

# **Airlines Data Analytics for Aviation Industry**

**Team ID: PNT2022TMID18548**

```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import plotly.express as px
```

```
df=pd.read_csv("/content/airports.csv")
```

```
df.describe()
```

	id	latitude_deg	longitude_deg	elevation_ft	
<b>count</b>	49654.000000	49654.000000	49653.000000	40470.000000	
<b>mean</b>	123226.484956	30.468099	-31.037511	1245.385915	
<b>std</b>	146197.941426	24.036196	83.081832	1608.747838	
<b>min</b>	2.000000	-90.000000	-179.876999	-1266.000000	
<b>25%</b>	13506.250000	27.259244	-92.695999	194.000000	
<b>50%</b>	29510.500000	37.572365	-72.661400	706.000000	
<b>75%</b>	319759.500000	44.521883	17.080400	1499.000000	
<b>max</b>	347611.000000	82.750000	179.975700	22000.000000	

```
df.continent.unique()
```

```
array([nan, 'OC', 'AF', 'AN', 'EU', 'AS', 'SA'], dtype=object)
```

```
df=df.replace("no",0)
df=df.replace("yes",1)
#df = df.drop(['continent'],axis=1)
print(df.tail())
```

	id	ident	type	name			\
49649	35707	SDRI	heliport	Rio Sul Center Heliport			
49650	35708	SDRJ	heliport	Prefeitura do Rio de Janeiro Heliport			
49651	30338	SDRK	small_airport	Rio Claro Airport			
49652	35709	SDRL	heliport	Faria Lima Heliport			
49653	327051	SDRM	small_airport	Olomai Airstrip			
	latitude_deg	longitude_deg	elevation_ft	continent	iso_country	\	
49649	-22.957779	-43.177223	532.0	SA	BR		
49650	-22.970278	-43.209999	7.0	SA	BR		
49651	-22.430104	-47.562113	1991.0	SA	BR		
49652	-23.567223	-46.692780	2622.0	SA	BR		
49653	3.900000	NaN	NaN	NaN	NaN		
	iso_region	municipality	scheduled_service	gps_code	iata_code	\	
49649	BR-RJ	Rio De Janeiro	0.0	SDRI	NaN		
49650	BR-RJ	Rio De Janeiro	0.0	SDRJ	NaN		
49651	BR-SP	Rio Claro	0.0	SDRK	QIQ		

49652	BR-SP	São Paulo	0.0	SDRL	NaN
49653	NaN	NaN	NaN	NaN	NaN

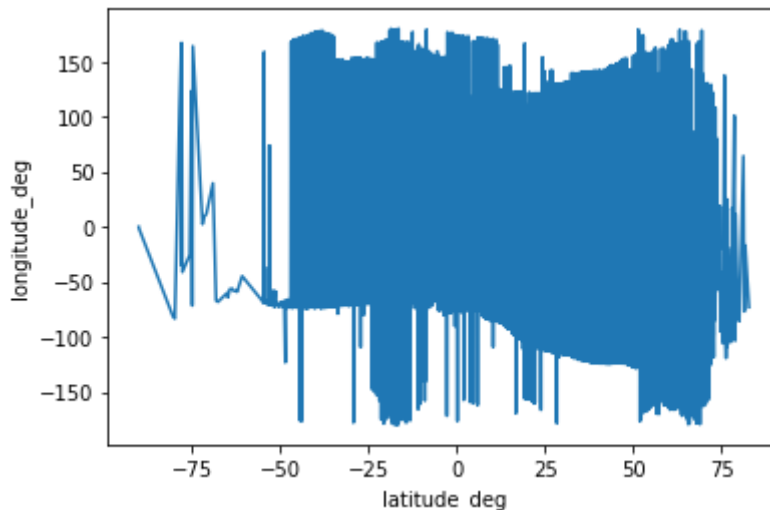
	local_code	home_link	wikipedia_link	\
49649	NaN	NaN	NaN	
49650	NaN	NaN	NaN	
49651	NaN	<a href="http://www.aeroclubederioclaro.com.br/">http://www.aeroclubederioclaro.com.br/</a>	NaN	
49652	NaN	NaN	NaN	
49653	NaN	NaN	NaN	

	keywords
49649	NaN
49650	NaN
49651	NaN
49652	NaN
49653	NaN

```
sns.lineplot(df['latitude_deg'],df['longitude_deg'])
plt.show()
```

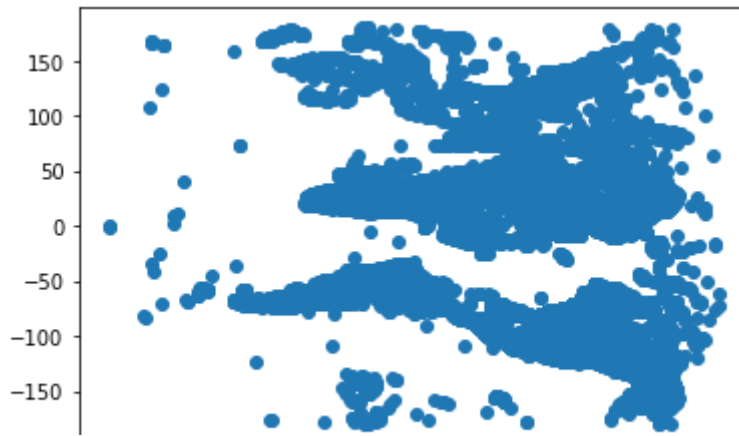
/usr/local/lib/python3.7/dist-packages/seaborn/\_decorators.py:43: FutureWarning: P  
FutureWarning



```
print(df.shape)
n = len(pd.unique(df['name']))
d=len(pd.unique(df['type']))
print("name",n,"type",d)
df['scheduled_service'].value_counts()

(49654, 18)
name 47641 type 7
0.0    46817
1.0     2836
Name: scheduled_service, dtype: int64
```

```
plt.scatter(x=df['latitude_deg'], y=df['longitude_deg'])
plt.show()
```



```
df=df.replace('NaN',0)
df=df.replace('OC',1)
df=df.replace('AF',2)
df=df.replace('AN',3)
df=df.replace('EU',4)
df=df.replace('AS',5)
df=df.replace('SA',6)
print(df)
```

	id	ident	type	name \
0	6523	00A	heliport	Total Rf Helipoint
1	323361	00AA	small_airport	Aero B Ranch Airport
2	6524	00AK	small_airport	Lowell Field
3	6525	00AL	small_airport	Epps Airpark
4	6526	00AR	closed	Newport Hospital & Clinic Helipoint
...	...	...	...	...
49649	35707	SDRI	heliport	Rio Sul Center Helipoint
49650	35708	SDRJ	heliport	Prefeitura do Rio de Janeiro Helipoint
49651	30338	SDRK	small_airport	Rio Claro Airport
49652	35709	SDRL	heliport	Faria Lima Helipoint
49653	327051	SDRM	small_airport	Olomai Airstrip

	latitude_deg	longitude_deg	elevation_ft	continent	iso_country \
0	40.070801	-74.933601	11.0	NaN	US
1	38.704022	-101.473911	3435.0	NaN	US
2	59.947733	-151.692524	450.0	NaN	US
3	34.864799	-86.770302	820.0	NaN	US
4	35.608700	-91.254898	237.0	NaN	US
...	...	...	...	...	...
49649	-22.957779	-43.177223	532.0	6.0	BR
49650	-22.970278	-43.209999	7.0	6.0	BR
49651	-22.430104	-47.562113	1991.0	6.0	BR
49652	-23.567223	-46.692780	2622.0	6.0	BR
49653	3.900000	NaN	NaN	NaN	NaN

	iso_region	municipality	scheduled_service	gps_code	iata_code \
0	US-PA	Bensalem	0.0	00A	NaN
1	US-KS	Leoti	0.0	00AA	NaN
2	US-AK	Anchor Point	0.0	00AK	NaN
3	US-AL	Harvest	0.0	00AL	NaN
4	US-AR	Newport	0.0	NaN	NaN
...	...	...	...	...	...
49649	BR-RJ	Rio De Janeiro	0.0	SDRI	NaN
49650	BR-RJ	Rio De Janeiro	0.0	SDRJ	NaN
49651	BR-SP	Rio Claro	0.0	SDRK	QIQ

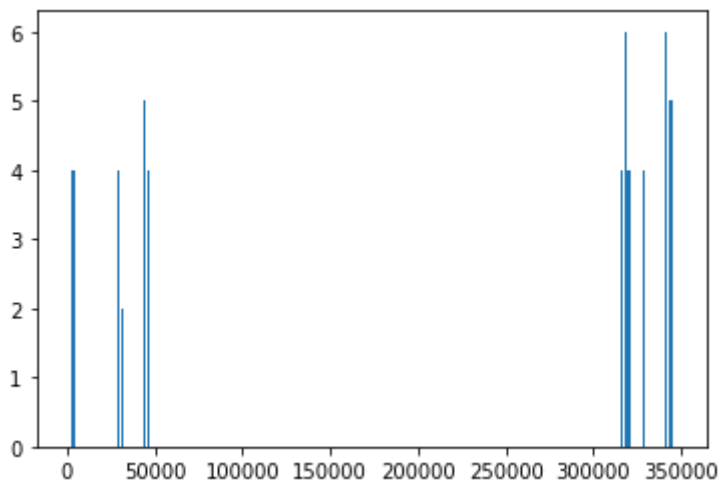
49652	BR-SP	São Paulo	0.0	SDRL	NaN
49653	NaN	NaN	NaN	NaN	NaN

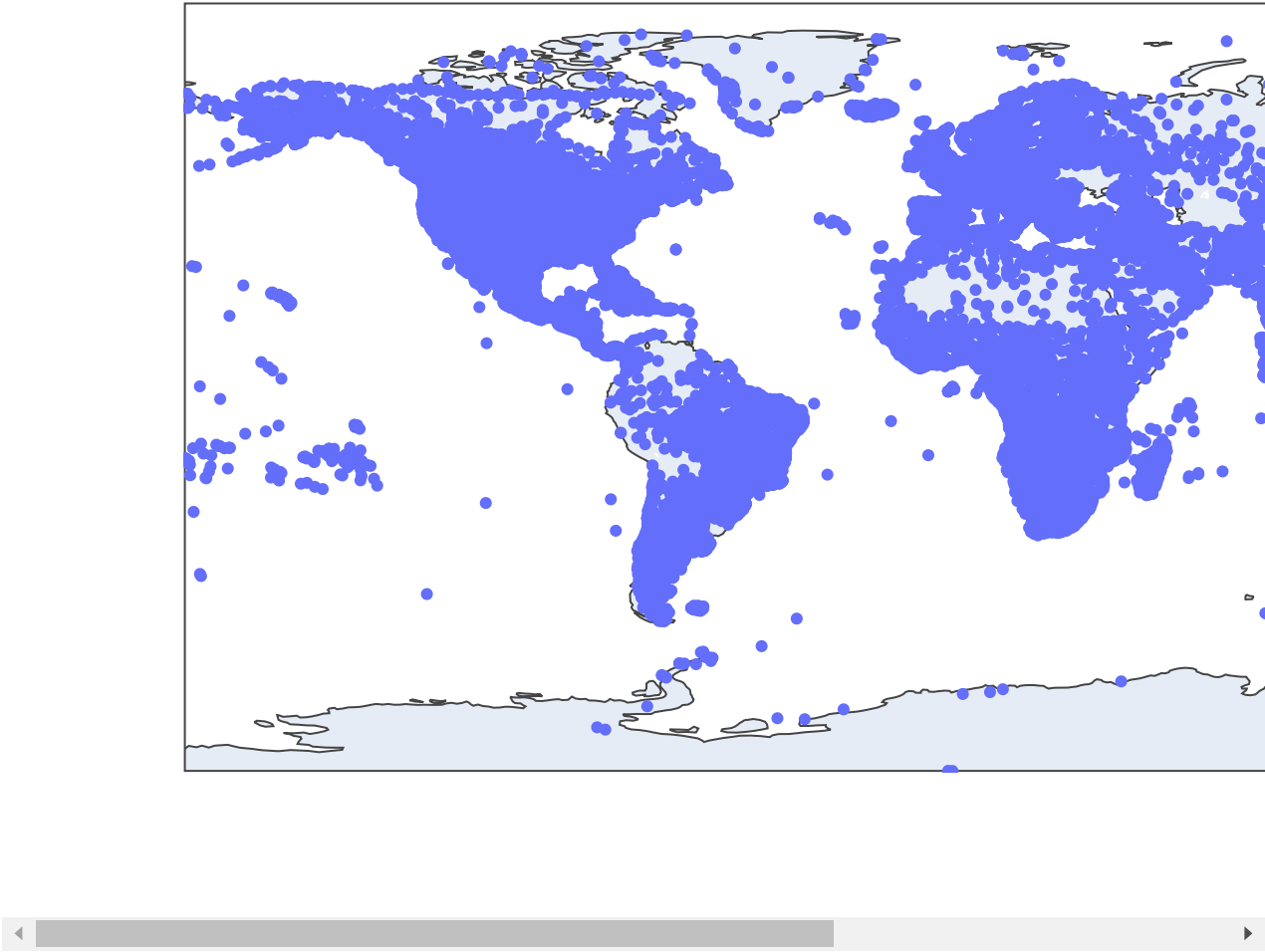
	local_code	home_link	wikipedia_link	\
0	00A	NaN	NaN	
1	00AA	NaN	NaN	
2	00AK	NaN	NaN	
3	00AL	NaN	NaN	
4	NaN	NaN	NaN	
...	...	...	...	
49649	NaN	NaN	NaN	
49650	NaN	NaN	NaN	
49651	NaN	<a href="http://www.aeroclubederioclaro.com.br/">http://www.aeroclubederioclaro.com.br/</a>	NaN	
49652	NaN	NaN	NaN	
49653	NaN	NaN	NaN	

	keywords
0	NaN
1	NaN
2	NaN
3	NaN
...	...

```
plt.bar(df['id'],df['continent'])
plt.show()
```



```
import plotly.express as px
fig = px.scatter_geo(df,lat='latitude_deg',lon='longitude_deg', hover_name="iso_country")
fig.show()
```



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