

```
In [6]: import pandas as pd
from sqlalchemy import create_engine
import json
import sqlite3

airports=pd.read_csv('airports.csv')
```

```
In [2]: # Data cleaning steps for CSV containing airport ID and location

# Remove duplicate rows based on the ID
airports = airports.drop_duplicates(subset='airport_id', keep='first')

# Drop rows with missing values
airports = airports.dropna()

# Strip leading and trailing whitespaces from all string columns
airports = airports.apply(lambda x: x.str.strip() if x.dtype == 'O' else x)

# Display the cleaned DataFrame
print("\nCleaned DataFrame:")
print(airports)

# Save the cleaned DataFrame back to a new CSV file
airports.to_csv('cleaned_airports.csv', index=False)
```

Cleaned DataFrame:

	airport_id	city	state	name
0	10165	Adak Island	AK	Adak
1	10299	Anchorage	AK	Ted Stevens Anchorage International
2	10304	Aniak	AK	Aniak Airport
3	10754	Barrow	AK	Wiley Post/Will Rogers Memorial
4	10551	Bethel	AK	Bethel Airport
..
360	11233	Cheyenne	WY	Cheyenne Regional/Jerry Olson Field
361	11097	Cody	WY	Yellowstone Regional
362	11865	Gillette	WY	Gillette Campbell County
363	12441	Jackson	WY	Jackson Hole
364	14543	Rock Springs	WY	Rock Springs Sweetwater County

[365 rows x 4 columns]

```
In [8]: with open('airline_operator_risk.json', 'r') as json_file:
        data = json.load(json_file)

# Convert JSON data to DataFrame
df_airline = pd.json_normalize(data)

# Display original DataFrame
print("Original DataFrame:")
print(df_airline)

# Data cleaning steps
# Drop rows with missing values
df_airline = df_airline.dropna()

# Strip leading and trailing whitespaces from string columns
df_airline = df_airline.apply(lambda x: x.str.strip() if x.dtype == 'O' else x)

# Perform an SQL transformation (example: filtering based on a condition)
conn_airline = sqlite3.connect(':memory:') # Create an in-memory SQLite database
with conn_airline:
    df_airline.to_sql('airline_data', conn_airline, index=False, if_exists='replace') #
```

```
# Example SQL query: Select rows where av_fleet_age is greater than 10
sql_query_airline = "SELECT * FROM airline_data WHERE av_fleet_age > 10"
df_filtered_airline = pd.read_sql(sql_query_airline, conn_airline)

# Display the cleaned DataFrame after the SQL transformation
print("\nCleaned DataFrame after SQL transformation:")
print(df_filtered_airline)

# Save the cleaned DataFrame back to a new JSON file
df_filtered_airline.to_json('cleaned_airline_data.json', orient='records', lines=True)
```

Original DataFrame:

	models	aircraft	is_iosa_certified	accidents_5y	fatalaccidents_5y	\
0	1	1	False	0	0	
1	1	9	False	0	0	
2	1	2	False	0	0	
3	2	2	False	0	0	
4	1	2	False	0	0	
..	
295	12	16	False	0	0	
296	2	13	True	1	0	
297	1	1	False	0	0	
298	2	2	False	0	0	
299	3	41	False	0	0	

	operatorName	operatorCode	countryName	\
0	Advisors Aviation LLC	BKM	United States	
1	Honda	HON	United States	
2	Telford Aviation Inc	TEL	United States	
3	National Center for Atmospheric Research	SIQ	United States	
4	Pathfinder Aviation LLC	PAF	United States	
..	
295	Aeroways Inc	TKK	United States	
296	Omni Air International	OAE	United States	
297	Big Island Air	BIG	United States	
298	Freedom Aviation	FAW	United States	
299	Alpha Flying Inc - PlaneSense	CNS	United States	

	countryCode	av_fleet_age	aircraft_over_25y	is_international	routes	\
0	USA	15.000000	0	False	NaN	
1	USA	7.111111	0	False	NaN	
2	USA	21.000000	1	False	NaN	
3	USA	26.000000	1	False	NaN	
4	USA	41.500000	2	False	NaN	
..	
295	USA	13.187500	4	False	NaN	
296	USA	20.076923	3	True	8.0	
297	USA	41.000000	1	False	NaN	
298	USA	12.500000	0	False	NaN	
299	USA	5.731707	0	False	NaN	

	connections	destinations	annual_flights	annual_international_flights
0	NaN	NaN	NaN	NaN
1	NaN	NaN	NaN	NaN
2	NaN	NaN	NaN	NaN
3	NaN	NaN	NaN	NaN
4	NaN	NaN	NaN	NaN
..
295	NaN	NaN	NaN	NaN
296	4.0	6.0	202.0	202.0
297	NaN	NaN	NaN	NaN
298	NaN	NaN	NaN	NaN
299	NaN	NaN	NaN	NaN

[300 rows x 17 columns]

Cleaned DataFrame after SQL transformation:

	models	aircraft	is_iosa_certified	accidents_5y	fatalaccidents_5y	\
0	1	13	0	0	0	
1	1	36	1	2	0	
2	2	3	0	0	0	
3	2	60	1	0	0	
4	1	2	0	0	0	
5	1	14	1	0	0	
6	2	5	0	2	1	

7	1	9	0	1	0
8	1	1	1	1	0
9	4	37	1	1	0
10	3	21	0	0	0
11	6	684	1	26	0
12	3	6	0	0	0
13	1	52	1	1	0
14	11	591	1	22	0
15	1	626	0	9	1
16	2	10	1	0	0
17	1	1	0	0	0
18	5	11	0	1	0
19	3	13	0	0	0
20	4	462	1	3	0
21	3	183	1	5	0
22	1	13	0	0	0
23	3	3	0	0	0
24	5	100	0	0	0
25	2	12	0	0	0
26	1	6	0	0	0
27	1	8	0	0	0
28	2	8	0	0	0
29	2	22	0	0	0
30	1	57	1	0	0
31	7	502	1	12	0
32	3	36	0	0	0
33	2	2	0	0	0
34	9	34	0	0	0
35	2	93	0	0	0
36	4	9	0	0	0
37	3	18	1	0	0
38	9	61	0	0	0
39	2	182	1	1	0
40	1	29	1	0	0
41	2	6	0	0	0
42	4	29	0	0	0
43	2	13	1	1	0

	operatorName	operatorCode	countryName	\
0	ACE Air Cargo	AER	United States	
1	CommutAir	UCA	United States	
2	Aloha Air Cargo	AAH	United States	
3	Atlas Air	GTI	United States	
4	Sky Lease Cargo	KYE	United States	
5	ABX Air	ABX	United States	
6	Air Sunshine	RSI	United States	
7	Lynden Air Cargo	LYC	United States	
8	GoJet Airlines	GJS	United States	
9	Kalitta Air	CKS	United States	
10	Kenmore Air	KEN	United States	
11	American Airlines	AAL	United States	
12	Iliamna Air Taxi	IAR	United States	
13	Piedmont Airlines	PDT	United States	
14	Delta Air Lines	DAL	United States	
15	Southwest Airlines	SWA	United States	
16	Polar Air Cargo	PAC	United States	
17	Innovation First Transportation Inc	BUG	United States	
18	Everts Air Alaska	VTN	United States	
19	IBC Airways	CSQ	United States	
20	SkyWest Airlines	SKW	United States	
21	JetBlue Airways	JBU	United States	
22	Warbelow's Air Ventures	WAV	United States	
23	Executive Express Aviation LLC	LTD	United States	
24	Cape Air	KAP	United States	

25	Taquan Air	TQN	United States
26	Eastern Airlines	DYA	United States
27	Amerijet International	AJT	United States
28	Northern Air Cargo	NAC	United States
29	Tradewind Aviation	GPD	United States
30	Air Wisconsin	AWI	United States
31	United Airlines	UAL	United States
32	Southern Airways Express	FDY	United States
33	40-Mile Air	MLA	United States
34	Bering Air	BRG	United States
35	Allegiant Air	AAY	United States
36	Ryan Air	RYA	United States
37	Silver Airways	SIL	United States
38	Era Helicopters LLC	ERH	United States
39	Republic Airways	RPA	United States
40	Sun Country Airlines	SCX	United States
41	Aztec Airways	AZY	United States
42	Grant Aviation	GUN	United States
43	Omni Air International	OAE	United States

	countryCode	av_fleet_age	aircraft_over_25y	is_international	routes \
0	USA	30.923077	13	0	26.0
1	USA	15.694444	0	0	76.0
2	USA	24.333333	2	0	15.0
3	USA	22.766667	25	1	21.0
4	USA	16.500000	0	1	19.0
5	USA	32.285714	14	1	48.0
6	USA	36.600000	5	1	52.0
7	USA	41.444444	9	0	5.0
8	USA	17.000000	0	1	531.0
9	USA	22.378378	17	1	8.0
10	USA	59.714286	20	1	7.0
11	USA	10.195906	0	1	1601.0
12	USA	30.666667	3	0	3.0
13	USA	19.500000	0	0	140.0
14	USA	12.534687	38	1	1576.0
15	USA	12.052716	0	1	1475.0
16	USA	17.100000	1	1	47.0
17	USA	32.000000	1	0	29.0
18	USA	25.818182	5	0	25.0
19	USA	30.538462	10	1	8.0
20	USA	10.666667	0	1	1349.0
21	USA	11.207650	0	1	520.0
22	USA	41.076923	13	0	7.0
23	USA	26.666667	1	0	61.0
24	USA	32.480000	82	1	83.0
25	USA	64.166667	12	0	3.0
26	USA	31.666667	6	1	12.0
27	USA	30.125000	8	1	145.0
28	USA	28.375000	8	0	26.0
29	USA	13.454545	0	1	22.0
30	USA	17.894737	0	1	360.0
31	USA	14.085657	33	1	2352.0
32	USA	15.055556	8	1	18.0
33	USA	28.500000	1	0	3.0
34	USA	18.352941	13	0	15.0
35	USA	13.763441	0	1	667.0
36	USA	31.888889	7	0	9.0
37	USA	11.888889	0	1	111.0
38	USA	14.163934	9	0	36.0
39	USA	10.131868	0	1	804.0
40	USA	14.206897	0	1	94.0
41	USA	39.333333	6	1	3.0
42	USA	25.413793	18	0	13.0

	connections	destinations	annual_flights	annual_international_flights
0	21.0	14.0	3883.0	0.0
1	38.0	29.0	42487.0	0.0
2	8.0	7.0	15053.0	0.0
3	16.0	13.0	1416.0	1416.0
4	19.0	18.0	544.0	444.0
5	30.0	24.0	13426.0	4809.0
6	28.0	9.0	26351.0	26351.0
7	4.0	4.0	996.0	0.0
8	271.0	89.0	90229.0	5153.0
9	5.0	8.0	240.0	210.0
10	4.0	4.0	8510.0	2296.0
11	849.0	295.0	1134936.0	213447.0
12	2.0	2.0	942.0	0.0
13	70.0	60.0	94960.0	0.0
14	827.0	289.0	1063049.0	152257.0
15	738.0	100.0	1321055.0	31875.0
16	37.0	20.0	8487.0	6359.0
17	17.0	15.0	42984.0	0.0
18	17.0	13.0	4713.0	0.0
19	4.0	5.0	196.0	196.0
20	689.0	207.0	642142.0	38455.0
21	260.0	101.0	341393.0	85214.0
22	5.0	4.0	8858.0	0.0
23	32.0	19.0	6974.0	0.0
24	43.0	31.0	113014.0	37425.0
25	2.0	2.0	6206.0	0.0
26	6.0	7.0	1677.0	1677.0
27	118.0	54.0	10211.0	10077.0
28	16.0	10.0	3656.0	0.0
29	11.0	11.0	10481.0	6838.0
30	180.0	77.0	147372.0	12112.0
31	1390.0	331.0	716586.0	175582.0
32	9.0	10.0	6385.0	76.0
33	2.0	2.0	838.0	0.0
34	10.0	6.0	26331.0	0.0
35	334.0	106.0	75369.0	34.0
36	5.0	5.0	16508.0	0.0
37	57.0	40.0	38872.0	9431.0
38	19.0	13.0	26826.0	0.0
39	408.0	114.0	223493.0	20121.0
40	52.0	38.0	19316.0	3733.0
41	3.0	3.0	480.0	480.0
42	7.0	7.0	55903.0	0.0
43	4.0	6.0	202.0	202.0

```
In [9]: with open('airline_incidents.json', 'r') as json_file:
        data = json.load(json_file)

        # Convert JSON data to DataFrame
        df_incidents = pd.json_normalize(data)

        # Display the original DataFrame
        print("Original DataFrame:")
        print(df_incidents)

        # Data cleaning steps
        # Drop rows with missing values
        df_incidents = df_incidents.dropna()

        # Strip leading and trailing whitespaces from string columns
        df_incidents = df_incidents.apply(lambda x: x.str.strip() if x.dtype == 'O' else x)
```

```
# Perform an SQL transformation (example: filtering based on a condition)
conn_incidents = sqlite3.connect(':memory:') # Create an in-memory SQLite database
with conn_incidents:
    df_incidents.to_sql('incidents_data', conn_incidents, index=False, if_exists='replac

# Example SQL query: Select rows where FlightPhase is 'Approach'
sql_query_incidents = "SELECT * FROM incidents_data WHERE FlightPhase = 'Approach'"
df_filtered_incidents = pd.read_sql(sql_query_incidents, conn_incidents)

# Display the cleaned DataFrame after the SQL transformation
print("\nCleaned DataFrame after SQL transformation:")
print(df_filtered_incidents)

# Save the cleaned DataFrame back to a new JSON file
df_filtered_incidents.to_json('cleaned_incidents_data.json', orient='records', lines=True)
```

Original DataFrame:

	Date	StateOfOccurrence	\
0	2008-01-25T00:00:00.000Z	USA	
1	2008-01-28T00:00:00.000Z	USA	
2	2008-02-18T00:00:00.000Z	USA	
3	2008-02-25T00:00:00.000Z	USA	
4	2008-04-15T00:00:00.000Z	USA	
..	
176	2016-07-13T00:00:00.000Z	COL	
177	2016-07-26T00:00:00.000Z	USA	
178	2016-08-11T00:00:00.000Z	USA	
179	2016-10-26T00:00:00.000Z	USA	
180	2016-10-28T00:00:00.000Z	USA	

	Location	\
0	Newark , New Jersey	
1	Chicago-Midway Airport, IL (MDW)	
2	Austin	
3	Jackson Hole, WY	
4	Pueblo , Colorado	
..	...	
176	AD Bogota	
177	Houston-Sugar Land Regional Airport, TX (SGR)	
178	en croisiÃ"re	
179	Depuis AD Seattle	
180	Fort Lauderdale International Airport, FL, FLL...	

	Model	Registration	\
0	AIRBUS A320	N462UA	
1	DC-9-32	N605NW	
2	MCDONNELL DOUGLAS	N935DL	
3	AIRBUS A320	N442UA	
4	AIRBUS A320	N497UA	
..	
176	AIRBUS A330 200	N279AV	
177	EMBRAER EMB505 PHENOM 300	N362FX	
178	AIRBUS A320	N632JB	
179	AIRBUS A330 200	N855NW	
180	MCDONNELL DOUGLAS MD10 10	N370FE	

	Operator	StateOfRegistry	\
0	United States United Air Lines Inc.	USA	
1	Northwest Airlines	USA	
2	United States Delta Air Lines, Inc.	USA	
3	United States United Air Lines Inc.	USA	
4	United States United Air Lines Inc.	USA	
..	
176	Peru	USA	
177	United States Flight Options (Johnson City, Ny)	USA	
178	United States	USA	
179	United States	USA	
180	United States Federal Express Corporation (Lit...	USA	

	FlightPhase	Class	Fatalities	...	TypeDesignator	Helicopter	\
0	Take-off	Serious incident	0	...	A320	False	
1	Standing		0	...	TAYD	False	
2	Approach	Serious incident	0	...	DC93	False	
3	Landing	Incident	0	...	A320	False	
4	En route	Incident	0	...	A320	False	
..	
176	Take-off	Serious incident		...	BE20	False	
177	Landing	Incident	0	...	E55P	False	
178	En route	Serious incident		...	A320	False	
179	Take-off	Serious incident		...	BE20	False	

	Landing	Serious incident	...	DC10	False
	Airplane	Engines	EngineType	StateOfOperator	Official Risk \
0	True	2	Jet	USA	SCF
1	True	1	Piston	USA	
2	True	2	Jet	USA	RS
3	True	2	Jet	USA	RS
4	True	2	Jet	USA	TURB
..
176	True	2	Turboprop	USA	RS
177	True	2	Jet	USA	RS
178	True	2	Jet	USA	TURB
179	True	2	Turboprop	USA	SCF
180	True	3	Jet	USA	SCF

	OccCats	Year
0	[SCF-NP]	2008
1	[]	2008
2	[BIRD]	2008
3	[RE]	2008
4	[TURB]	2008
..
176	[RE]	2016
177	[RE, LOC-G]	2016
178	[TURB]	2016
179	[F-NI, SCF-PP]	2016
180	[SCF-NP, F-POST]	2016

[181 rows x 24 columns]

Cleaned DataFrame after SQL transformation:

	Date	StateOfOccurrence	\
0	2008-02-18T00:00:00.000Z	USA	
1	2008-10-19T00:00:00.000Z		
2	2008-11-16T00:00:00.000Z	USA	
3	2009-03-14T00:00:00.000Z		
4	2009-04-19T00:00:00.000Z	USA	
5	2009-06-30T00:00:00.000Z	USA	
6	2009-07-11T00:00:00.000Z	USA	
7	2009-09-02T00:00:00.000Z	USA	
8	2009-09-13T00:00:00.000Z	BHS	
9	2009-10-26T00:00:00.000Z		
10	2009-12-25T00:00:00.000Z	USA	
11	2010-01-10T00:00:00.000Z	USA	
12	2011-07-23T00:00:00.000Z	BHS	
13	2011-10-01T00:00:00.000Z	BHS	
14	2013-05-08T00:00:00.000Z	DEU	
15	2015-04-06T00:00:00.000Z	CRI	

	Location	Model	\
0	Austin	MCDONNELL DOUGLAS	
1	Edmonton	EMBRAER ERJ170	
2	Philadelphia International Air	DE HAVILLAND DHC8 300	
3	Vancouver	AIRBUS A319	
4	Miami	BOEING 757 200	
5	KLGA - New York/La Guardia	BOEING 737 800	
6	Los Angeles	BOEING 737 800	
7	approach to BWI	AIRBUS A320	
8	MYGF	ATR ATR72 200	
9	75 km off Tokyo	BOEING 777 300	
10	near Detroit-Metropolitan Wayne County Airport...	Airbus A330-323X	
11	Newark	AIRBUS A319	
12	MYNN	BOEING 737 800	
13	MYGF	ATR ATR72 200	

14
15

En route

BAE

BOEING 757 200

	Registration	Operator \
0	N935DL	United States Delta Air Lines, Inc.
1	N642RW	United States Shuttle America (Windsor Locks, Ct)
2	N326EN	United States Piedmont Airlines, Inc. D/b/a He...
3	N836UA	United States United Air Lines Inc.
4	N690AA	United States American Airlines Inc.
5	N907AN	United States American Airlines Inc.
6	NAXXXX	United States American Airlines Inc.
7	N456UA	United States United Air Lines Inc.
8	N431AT	United States Executive Airlines, Inc., D/b/a ...
9	N777AN	United States American Airlines Inc.
10	N820NW	Northwest Airlines
11	N816UA	United States United Air Lines Inc.
12	N905AN	United States American Airlines Inc.
13	N417AT	United States Amr American Eagle, Inc. (Dallas...
14	HB-IYS	Switzerland Swiss World Airways
15	N978FD	United States Federal Express Corporation (Lit...

	StateOfRegistry	FlightPhase	Class	Fatalities	...	\
0	USA	Approach	Serious incident	None	...	
1	USA	Approach	Incident	None	...	
2	USA	Approach	Incident	None	...	
3	USA	Approach	Incident	None	...	
4	USA	Approach	Incident	None	...	
5	USA	Approach	Incident	None	...	
6	USA	Approach	Incident	None	...	
7	USA	Approach	Incident	None	...	
8	USA	Approach	Incident	None	...	
9	USA	Approach	Incident	None	...	
10	USA	Approach		None	...	
11	USA	Approach	Serious incident	None	...	
12	USA	Approach	Incident	None	...	
13	USA	Approach	Incident	None	...	
14	CHE	Approach	Serious incident	None	...	
15	USA	Approach	Incident	None	...	

	TypeDesignator	Helicopter	Airplane	Engines	EngineType	StateOfOperator \
0	DC93	0	1	2	Jet	USA
1	E170	0	1	2	Jet	USA
2	VNOM	0	1	1	Jet	USA
3	A319	0	1	2	Jet	USA
4	ST75	0	1	1	Piston	USA
5	B37M	0	1	2	Jet	USA
6	B38M	0	1	2	Jet	USA
7	A320	0	1	2	Jet	USA
8	BE20	0	1	2	Turboprop	USA
9	C17	0	1	4	Jet	USA
10	A319	0	1	2	Jet	USA
11	A319	0	1	2	Jet	USA
12	B37M	0	1	2	Jet	USA
13	M200	0	1	1	Piston	USA
14	J5	0	1	1	Piston	USA
15	ST75	0	1	1	Piston	USA

	Official	Risk	OccCats	Year
0		RS	None	2008
1		OTH	None	2008
2		RS	None	2008
3		SCF	None	2009
4		OTH	None	2009
5		RS	None	2009

6	OTH	None	2009
7	SCF	None	2009
8	SCF	None	2009
9	TURB	None	2009
10		None	2009
11	RS	None	2010
12	SCF	None	2011
13	F-NI	None	2011
14	OTH	None	2013
15		None	2015

[16 rows x 24 columns]

```
In [12]: with open('delay_index.json', 'r') as json_file:
          data = json.load(json_file)

# Flatten the nested JSON structure
df_delay_indexes = pd.json_normalize(data['delayIndexes'])

# Display the original DataFrame
print("Original DataFrame:")
print(df_delay_indexes)

# Data cleaning steps
# Drop rows with missing values
df_delay_indexes = df_delay_indexes.dropna()

# Strip leading and trailing whitespaces from string columns
df_delay_indexes = df_delay_indexes.apply(lambda x: x.str.strip() if x.dtype == 'O' else

# Display the cleaned DataFrame
print("\nCleaned DataFrame:")
print(df_delay_indexes)

# Save the cleaned DataFrame back to a new JSON file
df_delay_indexes.to_json('cleaned_delay_indexes.json', orient='records', lines=True)
```

Original DataFrame:

	rawScore	normalizedScore	dateStart \
0	0.00	0.0	2024-02-17T17:30:00.000Z
1	1.20	0.5	2024-02-17T17:30:00.000Z
2	0.00	0.0	2024-02-17T17:30:00.000Z
3	0.00	0.0	2024-02-17T17:30:00.000Z
4	0.00	0.0	2024-02-17T17:30:00.000Z
...
1614	6.15	0.5	2024-02-19T22:00:00.000Z
1615	2.24	0.5	2024-02-19T22:00:00.000Z
1616	0.00	0.0	2024-02-19T22:00:00.000Z
1617	0.00	0.0	2024-02-19T22:00:00.000Z
1618	0.00	0.0	2024-02-19T22:00:00.000Z

	dateEnd	flights	observations	canceled	onTime \
0	2024-02-17T20:30:00.000Z	0	0	0	0
1	2024-02-17T20:30:00.000Z	10	10	0	9
2	2024-02-17T20:30:00.000Z	2	2	0	2
3	2024-02-17T20:30:00.000Z	2	0	0	0
4	2024-02-17T20:30:00.000Z	0	0	0	0
...
1614	2024-02-20T01:00:00.000Z	68	63	0	60
1615	2024-02-20T01:00:00.000Z	24	24	0	22
1616	2024-02-20T01:00:00.000Z	4	4	0	4
1617	2024-02-20T01:00:00.000Z	1	1	0	1
1618	2024-02-20T01:00:00.000Z	3	3	0	3

	delayed15	delayed30	...	airport.utcOffsetHours	airport.latitude \
0	0	0	...	-5.0	47.167778
1	0	0	...	-5.0	38.174397
2	0	0	...	-9.0	56.114041
3	0	0	...	-5.0	26.152778
4	0	0	...	-6.0	37.044444
...
1614	0	1	...	-6.0	44.883016
1615	1	1	...	-10.0	20.892883
1616	0	0	...	-6.0	32.454707
1617	0	0	...	-9.0	65.829167
1618	0	0	...	-9.0	64.736090

	airport.longitude	airport.elevationFeet	airport.classification \
0	-88.486389	1095	4
1	-85.735990	474	1
2	-133.123301	0	4
3	-81.775278	8	4
4	-100.960556	2883	4
...
1614	-93.210922	841	1
1615	-156.438629	54	2
1616	-93.828383	258	3
1617	-144.063889	610	4
1618	-156.936112	128	4

	airport.active	airport.weatherUrl \
0	True	https://api.flightstats.com/flex/weather/rest/...
1	True	https://api.flightstats.com/flex/weather/rest/...
2	True	https://api.flightstats.com/flex/weather/rest/...
3	True	https://api.flightstats.com/flex/weather/rest/...
4	True	https://api.flightstats.com/flex/weather/rest/...
...
1614	True	https://api.flightstats.com/flex/weather/rest/...
1615	True	https://api.flightstats.com/flex/weather/rest/...
1616	True	https://api.flightstats.com/flex/weather/rest/...
1617	True	https://api.flightstats.com/flex/weather/rest/...

	airport.street1	airport.postalCode	airport.street2
0	NaN	NaN	NaN
1	600 Terminal Drive	40209	NaN
2	NaN	NaN	NaN
3	160 Aviation Drive North	34104-3568	NaN
4	NaN	67905-2199	NaN
...
1614	6040 28th Avenue South	55450	NaN
1615		96732	
1616	5103 Hollywood Avenue, Suite 300	71109	
1617	NaN	99733	NaN
1618	NaN	99741	NaN

[1619 rows x 36 columns]

Cleaned DataFrame:

	rawScore	normalizedScore	dateStart	\
17	0.00	0.00	2024-02-17T17:30:00.000Z	
22	13.64	1.25	2024-02-17T17:30:00.000Z	
23	0.00	0.00	2024-02-17T17:30:00.000Z	
24	0.00	0.00	2024-02-17T17:30:00.000Z	
27	0.00	0.00	2024-02-17T17:30:00.000Z	
...	
1600	0.00	0.00	2024-02-19T22:00:00.000Z	
1607	1.02	5.00	2024-02-19T22:00:00.000Z	
1612	0.00	0.00	2024-02-19T22:00:00.000Z	
1615	2.24	0.50	2024-02-19T22:00:00.000Z	
1616	0.00	0.00	2024-02-19T22:00:00.000Z	

	dateEnd	flights	observations	canceled	onTime	\
17	2024-02-17T20:30:00.000Z	1	1	0	1	
22	2024-02-17T20:30:00.000Z	59	58	0	49	
23	2024-02-17T20:30:00.000Z	1	1	0	1	
24	2024-02-17T20:30:00.000Z	2	2	0	2	
27	2024-02-17T20:30:00.000Z	6	5	0	5	
...	
1600	2024-02-20T01:00:00.000Z	0	0	0	0	
1607	2024-02-20T01:00:00.000Z	1	1	0	0	
1612	2024-02-20T01:00:00.000Z	0	0	0	0	
1615	2024-02-20T01:00:00.000Z	24	24	0	22	
1616	2024-02-20T01:00:00.000Z	4	4	0	4	

	delayed15	delayed30	...	airport.utcOffsetHours	airport.latitude	\
17	0	0	...	-5.0	43.170556	
22	5	0	...	-5.0	42.366460	
23	0	0	...	-5.0	37.326944	
24	0	0	...	-6.0	32.454707	
27	0	0	...	-10.0	19.714565	
...	
1600	0	0	...	-6.0	40.967222	
1607	0	0	...	-5.0	41.265278	
1612	0	0	...	-6.0	32.386667	
1615	1	1	...	-10.0	20.892883	
1616	0	0	...	-6.0	32.454707	

	airport.longitude	airport.elevationFeet	airport.classification	\
17	-86.237500	628	4	
22	-71.020176	19	1	
23	-79.201111	938	4	
24	-93.828383	258	3	
27	-155.039628	38	3	
...	

1600	-98.306667	1847	4
1607	-72.888333	14	4
1612	-94.715278	365	4
1615	-156.438629	54	2
1616	-93.828383	258	3

	airport.active	airport.weatherUrl	\
17	True	https://api.flightstats.com/flex/weather/rest/...	
22	True	https://api.flightstats.com/flex/weather/rest/...	
23	True	https://api.flightstats.com/flex/weather/rest/...	
24	True	https://api.flightstats.com/flex/weather/rest/...	
27	True	https://api.flightstats.com/flex/weather/rest/...	
...	
1600	True	https://api.flightstats.com/flex/weather/rest/...	
1607	True	https://api.flightstats.com/flex/weather/rest/...	
1612	True	https://api.flightstats.com/flex/weather/rest/...	
1615	True	https://api.flightstats.com/flex/weather/rest/...	
1616	True	https://api.flightstats.com/flex/weather/rest/...	

	airport.street1	airport.postalCode	airport.street2
17	99 Sinclair Drive	49441	
22	One Harborside Drive	02128-2909	
23	4308 Wards Road, Suite 100	24502	
24	5103 Hollywood Avenue, Suite 300	71109	
27		96720	
...
1600	3743 Sky Park Road	68801	
1607	155 Burr Street	06512	
1612		75603	
1615		96732	
1616	5103 Hollywood Avenue, Suite 300	71109	

[336 rows x 36 columns]