event no of Flight
- Properties Flysfo Flight Number: Flight Number
- Properties Flysfo Gate: Gate number of Flight
- Route: Arrival & destination route name

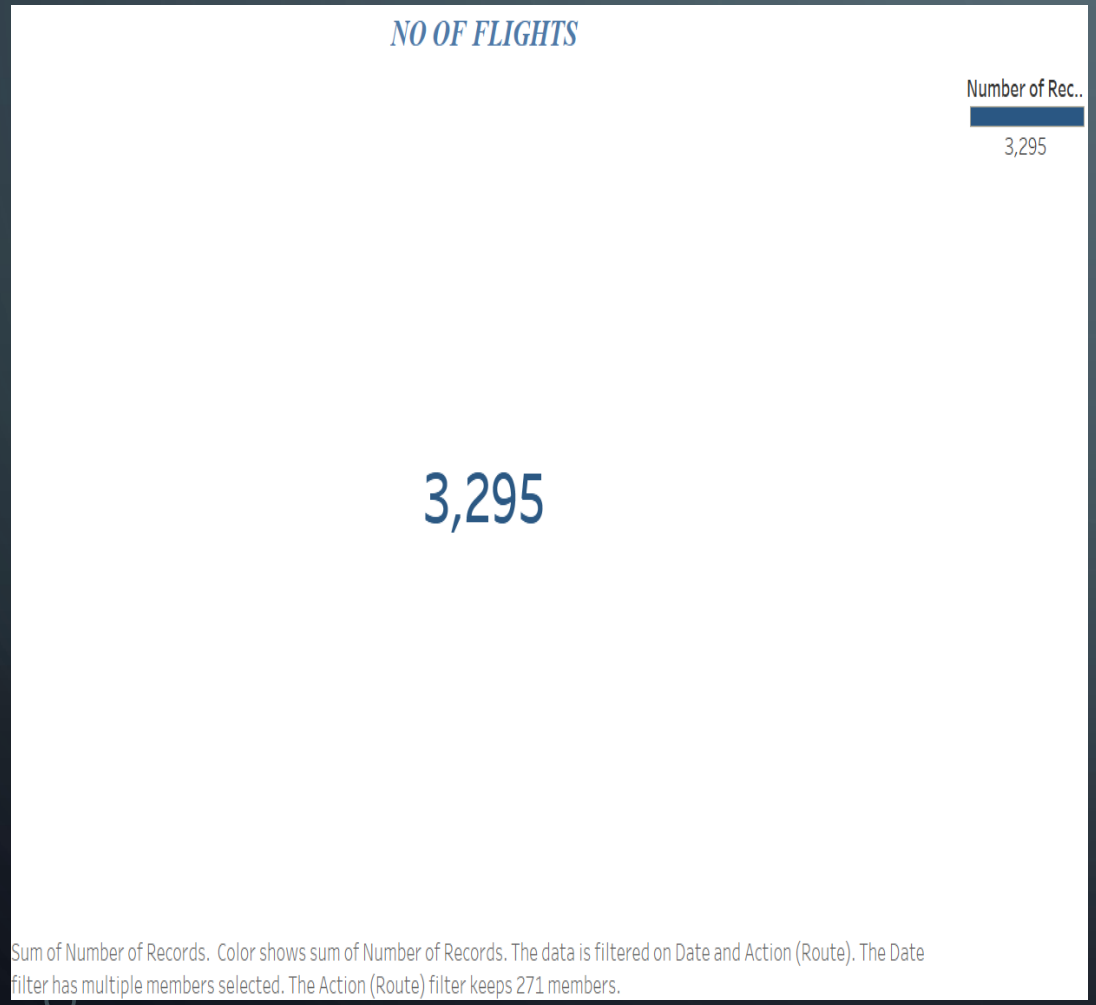
INSIGHTS

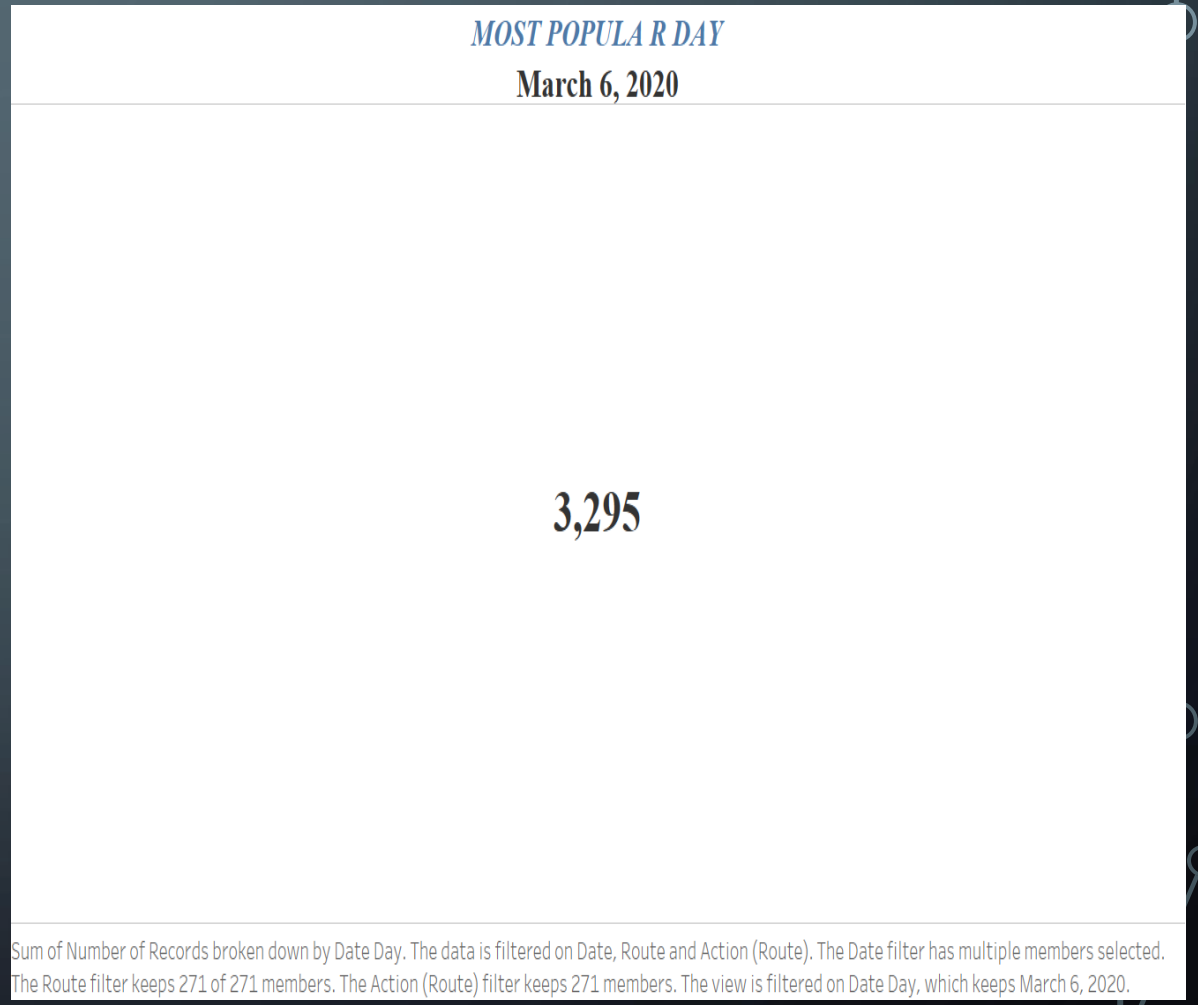
- NO OF FLIGHTS PER DAY FROM SAN FRANCISCO AIRPORT AND IT IS GETTING REDUSED DAY BY DAY DUE TO COVID



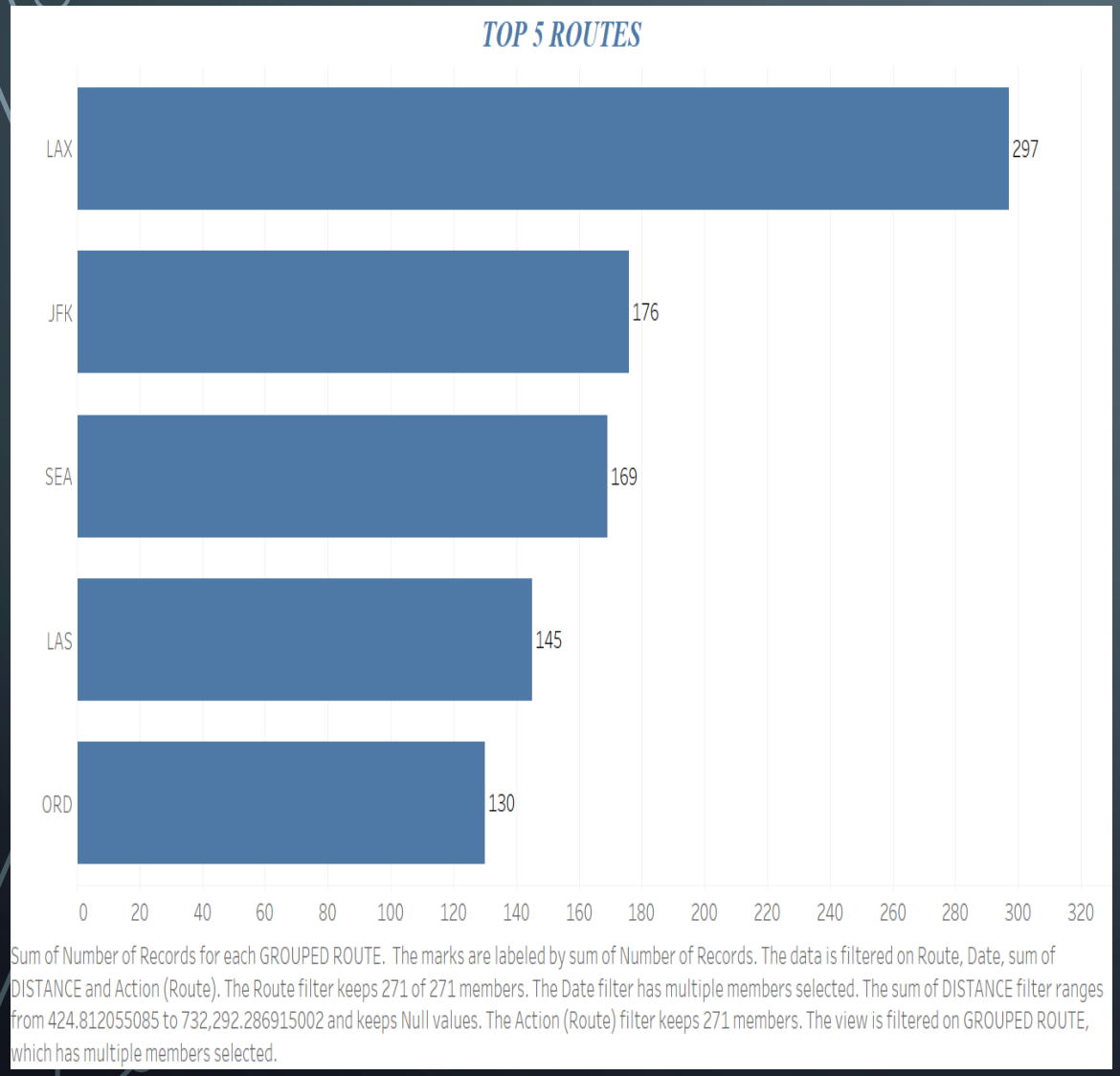
INSIGHTS

- TOTAL NO OF FLIGHT SERVICE FROM SAN FRANCISCO AIRPORT
- MOST POPULAR DAY IN THE AIRPORT

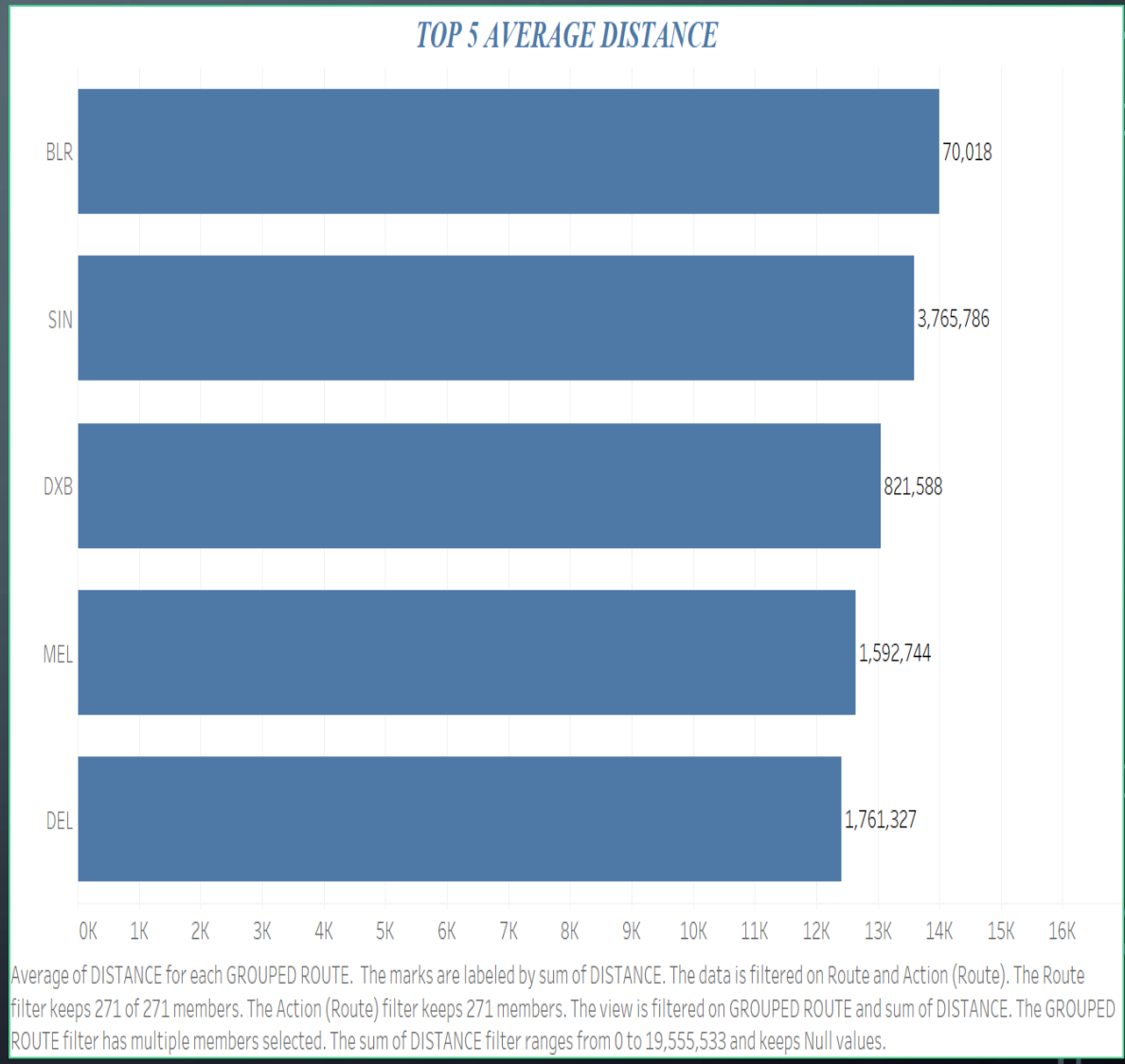




- TOP 5 ROUTES FROM SAN FRANCISCO AIRPORTS LAX,JFX,SEA,LAS,ORD
- TOP 5 AVERAGE DISTANCE FROM SAN FRANCISCO AIRPORT BLR,SIN,DXB,MEL,DEL

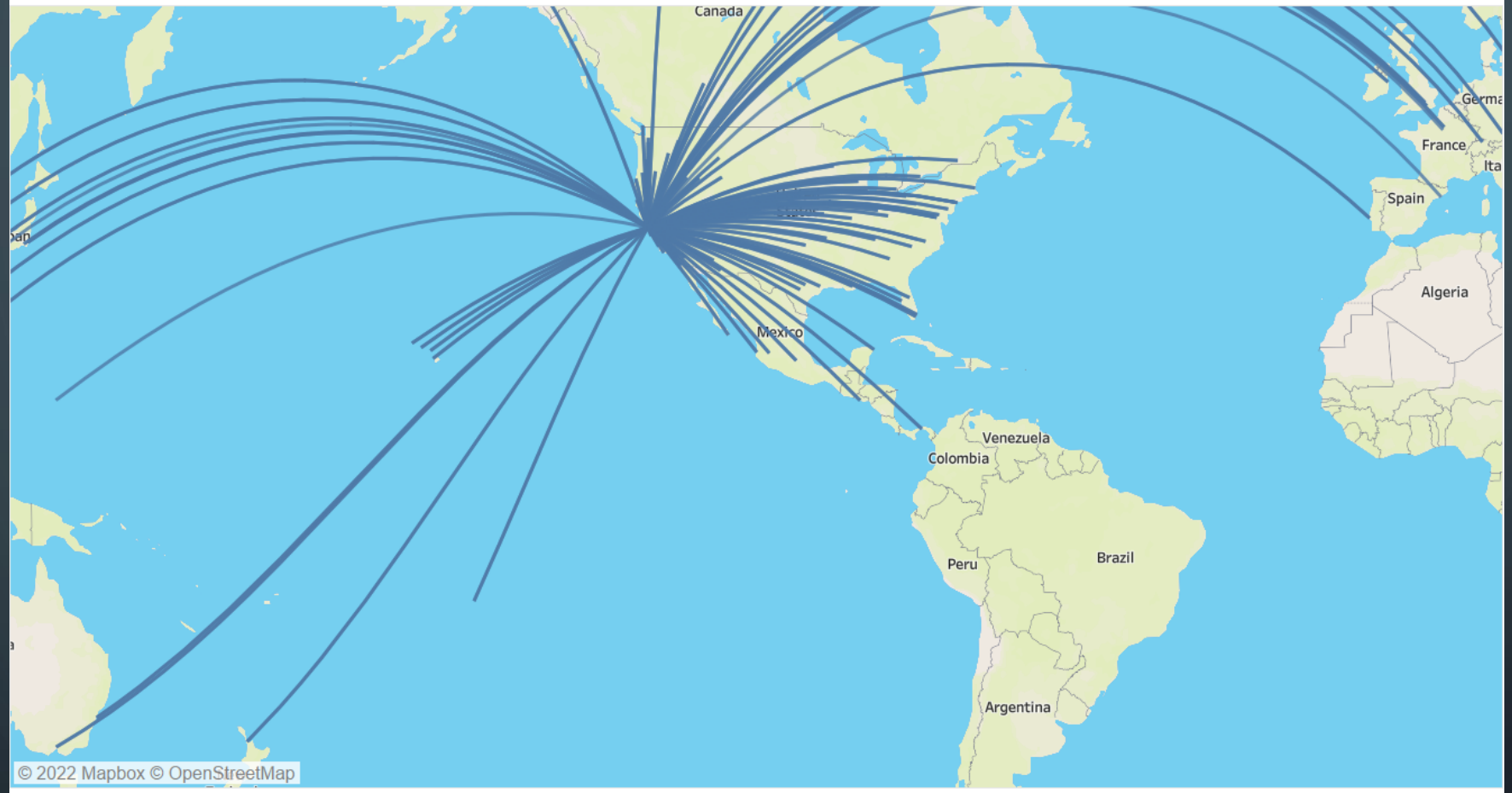


Sum of Number of Records for each GROUPED ROUTE. The marks are labeled by sum of Number of Records. The data is filtered on Route, Date, sum of DISTANCE and Action (Route). The Route filter keeps 271 of 271 members. The Date filter has multiple members selected. The sum of DISTANCE filter ranges from 424.812055085 to 732,292.286915002 and keeps Null values. The Action (Route) filter keeps 271 members. The view is filtered on GROUPED ROUTE, which has multiple members selected.



Average of DISTANCE for each GROUPED ROUTE. The marks are labeled by sum of DISTANCE. The data is filtered on Route and Action (Route). The Route filter keeps 271 of 271 members. The Action (Route) filter keeps 271 members. The view is filtered on GROUPED ROUTE and sum of DISTANCE. The GROUPED ROUTE filter has multiple members selected. The sum of DISTANCE filter ranges from 0 to 19,555,533 and keeps Null values.

MAP



Map based on Longitude (generated) and Latitude (generated). Details are shown for Route. The data is filtered on Date, which has multiple members selected. The view is filtered on Route and sum of DISTANCE. The Route filter keeps 271 of 271 members. The sum of DISTANCE filter ranges from 425 to 732,292 and keeps Null values.

- FROM THIS MAP IT IS CONCLUDED THAT MOST OF THE FLIGHTS ARE DEPARTED FROM SAN FRANCICO AIRPORT

➢ FINAL DASHBOARD WITH A HIDDEN FILTER

SAN FRANCISCO AIRPORT DASHBOARD

NO OF FLIGHTS

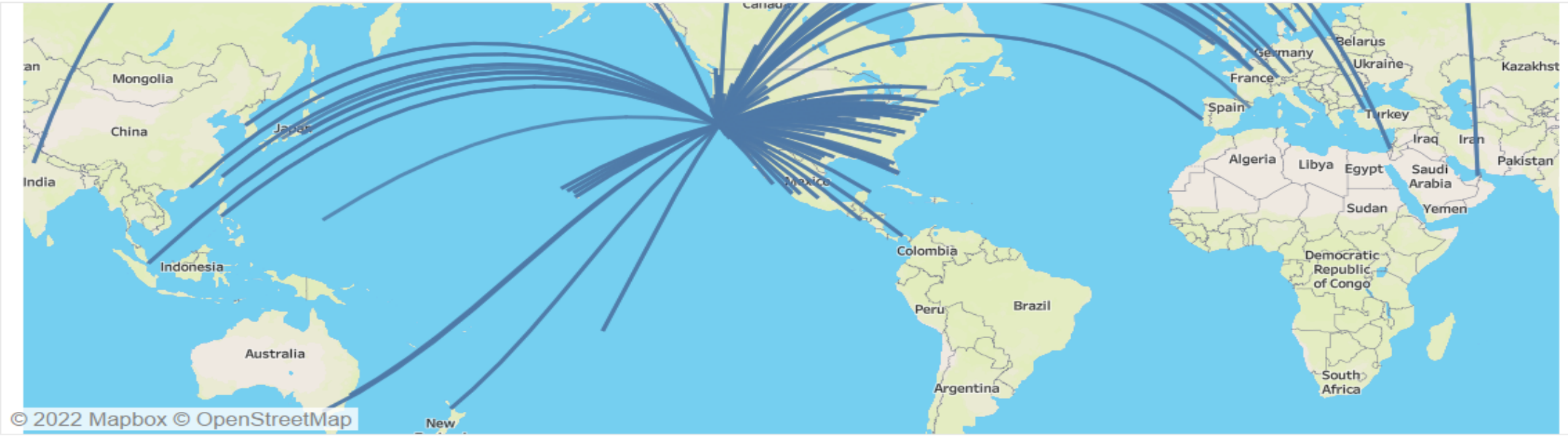
3,295

NO OF FLIGHTS BY DAY

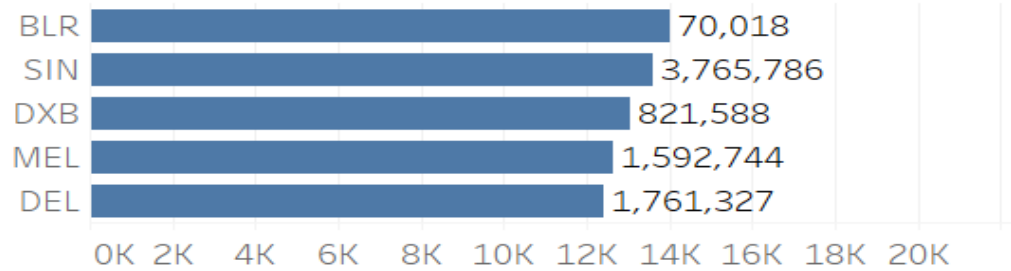
MOST POPULA R DAY

March 6, 2020

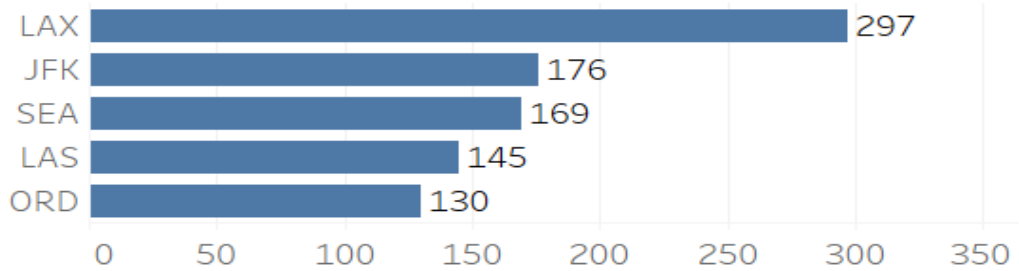
3,295



TOP 5 AVERAGE DISTANCE



TOP 5 ROUTES



KEY PERFORMANCE INDICATOR (KPI)

Key indicators displaying a summary of where the various flights are going and what is the busiest and lengthiest routes from the airport and their relationship with different metrics

- Total number of service Flights
- Number of Flights by day
- Most popular day
- Top five average distance
- Top five Busiest routes
- Mapping distance

CONCLUSION

- No of flights are getting decreasing day by day due to covid-19 effect .
- The top 5 major routes from san Francisco are lax,jfk,sea,las,ord so airline has to concentrate on this routes to increase the no of flights.
- The most popular day in the san Francisco is march 6 ,2020 this is actually a weekend Friday so most of the passengers are travelling on weekends.
- The top 5 major AVERAGE DISTANCE from san Francisco are BLR,SIN,DXB,MEL,DEL so airline has to concentrate on this routes to increase the no of flights.
- From maped distance we can get to know the routes and distance of the flights

Q&A

Q1) What's the source of data?

The Dataset was taken from iNeuron's Provided Project Description Document.

. https://drive.google.com/drive/folders/1G2fQ6_lDcToyROYbsz-ILP6uwbJrvPu6?usp=sharing

Q2) What was the type of data?

The data was the combination of numerical and Categorical values.

Q3) What's the complete flow you followed in this Project?

Refer slide 5 for better Understanding

Q4) What techniques were you using for data?

- Removing unwanted attributes
- Visualizing relation of independent variables with each other and output variables
- Removing outliers
- Cleaning data and imputing if null values are present.

Q5) What were the libraries that you used in Python?

I used Pandas, NumPy and Matplotlib and Seaborn libraries in Pandas.

THANK YOU