Airlines On-Time Performance, Delays, Cancellations and Diversions

Milestone 1 -

Introduction:

> Airline cancellations or delays are one of the major causes of passenger inconvenience. With the publicly available dataset, using data science, I am hoping to gain meaningful insights into the best-performing airlines and understand the causes of delays, diversions and cancellations across different airline carriers. For the final project, I would like to analyze airline data to identify different factors and their effects on a carrier's performance. As a performance measure, I would like to explore on-time arrivals, and the number of cancellations by the carrier and explore different reasons for delays and diversions. Based on the outcome, carriers can take necessary actions to focus on the problem areas.

Data Source:

- Flat File: Excel files from BTS. The Excel data has airline performance factors such as cancelled, diverted, delayed and on-time data. The downloaded raw data has up to 34 columns. https://www.transtats.bts.gov/OT_Delay/OT_DelayCause1.asp?20=E (Download Raw Data link for data).
- API: API provides historical weather information. https://visual-crossing-weather.p.rapidapi.com/history?startDateTime={}&aggregateHours=24&location={}&endDateTime={}&unitGroup=us
- Website: The website consists of a list of diverted flights. https://www.diverted.eu/

Relationships:

> The Flat file is the main data source with scheduled flight information.
>
> Flat File - API:
>
> Data from the flat file has cancellations and delays due to weather. I would like to look up the weather information for the flight date at the origin/destination of flights cancelled or delayed due to bad weather. The Bureau data has up to January 2023 data. To look up the weather for a past date, I would need historic weather data. The API gets the historic weather data for a location (origin or destination city name). This will enable us to validate if there truly was a bad weather situation for a flight to be delayed or cancelled. With this, we can also identify the cause of bad weather like storms, snow, wind, etc.
>
> - Flat file has many to many relation with the API. We will need to pass the flight date and the origin or destination city to the API to get weather information for a particular date and place.
>
> Flat File - Website:
>
> The flat file has a column for diverted flights but does not have any information on the cause for diversion. I would like to look up the reason for a flight being diverted. The

website and flat file can be matched on flight date, origin and destination to lookup diverted flight information.

- Flat file has many to many relation with the Website. We will need to pass the flight date and the origin and destination city to the website to get flight diversion details for a particular date and route.

Project Subject Area:

The project aims on identifying various performance measures in airline operations. Using the statistical analysis we can gain insights into the best and least performing airline carriers and the most common reasons for delays and cancellations.

Challenges:

The flight performance data size is huge (flat file). I would have to find ways to reduce data to a reasonable size without losing meaningful information.

Conclusion:

For the first project milestone, I have identified data from different sources in different formats. I will be applying various data cleansing and visualization techniques on this dataset to gain meaningful insights in the upcoming project milestones.

Milestone 2 - Cleaning/Formatting Flat File Source

Flat File: Excel files from BTS. The Excel data has airline performance factors such as cancelled, diverted, delayed and on-time data. The downloaded raw data has up to 34 columns. https://www.transtats.bts.gov/OT_Delay/OT_DelayCause1.asp?20=E (Download Raw Data link for data). The Flat file is the main data source with scheduled flight information.

```
In [302...  # Import necessary libraries

            import pandas as pd
            from datetime import datetime
            import numpy as np

            #Milestone 3 libraries
            from urllib.request import Request, urlopen
            from bs4 import BeautifulSoup

            #Milestone 4 libraries
            #import requests
            import urllib.request, urllib.parse, urllib.error
            import json
            import requests
            import re
```

```
In [2]:    #Read flight data from "https://www.transtats.bts.gov/OT_Delay/OT_DelayCause1.asp?20=E"

           flight_data_df = pd.read_csv('T_ONTIME_MARKETING_May.csv')
           flight_data_df.head(5)
```

	YEAR	QUARTER	MONTH	DAY_OF_MONTH	DAY_OF_WEEK	FL_DATE	MKT_UNIQUE_CARRIER	OP_UNIQUE_CAR
0	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	
1	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	
2	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	
3	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	
4	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	

5 rows × 39 columns

Data Transformation

i. Drop Columns

> Drop unwanted columns to reduce the data size and improve data readability. Columns that I
> will not be using for this project are as follows:
>
> - ORIGIN_AIRPORT_ID
> - ACTUAL_ELAPSED_TIME
> - AIR_TIME
> - FLIGHTS
> - ORIGIN_WAC
> - DEST_AIRPORT_ID
> - DEST_WAC
> - AIR_TIME

In [3]:
```
flight_data_df = flight_data_df.drop(columns=['ORIGIN_AIRPORT_ID','ACTUAL_ELAPSED_TIME',
                          'ORIGIN_WAC','DEST_AIRPORT_ID','DEST_WAC','AIR_TIME'])
flight_data_df.head(5)
```

Out[3]:

	YEAR	QUARTER	MONTH	DAY_OF_MONTH	DAY_OF_WEEK	FL_DATE	MKT_UNIQUE_CARRIER	OP_UNIQUE_CAR
0	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	
1	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	
2	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	
3	2022	2	5	1	7	5/1/2022	AA	

						12:00:00 AM	
4	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA

5 rows × 32 columns

ii. Look for Duplicates

> Duplicates cause inconsistent results when dealing with statistics. Hence dropping duplicate rows.

```
In [4]: print('Dataframe before dropping duplicates :', flight_data_df.shape)
        flight_data_df = flight_data_df.drop_duplicates() # 1,389 rows dropped
        print('Dataframe after dropping duplicates :',flight_data_df.shape)
```

```
Dataframe before dropping duplicates : (602950, 32)
Dataframe after dropping duplicates : (601561, 32)
```

iii. Replace values in a column

> Cancellation code is represented as A, B, C and D, which is not very informative. The BTS website provided details on this code as follows:

- A Carrier

- B Weather

- C National Air System

- D Security

```
In [5]: flight_data_df.CANCELLATION_CODE = np.where(flight_data_df.CANCELLATION_CODE=='A', 'Carr
                                    np.where(flight_data_df.CANCELLATION_CODE=='B', 'Weathe
                                        np.where(flight_data_df.CANCELLATION_CODE=='C'
                                            np.where(flight_data_df.CANCELLATION_

        flight_data_df.groupby(['CANCELLATION_CODE'])['CANCELLATION_CODE'].count().sort_index()
```

```
Out[5]: CANCELLATION_CODE
                              590957
        Carrier                 4902
        National Air System     1394
        Security                   1
        Weather                 4307
        Name: CANCELLATION_CODE, dtype: int64
```

iv. Rename Column

> To make more sense of the information in cancellation_code, replacing the column to cancellation reason.

```
In [6]: flight_data_df = flight_data_df.rename(columns={"CANCELLATION_CODE": "CANCELLATION_REASO
        flight_data_df.columns
```

```
Out[6]:   Index(['YEAR', 'QUARTER', 'MONTH', 'DAY_OF_MONTH', 'DAY_OF_WEEK', 'FL_DATE',
                 'MKT_UNIQUE_CARRIER', 'OP_UNIQUE_CARRIER', 'ORIGIN', 'ORIGIN_CITY_NAME',
                 'ORIGIN_STATE_ABR', 'ORIGIN_STATE_NM', 'DEST', 'DEST_CITY_NAME',
                 'DEST_STATE_ABR', 'DEST_STATE_NM', 'DEP_DELAY', 'DEP_DELAY_NEW',
                 'TAXI_OUT', 'TAXI_IN', 'ARR_TIME', 'ARR_DELAY', 'ARR_DELAY_NEW',
                 'CANCELLED', 'CANCELLATION_REASON', 'DIVERTED', 'DISTANCE',
                 'CARRIER_DELAY', 'WEATHER_DELAY', 'NAS_DELAY', 'SECURITY_DELAY',
                 'LATE_AIRCRAFT_DELAY'],
                dtype='object')
```

v. Add new columns

STATUS

```
In [7]:   #Adding a new column 'STATUS' that tells the status of a flight
          flight_data_df['STATUS'] = ''

          flight_data_df.STATUS = np.where(flight_data_df.CANCELLED==1, 'Cancelled',
                                      np.where(flight_data_df.DIVERTED==1, 'Diverted',
                                          np.where(flight_data_df.ARR_DELAY<=15, 'On-Tim
                                              np.where(flight_data_df.ARR_DELAY>15,
          flight_data_df.groupby(['STATUS'])['STATUS'].count().sort_index()
```

```
Out[7]:   STATUS
          Cancelled      10604
          Delayed       119624
          Diverted        1581
          On-Time       469752
          Name: STATUS, dtype: int64
```

DELAYED

> As a step to data reduction, I will be considering flights arriving 15 minutes or later as delayed

```
In [8]:   #Creating a new column 'DELAYED'. A flag that represents if a flight was delayed. Simila

          flight_data_df.loc[(flight_data_df['ARR_DELAY']>15), 'DELAYED'] = True
          flight_data_df.loc[(flight_data_df['ARR_DELAY']<=15), 'DELAYED'] = False

          flight_data_df.groupby(['DELAYED'])['DELAYED'].count().sort_index()
```

```
Out[8]:   DELAYED
          False    469752
          True     119624
          Name: DELAYED, dtype: int64
```

DELAY REASON

```
In [9]:   #Adding a new column 'DELAY_REASON' that tells the reason for a flight getting delayed
          #Using the newly created DELAYED flag and the available columns for each type of delay t

          flight_data_df['DELAY_REASON'] = np.where(((flight_data_df.DELAYED==True) & (flight_data
                                              np.where(((flight_data_df.DELAYED==True) & (fl
                                                  np.where(((flight_data_df.DELAYED==Tr
                                                      np.where(((flight_data_df.DE
                                                          np.where(((flight_d
          flight_data_df.groupby(['DELAY_REASON'])['DELAY_REASON'].count().sort_index()
```

```
Out[9]:   DELAY_REASON
                         481937
          Carrier         72453
```

```
LateAircraft          25504
NAS                   17384
Security                131
Weather                4152
Name: DELAY_REASON, dtype: int64
```

vi. Implementing arithmetic functions for statistical analysis

In [10]:
```python
# Create a new dataframe with total number of flights per operating carrier to calculate

flight_totals = flight_data_df.value_counts(subset=['OP_UNIQUE_CARRIER']).reset_index()
flight_totals_df = pd.DataFrame(flight_totals) # Convert to dataframe
flight_totals_df.columns = ['OP_UNIQUE_CARRIER','TOTAL'] # Assign Column names
flight_totals_df['PERCENTAGE'] = round(flight_totals_df.TOTAL/flight_totals_df.TOTAL.sum

flight_totals_df = flight_totals_df.sort_values('PERCENTAGE',ascending=False) #Sort by p
flight_totals_df.head(5)
```

Out[10]:

	OP_UNIQUE_CARRIER	TOTAL	PERCENTAGE
0	WN	107950	17.94
1	DL	76021	12.64
2	AA	71471	11.88
3	OO	66615	11.07
4	UA	53535	8.90

In [11]:
```python
# Calculate percentage by carrier and flight status
flight_status = flight_data_df.value_counts(subset=['OP_UNIQUE_CARRIER','STATUS']).reset_
flight_status_df = pd.DataFrame(flight_status) #create a dataframe
flight_status_df.columns = ['OP_UNIQUE_CARRIER','STATUS', 'COUNT'] #Add column names
flight_status_df = flight_status_df.sort_values('OP_UNIQUE_CARRIER') #Sort by operating

flight_status_df['PERCENTAGE'] = ''

for index, row in flight_status_df.iterrows():
    tot = flight_totals.loc[flight_totals.OP_UNIQUE_CARRIER==row.OP_UNIQUE_CARRIER].TOTA
    val = (row.COUNT/tot * 100)
    flight_status_df.at[index,'PERCENTAGE'] = round(val[0].astype(float),2) #Calculate t

flight_status_df.head(10)
```

Out[11]:

	OP_UNIQUE_CARRIER	STATUS	COUNT	PERCENTAGE
33	9E	Delayed	3113	15.33
48	9E	Cancelled	542	2.67
74	9E	Diverted	35	0.17
8	9E	On-Time	16613	81.83
41	AA	Cancelled	973	1.36
56	AA	Diverted	215	0.3
3	AA	On-Time	55403	77.52
11	AA	Delayed	14880	20.82
47	AS	Cancelled	608	3.12
10	AS	On-Time	15502	79.49

```
In [12]:  #Create a new dataframe with the percentage by origin airport and status
          flight_origin_totals = flight_data_df.value_counts(subset=['ORIGIN']).reset_index() #get
          flight_origin_totals_df = pd.DataFrame(flight_origin_totals) #create a dataframe
          flight_origin_totals_df.columns = ['ORIGIN','TOTAL'] #Add column names
          flight_origin_totals_df['PERCENTAGE'] = round(flight_origin_totals_df.TOTAL/flight_origi


          origin_airport_delays = flight_data_df.value_counts(subset=['ORIGIN','STATUS']).reset_in
          origin_airport_df = pd.DataFrame(origin_airport_delays) #create a dataframe
          origin_airport_df.columns = ['ORIGIN','STATUS', 'COUNT'] #add column names
          origin_airport_df = origin_airport_df.sort_values('ORIGIN') #sort by origin
          origin_airport_df['PERCENTAGE'] = ''

          for index, row in origin_airport_df.iterrows():
              tot = flight_origin_totals.loc[flight_origin_totals.ORIGIN==row.ORIGIN].TOTAL.values
              val = (row.COUNT/tot * 100)
              origin_airport_df.at[index,'PERCENTAGE'] = round(val[0].astype(float),2) #calulate t

          origin_airport_df = origin_airport_df.sort_values('PERCENTAGE',ascending=False) #sort by

          origin_airport_df.head(10)
```

Out[12]:

	ORIGIN	STATUS	COUNT	PERCENTAGE
770	GST	On-Time	12	100.0
1208	STC	On-Time	1	100.0
385	LWS	On-Time	95	96.94
623	BGM	On-Time	30	96.77
470	DRT	On-Time	60	96.77
517	PLN	On-Time	51	96.23
488	MCW	On-Time	55	94.83
490	FOD	On-Time	55	94.83
515	TBN	On-Time	51	94.44
529	LAR	On-Time	50	94.34

vii. NULL check

```
In [13]:  #Looking for null values to further reduce the data size.
          flight_data_df.isnull().sum()
```

Out[13]:
```
YEAR                     0
QUARTER                  0
MONTH                    0
DAY_OF_MONTH             0
DAY_OF_WEEK              0
FL_DATE                  0
MKT_UNIQUE_CARRIER       0
OP_UNIQUE_CARRIER        0
ORIGIN                   0
ORIGIN_CITY_NAME         0
ORIGIN_STATE_ABR         0
ORIGIN_STATE_NM          0
DEST                     0
DEST_CITY_NAME           0
DEST_STATE_ABR           0
DEST_STATE_NM            0
DEP_DELAY            10201
```

```
DEP_DELAY_NEW          10201
TAXI_OUT               10558
TAXI_IN                10769
ARR_TIME               10769
ARR_DELAY              12185
ARR_DELAY_NEW          12185
CANCELLED                  0
CANCELLATION_REASON        0
DIVERTED                   0
DISTANCE                   0
CARRIER_DELAY         477611
WEATHER_DELAY         477611
NAS_DELAY             477611
SECURITY_DELAY        477611
LATE_AIRCRAFT_DELAY   477611
STATUS                     0
DELAYED                12185
DELAY_REASON               0
dtype: int64
```

> Based on the above, it doesn't appear there are any null rows that are irrelevant. Status is a significant column that tells if there are any flights with no relevant status. All flights are now categorized under On-Time, Delayed, Cancelled or Diverted.

> The final flat file dataset is as follows:

In [14]:
```
print(flight_data_df.columns)
flight_data_df.head(5)
```

```
Index(['YEAR', 'QUARTER', 'MONTH', 'DAY_OF_MONTH', 'DAY_OF_WEEK', 'FL_DATE',
       'MKT_UNIQUE_CARRIER', 'OP_UNIQUE_CARRIER', 'ORIGIN', 'ORIGIN_CITY_NAME',
       'ORIGIN_STATE_ABR', 'ORIGIN_STATE_NM', 'DEST', 'DEST_CITY_NAME',
       'DEST_STATE_ABR', 'DEST_STATE_NM', 'DEP_DELAY', 'DEP_DELAY_NEW',
       'TAXI_OUT', 'TAXI_IN', 'ARR_TIME', 'ARR_DELAY', 'ARR_DELAY_NEW',
       'CANCELLED', 'CANCELLATION_REASON', 'DIVERTED', 'DISTANCE',
       'CARRIER_DELAY', 'WEATHER_DELAY', 'NAS_DELAY', 'SECURITY_DELAY',
       'LATE_AIRCRAFT_DELAY', 'STATUS', 'DELAYED', 'DELAY_REASON'],
      dtype='object')
```

Out[14]:

	YEAR	QUARTER	MONTH	DAY_OF_MONTH	DAY_OF_WEEK	FL_DATE	MKT_UNIQUE_CARRIER	OP_UNIQUE_CAI
0	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	
1	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	
2	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	
3	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	
4	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	

5 rows × 35 columns

Ethical implications:

> BTS data - Flat File I do not see any ethical implications for this dataset as it is from a federal government source and is made accessible to public. The only concern I have is that, the dataset I am referring to is old and it's possible the trend has changed over time. The reason for using old dataset is because I need the flight diversion information which I was only able to find for the year 2022.

Conclusion:

> As a part of this milestone, the following Data Transformation steps have been performed.
>
> 1. Dropped columns
> 2. Dropped duplicate rows
> 3. Replaced values in a dataframe column
> 4. Renamed a column
> 5. Added new columns to the dataframe
> 6. Implemented arithmetic functions for statistical analysis
> 7. Performed null check to drop rows with null values.

Milestone 3 - Cleaning/Formatting Website Data

> Flat File - Website: The flat file has a column for diverted flights but does not have any information on the cause for diversion. I would like to look up the reason for a flight being diverted. The website and flat file can be matched on flight date, origin and destination to lookup diverted flight information. Flat file has many to many relation with the Website. We will need to pass the flight date and the origin and destination city to the website to get flight diversion details for a particular date and route.

In [15]:
```python
url = 'https://www.diverted.eu/' #Website with diverted flight information
```

In [16]:
```python
# Parsing HTML using BeautifulSoup
html = urlopen(url)
soup = BeautifulSoup(html, 'html.parser')
```

In [17]:
```python
#Parse HTML for the diverted data table
flight_diverted_table = soup.findAll("table", { 'id' : 'tablepress-current_month' })
flight_diverted_table
```

Out[17]:
```
[<table class="tablepress tablepress-id-current_month tablepress-responsive" id="tablepress-current_month">
 <thead>
 <tr class="row-1 odd">
 <th class="column-1">Date</th><th class="column-2">Airlines/Operator</th><th class="column-3">Flight number</th><th class="column-4">Departure airport</th><th class="column-5">Destination airport</th><th class="column-6">Diverted to</th><th class="column-7">Emergency code</th><th class="column-8">Alleged reason</th><th class="column-9">Aircraft</th><th class="column-10">Registration</th>
 </tr>
 </thead>
 <tbody class="row-hover">
```

Date	Airline	Flight	From	To	Diversion		Reason	Aircraft	Registration
20.07.2022	Go First	G8151 / GOW151	Delhi	Guwahati	Jaipur		cracked windshield	Airbus A320-271N	VT-WGP
20.07.2022	Wizz Air	W65058 / WZZ101S	Bari	Krakow	Budapest		bomb threat	Airbus A321-271NX	HA-LGA
19.07.2022	Go First	G8386 / GOW386	Mumbai	Leh	Delhi		engine issue	Airbus A320-271N	VT-WGA
19.07.2022	Go First	G86202 / GOW6202	Srinagar	Delhi	Srinagar		engine issue	Airbus A320-271N	VT-WJG
19.07.2022	LOT	LO6297 / LOT6297	Prague	Zanzibar	Warsaw		brakes issue	Boeing 787-9 Dreamliner	SP-LSB
19.07.2022	American Airlines	AA1849 / AAL1849	Charlotte	Portland	Charlotte		mechanical issue	Airbus A321-211	N171US
19.07.2022	Condor	DE1439 / CFG2EC	Lanzarote	Hamburg	Lanzarote	7700	possible engine issue	Boeing 757-330	D-ABOA
18.07.2022	Transavia	HV5908 / TRA89E	Heraklion	Eindhoven	Athens		odor on board	Boeing 737-8K2	PH-HXA
18.07.2022	VivaAerobus	VB4081 / VIV4081	Tijuana	Monterrey	Hermosillo		medical emergency	Airbus A321-271NX	XA-VXA

Date	Airline	Flight	From	To	Diverted to	Squawk	Reason	Aircraft	Registration
18.07.2022	Delta Air Lines	DL115 / DAL115	Paris	Seattle	Minneapolis	7700		Airbus A330-323	N815NW
17.07.2022	Southwest Airlines	WN2208 / SWA2208	Phoenix	Chicago	Phoenix			Boeing 737-7H4	N474WN
17.07.2022	KLM	KL992 / KLM992	London	Amsterdam	London		bird strike	Embraer E190STD	PH-EXV
16.07.2022	IndiGo	6E1406 / IGO1406	Sharjah	Hyderabad	Karachi		engine issue	Airbus A320-271N	VT-IJK
16.07.2022	Air India Express	IX355 / AXB355	Kozhikode	Dubai	Muscat		smell in cabin	Boeing 737-8HG	VT-AXX
16.07.2022	Eurowings Discover	4Y7 / OCN7	Puerto Plata	Frankfurt	Dusseldorf		pressurisation issue	Airbus A330-343	D-AIKA
15.07.2022	LATAM Airlines	LA3457 / TAM3457	Florianopolis	Sao Paulo	Florianopolis		bird strike	Airbus A320-232	PR-MBH
15.07.2022	United Airlines	UA2638 / UAL2638	Portland	New York	Green Bay		smoke in cockpit	Boeing 737-724	N13720
15.07.2022	Enter Air	E45515 / ENT5515	Warsaw	Espargos	Tenerife		medical emergency	Boeing 737 MAX 8	SP-EXA
14.07.2022	IndiGo	6E859 / IGO859	Delhi	Vadodara	Jaipur		engine iss		

								Airbus A320-271N	VT-ITP
14.07.2022	American Airlines	AA629 / AAL629	New York	Miami	Charlotte	7700	potential mechanical issue	Boeing 737-823	N818NN
14.07.2022	Royal Air Maroc	AT851 / RAM851W	Rotterdam	Casablanca	Amsterdam		flaps issue	Boeing 737-8B6	CN-RNP
12.07.2022	Lufthansa	LH1311 / DLH8WT	Luqa	Frankfurt	Palermo	7700	engine issue	Airbus A321-131	D-AIRL
12.07.2022	Delta Air Lines	DL123 / DAL123	Edinburgh	Boston	Shannon	7700	hydraulic issue	Boeing 767-332(ER)	N193DN
11.07.2022	Nordstar	Y7217 / TYA217	Krasnoyarsk	Norilsk	Krasnoyarsk		cargo smoke indication	Boeing 737-8AS	RA-73252
11.07.2022	Ryanair	FR8397 / RYR7NH	Jerez	London	Bordeaux	7700	medical emergency	Boeing 737-8AS	EI-EKS
11.07.2022	United Airlines	UA3532 / RPA3532	Nashville	New York	Greensboro	7700		Embraer E170SE	N650RW
11.07.2022	Binter Canarias	NT784 / IBB55AB	Lanzarote	Tenerife	Lanzarote		medical emergency	ATR 72-600	EC-NQR
11.07.2022	Scoot	TR9 / TGW9	Perth	Singapore	Perth		tyre/landing gear issue	Boeing 787-9 Dreamliner	9V-OJA

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
10.07.2022	LOT	LO614 / LOT6ER	Zagreb	Warsaw	Zagreb	7700		Embraer E175LR	SP-LIM
09.07.2022	Azul Linhas Aereas	AD4342 / AZU4342	Cuiaba	Porto Velho	Cuiaba		cargo door indication	Airbus A320-253N	PR-YRS
09.07.2022	American Airlines	AA2930 / AAL2930	Las Vegas	Charlotte	Phoenix		smoke in cabin	Airbus A321-231	N552UW
09.07.2022	Korean Air	KE9956 / KAL9956	Istanbul	Seoul	Baku		engine issue	Airbus A330-223	HL8228
09.07.2022	United Airlines	UA2749 / UAL2749	Victorville	Chicago	Los Angeles			Boeing 777-222(ER)	N204UA
09.07.2022	Iraqi Airways	IA145 / IAW145	Arbil	Cairo	Baghdad	7700		Boeing 737-81Z	YI-ASH
08.07.2022	Smartavia	5N861 / AUL861	Sochi	Omsk	Ufa	7700		Boeing 737-89P	RA-73659
08.07.2022	American Airlines	AA1580 / AAL1580	Chicago	Buffalo	Grand Rapids		smoke in cockpit	Boeing 737-823	N939NN
08.07.2022	Delta Air Lines	DL1073 / DAL1073	Salt Lake City	Indianapolis	Salt Lake City		engine issue	Airbus A320-212	N371NW
06.07.2022	Ural Airlines	U62425 / SVR2425	Moscow	Khudzhand	Moscow				

Date	Airline	Flight	Col4	Col5	Col6	Col7	Issue	Aircraft	Registration
							bird strike	Airbus A321-231	RA-73843
06.07.2022	Aer Lingus	EI104 / EIN104	New York	Dublin	New York		technical issue	Airbus A330-302	[EI-DUZ](https://www.mysafersky.com/aircraft-registration/ei-duz/)
06.07.2022	EasyJet	U27169 / EZY23KG	Liverpool	Tenerife	Lisbon		disruptive passenger	Airbus A320-251N	G-UZLD
05.07.2022	Porter Airlines	PD246 / POE246	Toronto	Thunder Bay	Toronto		odor on board	De Havilland Canada Dash 8-400	[C-GLQB](https://www.mysafersky.com/aircraft-registration/c-glqb/)
05.07.2022	SpiceJet	SG11 / SEJ011	Delhi	Dubai	Karachi		suspected fuel leak	Boeing 737 MAX 8	VT-MXG
04.07.2022	Swoop	WO264 / WSW264	Edmonton	Halifax	Edmonton		tyre issue	Boeing 737-8CT	[C-GXRW](https://www.mysafersky.com/aircraft-registration/c-gxrw/)
04.07.2022	Aeroflot	SU6391 / SDM6391	Moscow	Magnitogorsk	Moscow		technical issue	Sukhoi Superjet 100-95B	[RA-89099](https://www.mysafersky.com/aircraft-registration/ra-89099/)
04.07.2022	Etihad	EY65 / ETD65	Abu Dhabi	Moscow	Abu Dhabi	7700	smell on board	Boeing 787-9 Dreamliner	A6-BLQ
04.07.2022	Loganair	LM660 / LOG46SP	Liverpool	Londonderry	Liverpool	7700		Embraer ERJ-145MP	[G-SAJO](https://www.mysafersky.com/aircraft-registration/g-sajo/)
03.07.2022	Air Canada	AC8543 / JZA543	Montreal	Regina	Montreal		me		

							medical emergency	Embraer E175SU	C-FRQN
03.07.2022	United Airlines	UA885 / UAL885	Rome	Washington	London		technical issue	Boeing 777-224(ER)	N76021
03.07.2022	TAAG Angola Airlines	DT577 / DTA577	Luanda	Johannesburg	Lubango		technical issue	Boeing 737-7M2	D2-TBJ
02.07.2022	Delta Air Lines	DL2187 / DAL2187	New York	Orlando	Charleston		cargo smoke indication	Airbus A321-211	N319DN
02.07.2022	SpiceJet	SG2962 / SEJ2962	Delhi	Jabalpur	Delhi		smoke in cabin	De Havilland Canada Dash 8-400	
02.07.2022	British Airways	BA670 / BAW670	London	Bodrum	Frankfurt		engine issue	Airbus A320-232	G-EUUK
02.07.2022	American Airlines	AA1859 / AAL1859	Charlotte	Liberia	Jacksonville			Boeing 737-823	N938AN
02.07.2022	Aeroflot	SU1747 / AFL1747	Yuzhno-Sakhalinsk	Moscow	Novosibirsk		medical emergency	Boeing 777-3M0(ER)	RA-73130
01.07.2022	Air New Zealand	NZ287 / ANZ287	Christchurch	Shanghai	Auckland		windshield issue	Boeing 787-9 Dreamliner	ZK-NZG
01.07.2022	Jet2	LS507 / EXS76XM	Newcastle	Antalya	Newcastle	7700	engine issue	Boeing 737-8MG	G...

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ew York</td><td class="column-6">Washington</td><td class="column-7"></td><td class="col
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lguin</td><td class="column-6">Jacksonville</td><td class="column-7">7700</td><td class
="column-8">cargo smoke indication</td><td class="column-9">Boeing 737-408</td><td class
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de Janeiro</td><td class="column-6">Fortaleza</td><td class="column-7"></td><td class="c
olumn-8">disruptive passenger</td><td class="column-9">Boeing 787-8 Dreamliner</td><td c
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Angeles</td><td class="column-6">London</td><td class="column-7"></td><td class="column-
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d class="column-6">Moscow</td><td class="column-7"></td><td class="column-8">technical i
ssue</td><td class="column-9">Embraer E190LR</td><td class="column-10">RA-02741</td>
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 <td class="column-1">29.06.2022</td><td class="column-2">Etihad</td><td class="column-
3">EY100 / ETD47N</td><td class="column-4">New York</td><td class="column-5">Abu Dhabi</
td><td class="column-6">Frankfurt</td><td class="column-7"></td><td class="column-8">med
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0">A6-BLU</td>
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go</td><td class="column-6">Guadalajara</td><td class="column-7"></td><td class="column-
8">bird strike</td><td class="column-9">Boeing 737-852</td><td class="column-10">N957AM
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umn-3">BY216 / TOM5GM</td><td class="column-4">Manchester</td><td class="column-5">Boa V
ista</td><td class="column-6">Manchester</td><td class="column-7"></td><td class="column
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<td class="column-6">Lyon</td><td class="column-7">7700</td><td class="column-8"></td><t
d class="column-9">Airbus A320-214</td><td class="column-10">EI-EDP</td>
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		O156 / LOT15A	Tel Aviv	Warsaw	Sofia		cargo smoke indication	Boeing 737-89P	SP-LWC
27.06.2022	Condor	DE3 / CFG003	Hurghada	Hamburg	Cairo		spoiler issue	Boeing 757-330	D-ABOF
26.06.2022	United Airlines	UA1203 / UAL1203	Washington	Oranjestad	Nassau			Boeing 737-924(ER)	N39418
26.06.2022	Singapore Airlines	SQ323 / SIA323	Amsterdam	Singapore	Mumbai		technical issue	Airbus A350-941	9V-SJA
25.06.2022	LATAM Airlines	LA4784 / TAM4784	Sao Paulo	Manaus	Brasilia		cracked windshield	Boeing 777-32W(ER)	PT-MUD
25.06.2022	Alaska Airlines	AS393 / ASA393	New York	San Diego	Phoenix	7700		Boeing 737-990(ER)	N402AS
25.06.2022	Delta Air Lines	DL3507 / SKW3507	Medford	Salt Lake City	Medford	7700		Embraer E175LR	N243SY
24.06.2022	Ryanair	FR4742 / RYR29QZ	Warsaw	Glasgow	Amsterdam	7700	medical emergency	Boeing 737-8AS	SP-RKT
24.06.2022	American Airlines	AA5560 / JIA5560	Birmingham	Charlotte	Atlanta		maintenance issue	Mitsubishi CRJ-702ER	N531EG
24.06.2022	Vueling	VY1505 / VLG50AR	Paris	Florence					

Date	Airline	Flight	From	To	Diverted	Squawk	Reason	Aircraft	Registration
					Bologna		technical reasons	Airbus A319-112	
24.06.2022	Alaska Airlines	AS675 / ASA675	Las Vegas	Seattle	Reno			Boeing 737-990	N319AS
24.06.2022	TUI Airways	BY822 / TOM822	Manchester	Dalaman	Manchester		fumes on board	Boeing 787-8 Dreamliner	G-TUIB
23.06.2022	British Airways	BA281 / BAW281	London	Los Angeles	Winnipeg			Boeing 777-300(ER)	G-STBO
23.06.2022	United Airlines	UA316 / UAL316	Dublin	New York	Dublin			Boeing 757-224	N33103
23.06.2022	Air Europa	UX9045 / AEA9045	Tenerife	Madrid	Lanzarote		medical emergency	Boeing 737-85P	EC-LYR
23.06.2022	Ryanair	FR5994 / RYR7YD	London	Madrid	Bordeaux			Boeing 737-8AS	EI-DHH
22.06.2022	Air France	AF454 / AFR454	Paris	Sao Paulo	Paris	7700		Boeing 777-328(ER)	F-GSQH
22.06.2022	American Airlines	AA1336 / AAL1336	Dallas	Orlando	Dallas			Airbus A321-253NX	N429AN
22.06.2022	EasyJet	U26892 / EZY6892	Dalaman	Glasgow	Frankfurt		medical emergency	Airbus A320-251N	G-UZLA

Date	Airline	Flight	Col-4	Col-5	Col-6	Col-7	Issue	Aircraft	Registration
									G-UZLA
21.06.2022	Iran Air	IR1835 / IRA1835	Jeddah	Mashhad	Bushehr		technical issue	Airbus A300B4-605R	EP-IBA
21.06.2022	American Airlines	AA1984 / AAL1984	Chicago	Charlotte	Indianapolis		cracked windshield	Boeing 737-823	N819NN
21.06.2022	Austrian Airlines	OS93 / AUA93	Vienna	Washington	Shannon		navigation system issue	Boeing 767-3Z9(ER)	OE-LAE
21.06.2022	SunExpress	XQ598 / SXS27B	Antalya	Edinburgh	Frankfurt	7700		Boeing 737-86J	TC-SNV
21.06.2022	American Airlines	AA209 / AAL209	Dublin	Chicago	Shannon		medical emergency	Boeing 787-8 Dreamliner	N805AN
21.06.2022	Jetstar Airways	JQ61 / JST61	Sydney	Ho Chi Minh City	Sydney		mechanical/air conditioning issue	Boeing 787-8 Dreamliner	VH-VKG
20.06.2022	British Airways	BA783 / BAW783C	Stockholm	London	Stockholm			Airbus A321-231	G-EUXI
20.06.2022	SpiceJet	SG23 / SEJ023	Madurai	Dubai	Goa		medical emergency	Boeing 737-8GJ	VT-SZK
20.06.2022	FlySafair	FA478 / SFR	Johannesburg	Durban	Johannesburg		technical issue	Boeing 737-4Y0	ZS-JRE

									ZS-JRE
19.06.2022	Qatar Airways	QR777 / QTR25Q	Doha	Miami	Madrid		possible technical issue	Airbus A350-941	A7-AML
19.06.2022	IndiGo	6E6394 / IGO6394	Guwahati	Delhi	Guwahati		suspected bird strike	Airbus A320-271N	VT-ITB
19.06.2022	Enter Air	E46051 / ENT6051	Basel	Pristina	Basel	7700	medical emergency	Boeing 737-8Q8	SP-ENR
19.06.2022	SpiceJet	SG723 / SEJ723	Patna	Delhi	Patna		bird strike	Boeing 737-85R	VT-SYZ
19.06.2022	SpiceJet	SG2962 / SEJ2962	Delhi	Jabalpur	Delhi		pressurisation issue	De Havilland Canada Dash 8-400	
18.06.2022	World2Fly	3P1155 / WPT1155	Lisbon	Varadero	Lisbon		possible landing gear issue	Airbus A330-343	CS-WFP
17.06.2022	Air Canada	AC8729 / JZA729	Toronto	Cleveland	Toronto		computer issue	Mitsubishi CRJ-200ER	C-FFJA
17.06.2022	TAP Air Portugal	TP277 / TAP277	Lisbon	Cancun	Lisbon		engine issue	Airbus A330-941	CS-TUR
17.06.2022	TUI Airways	BY4574 / TOM2EB	London	Burgas	Munich			Boeing 737 MAX 8	G-TUMO

Date	Airline	Flight	From	To	Diversion	Squawk	Issue	Aircraft	Registration
16.06.2022	Lufthansa	LH1372 / DLH8CU	Frankfurt	Wroclaw	Warsaw		spoiler issue	Mitsubishi CRJ-900LR	D-ACNB
16.06.2022	Allegiant Air	G42593 / AAY2593	Sarasota	Akron	Sarasota		bird strike	Airbus A320-214	N285NV
16.06.2022	TUI Airways	BY189 / TOM189	Punta Cana	Manchester	St. John's			Boeing 787-9 Dreamliner	G-TUIN
15.06.2022	Air Canada	AC355 / ACA355	Ottawa	Calgary	Toronto		engine issue	Airbus A220-300	C-GVUN
14.06.2022	Volotea	V71611 / VOE6KK	Mykonos	Naples	Bari		engine issue	Airbus A319-111	EC-MUX
14.06.2022	Emirates	EK412 / UAE3HJ	Dubai	Sydney	Singapore			Airbus A380-861	A6-EUE
14.06.2022	United Airlines	UA33 / UAL33	Tokyo	Los Angeles	Honolulu		disruptive passenger	Boeing 787-9 Dreamliner	N36962
14.06.2022	Qatar Airways	QR629 / QTR6J	Lahore	Doha	Karachi	7700	technical issue	Boeing 777-3DZ(ER)	A7-BEA
14.06.2022	Air France	AF121 / AFR121	Chennai	Paris	Bucharest		medical emergency	Boeing 787-9 Dreamliner	F-HRBH
12.06.2022	Hawaiian Airlines	HA56 / HAL56	Kahului	Los Angeles	Honolulu				

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
							medical emergency	Airbus A330-243	N381HA
12.06.2022	Air Cairo	SM405 / MSC405	Sohag	Kuwait City	Jeddah	7700	technical issue	Airbus A320-214	SU-BPW
12.06.2022	Corendon Airlines Europe	XR2271 / CXI7R	Nuremberg	Palma de Mallorca	Basel	7700	pressurisation issue	Boeing 737-85R	9H-TJE
12.06.2022	Jet2	LS174 / EXS49VT	Faro	Glasgow	Alicante		technical issue	Boeing 737-808	G-DRTC
12.06.2022	American Airlines	AA5259 / JIA5259	Pittsburgh	Washington	Pittsburgh		mechanical issue	Mitsubishi CRJ-701ER	N520DC
11.06.2022	Delta Air Lines	DL3916 / SKW3916	Minneapolis	Minot	Fargo	7700		Embraer E175LR	N243SY
11.06.2022	Aerolineas Argentinas	AR1132 / ARG1132	Buenos Aires	Madrid	Buenos Aires		medical emergency	Airbus A330-202	LV-FVH
11.06.2022	Eurowings	EW7642 / EWG7642	Hamburg	Faro	Paris		medical emergency	Airbus A320-232	9H-AMJ
11.06.2022	Volotea	V72127 / VOE6ND	Figari	Nantes	Olbia	7700		Airbus A319-111	EC-MUT
11.06.2022	British Airways	BA185 / BAW185	London	New York	Shannon		medical emergency	Boeing 777-236(ER)	G-VIIH
11.06.2022	Serene Air								

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
		ER723 / SEP723	Lahore	Dubai	Lahore		bird strike	Boeing 737-8JP	AP-BNB
10.06.2022	IndiGo	6E7603 / IGO7603	Chennai	Mysore	Bengaluru		technical reasons	ATR 72-600	VT-IYI
10.06.2022	Air Canada	AC1802 / ROU1802	Toronto	Kingston	Toronto	7700		Airbus A320-214	C-GFDU
10.06.2022	American Airlines	AA721 / AAL721	Rome	Charlotte	Madrid	7700	possible mechanical issue	Boeing 777-223(ER)	N786AN
09.06.2022	TUIfly Belgium	TB2542 / JAF8AV	Casablanca	Liege	Casablanca		bird strike	Boeing 737-7K5	OO-JAR
09.06.2022	TUI Airways	BY1473 / TOM2GC	Lanzarote	Belfast	Porto		operational issues	Boeing 737-8Q8	C-FYJD
09.06.2022	American Airlines	AA1505 / AAL1505	Dallas	Indianapolis	St. Louis			Boeing 737-823	N968NN
08.06.2022	Air Canada	AC8944 / JZA944	Montreal	New York	Montreal		pressurisation issue	Embraer E175SU	C-FRQW
08.06.2022	British Airways	BA2158 / BAW2158	Vieux Fort	London	Bridgetown			Boeing 777-236(ER)	G-VIIO
07.06.2022	TUI fly	BY245 / TOM2HY	Espargos	Bristol	Birmingham	7700	

Date	Airline	Flight	From	To	Diversion	Squawk	Issue	Aircraft	Registration
								Boeing 787-8 Dreamliner	G-TUIC
07.06.2022	American Airlines	AA1665 / AAL1665	Las Vegas	Charlotte	Las Vegas	7700	engine issue	Airbus A321-211	N182UW
06.06.2022	Air Arabia	3L62 / ADY062	Chittagong	Abu Dhabi	Ahmedabad		engine issue	Airbus A320-214	A6-AOT
06.06.2022	Air India	AI265 / AIC265	Bengaluru	Male	Mumbai		possible landing gear/hydraulic issue	Airbus A320-251N	VT-CIP
05.06.2022	Thai AirAsia	FD3342 / AIQ3342	Bangkok	Nakhon Phanom	Bangkok		pressurisation issue	Airbus A320-216	HS-BBE
05.06.2022	Virgin Atlantic	VS7 / VIR7B	London	Los Angeles	London			Boeing 787-9 Dreamliner	G-VOWS
05.06.2022	Ryanair	FR2971 / RYR7FG	Dublin	Kaunas	Dublin	7700	medical emergency	Boeing 737-8AS	SP-RKQ
05.06.2022	Lufthansa	LH412 / DLH412	Munich	New York	St. John's			Airbus A350-941	D-AIXF
04.06.2022	Edelweiss Air	WK214 / EDW214D	Zurich	Tenerife	Zurich		lightning strike	Airbus A340-313	HB-JMD
03.06.2022	Air Europa	UX27 / AEA027	Madrid	Asuncion	Fortaleza		medical emergency	Boeing 787-8 Dreamliner	EC-MPE

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
03.06.2022	Air France	AF6004 / AFR72KT	Paris	Marseille	Paris	7700		Airbus A318-111	F-GUGM
03.06.2022	Ryanair	FR4440 / RYR69LH	Bristol	Valencia	Bordeaux	7700	medical emergency	Boeing 737-8AS	EI-DPR
02.06.2022	United Airlines	UA3536 / RPA3536	New York	Norfolk	New York	7700		Embraer E170SE	N859RW
02.06.2022	Air France	AF7528 / AFR19ED	Paris	Toulouse	Paris	7700		Airbus A321-111	F-GMZD
02.06.2022	Virgin Atlantic	VS142 / VIR142	Los Angeles	London	Reykjavik			Boeing 787-9 Dreamliner	G-VCRU
02.06.2022	TUI Airways	BY709 / TOM1TA	Dalaman	Manchester	Frankfurt	7700	medical emergency	Boeing 737-8K5	G-TAWA
01.06.2022	Buddha Air	U4953 / BHA953	Kathmandu	Bhadrapur	Kathmandu		tyre issue	ATR 72-500	9N-ANP
31.05.2022	Virgin Australia	VA9223 / VOZ9223	Perth	Boolgeeda	Perth		hydraulic issue	Airbus A320-232	VH-VNB
31.05.2022	Aer Lingus	EI3326 / EAI26MH	Dublin	Manchester	Dublin	7700	technical issue	ATR 72-600	EI-HDH
30.05.2022	American Airlines	AA720 / AAL720	Charlotte	Rome	Charlotte		maintenance issue	Boeing 777-223(ER)	N...

Date	Airline	Flight	From	To	Diversion		Issue	Aircraft	Registration
									793AN
29.05.2022	Swiss	LX340 / SWR340V	Zurich	London	Zurich		odor in cockpit	Airbus A220-100	HB-JBI
29.05.2022	Qantas	QF2008 / QLK8D	Sydney	Tamworth	Sydney		hydraulic issue	De Havilland Canada Dash 8-400	VH-QOF
29.05.2022	American Airlines	AA292 / AAL292	New York	Delhi	London		medical emergency	Boeing 777-323(ER)	N725AN
29.05.2022	TAP Air Portugal	TP1091 / TAP109T	Valencia	Lisbon	Madrid		medical emergency	ATR 72-600	CS-DJB
29.05.2022	Lufthansa	LH492 / DLH492	Frankfurt	Vancouver	Reykjavik			Boeing 747-430	D-ABVZ
28.05.2022	Airblue	PA410 / ABQ410	Lahore	Dubai	Lahore		bird strike	Airbus A321-211	AP-BMN
28.05.2022	Turkish Airlines	TK413 / THY1UJ	Istanbul	Moscow	Vilnius		technical issue	Airbus A321-231	TC-JRT
28.05.2022	SpiceJet	SG385 / SEJ385	Mumbai	Gorakhpur	Mumbai		cracked windshield	Boeing 737-8AS	VT-SLG
28.05.2022	EasyJet	U21959 / EZY18FB	Manchester	Dalaman	Manchester			Airbus A320-251N	G-UZHV
27.05.2022	Turkish Airlines								

Date	Airline	Flight	From	To	Diversion	Squawk	Issue	Aircraft	Registration
		TK17 / THY17W	Istanbul	Toronto	Istanbul		smoke indication	Boeing 777-3F2(ER)	TC-LJC
27.05.2022	Iberia	IB3108 / IBE31YY	Madrid	Lisbon	Madrid		possible technical issue	Airbus A320-251N	EC-NDN
27.05.2022	American Airlines	AA1036 / AAL1036	Oranjestad	Miami	Providenciales			Boeing 737-823	N852NN
26.05.2022	Azul Linhas Aereas	AD4270 / AZU4270	Campinas	Sao Jose Do Rio Preto	Ribeirao		landing gear issue	ATR 72-600	PR-AQB
25.05.2022	Ural Airlines	U6388 / SVR388	Omsk	Moscow	Yekaterinburg		medical emergency	Airbus A321-211	RA-73795
25.05.2022	Uzbekistan Airways	HY273 / UZB273	Tashkent	Istanbul	Trabzon		technical issue	Boeing 787-8 Dreamliner	UK78702
25.05.2022	Delta Air Lines	DL5637 / RPA5637	Boston	Kansas City	Pittsburgh	7700	pressurisation issue	Embraer E170LR	N878RW
25.05.2022	British Airways	BA286 / BAW6B	San Francisco	London	Chicago			Airbus A380-841	G-XLEG
25.05.2022	Gol Linhas Aéreas	G31604 / GLO1604	Sao Paulo	Fortaleza	Belo Horizonte		air conditioning issue	Boeing 737-8EH	PR-GXU
25.05.2022	Jet2	LS1329 / EXS64RG	Birmingham	Preveza	Amsterdam	7700	

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
								Boeing 737-8K5	G-GDFX
24.05.2022	Azul Linhas Aereas	AD4914 / AZU4914	Salvador	Sao Paulo	Salvador			Airbus A320-251N	PR-YRX
24.05.2022	United Airlines	UA574 / UAL574	San Francisco	Houston	San Francisco		landing gear issue	Boeing 737-824	N12216
24.05.2022	Virgin Australia	VA9275 / VOZ9275	Perth	West Angelas	Perth	7700	pressurisation issue	Airbus A320-232	VH-YUD
24.05.2022	British Airways	BA67 / BAW67V	London	Philadelphia	London	7700	pressurisation issue	Boeing 777-36N(ER)	G-STBB
23.05.2022	American Airlines	AA1280 / AAL1280	Phoenix	New York	Pittsburgh		possible medical emergency	Boeing 737-823	N833NN
23.05.2022	VivaAerobus	VB1281 / VIV1281	Villahermosa	Mexico City	Villahermosa		bird strike	Airbus A321-271NX	XA-VBZ
22.05.2022	United Airlines	UA997 / UAL997	Accra	Washington	Bermuda		medical emergency	Boeing 787-8 Dreamliner	N28912
22.05.2022	EasyJet	U28926 / EZY93QP	Faro	London	Madrid			Airbus A321-251NX	G-UZMJ
21.05.2022	EasyJet	U26763 / EZY6763	Belfast	Tenerife	Lisbon		medical emergency	Airbus A320-251N	G-UZLA

Date	Airline	Flight	From	To	Diversion	Squawk	Remark	Aircraft	Registration
20.05.2022	Delta Air Lines	DL4681 / EDV4681	Minneapolis	Cedar Rapids	Minneapolis	7700		Mitsubishi CRJ-200LR	N8903A
19.05.2022	JetBlue	B6163 / JBU163	New York	Sarasota	New York		hydraulic issue	Airbus A320-232	N709JB
19.05.2022	Lufthansa	LH506 / DLH506	Frankfurt	Sao Paulo	Frankfurt	7700	odor on board	Boeing 747-830	D-ABYP
19.05.2022	Air India	AI639 / AIC639AI639	Mumbai	Bengaluru	Mumbai		engine issue	Airbus A320-251N	VT-EXM
19.05.2022	American Airlines	AA6034 / PDT6034	Charlotte	Fort Wayne	Asheville	7700	smell on board	Embraer ERJ-145LR	N638AE
19.05.2022	Ryanair	FR6046 / RYR43RH	Brussels	Nador	Alicante		medical emergency	Boeing 737-8AS	EI-DCM
18.05.2022	Ural Airlines	U68969 / SVR8969	Moscow	Kulob	Moscow			Airbus A321-211	RA-73794
18.05.2022	Lion Air	JT800 / LNI800	Surabaya	Makassar	Surabaya		bird strike	Boeing 737-9GP(ER)	PK-LHR
17.05.2022	Aer Lingus	EI105 / EIN105	Dublin	New York	Dublin		technical issue	Airbus A330-302	EI-DUZ

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
17.05.2022	Iberia	IB6341 / IBE6341	Madrid	Guatemala City	Madrid		possible technical issue	Airbus A330-202	EC-MOY
17.05.2022	United Airlines	UA6339 / ASH6339	Salt Lake City	Houston	Colorado Springs		pressurisation issue	Embraer E175LR	N86312
16.05.2022	Ryanair	FR9130 / RYR72XZ	Manchester	Faro	Nantes		disruptive passenger	Boeing 737-8AS	EI-EVE
16.05.2022	TUI Airways	BY3129 / TOM1MG	Corfu	Doncaster	Brussels	7700		Airbus A320-232	ES-SAM
16.05.2022	LOT	LO433 / LOT433	Warsaw	Madrid	Warsaw		bomb threat	Boeing 737-89P	SP-LWA
16.05.2022	Air Canada	AC843 / ACA843	Frankfurt	Toronto	Amsterdam			Boeing 787-9 Dreamliner	C-FRTU
16.05.2022	American Airlines	AA1612 / AAL1612	Bozeman	Dallas	Bozeman		bird strike	Boeing 737-823	N817NN
15.05.2022	Azul Linhas Aereas	AD2859	Campinas	Uberlandia	Jundiai		pressurisation issue	Embraer E195AR	PR-AXC
15.05.2022	JetBlue Airways	B6517 / JBU517	Boston	New York	Boston		smell on board	Embraer E190AR	N374JB
15.05.2022	Citilink	QG483 / CTV483	Banjarmasin	Jakarta					

Date	Airline	Flight	From	To	Diverted	7700	Issue	Aircraft	Registration
					Semarang		engine issue	Airbus A320-214	PK-GQH
15.05.2022	TUI Airways	BY2772 / TOM2AG	Manchester	Reus	Manchester	7700	technical issue	Airbus A320-214	YL-LCT
15.05.2022	Jet2	LS542 / EXS7LX	Gran Canaria	Newcastle	Porto		disruptive passenger	Boeing 737-8Z9	G-GDFP
15.05.2022	Air Canada	AC870 / ACA870	Montreal	Paris	St. John's		disruptive passenger	Boeing 777-333(ER)	C-FNNQ
15.05.2022	SunExpress	XQ634 / SXS6DT	Dalaman	Cologne	Munich		pressurisation issue	Boeing 737-8HC	TC-SEI
14.05.2022	Air Canada	AC811 / ACA811	Lisbon	Toronto	Montreal		hydraulic issue	Airbus A330-343	C-GHKC
13.05.2022	Blue Air	0B157 / BLA8HZ	Bucharest	Lisbon	Bucharest		technical issue	Boeing 737 MAX 8	YR-MXA
13.05.2022	IndiGo	6E1723 / IGO1723	Doha	Bengaluru	Mumbai		disruptive passenger	Airbus A320-251N	VT-ISW
12.05.2022	Air Dolomiti	EN8061 / DLA8061	Graz	Frankfurt	Graz		smell on board	Embraer E195LR	I-ADJS
12.05.2022	Aeroflot	SU1184 / AFL1184	Moscow	Volgograd	Moscow		brakes issue	Boeing 737-8LJ	RA-73124

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
12.05.2022	Pakistan International Airlines	PK9715 / PIA9715	Multan	Medina	Karachi		weather radar issue	Boeing 777-240(LR)	AP-BGY
12.05.2022	Italia Trasporto Aereo	AZ1765 / ITY1765	Milan	Palermo	Milan		bird strike	Airbus A320-216	EI-DTG
12.05.2022	WestJet	WS272 / WJA272	Toronto	Halifax	Montreal			Boeing 737 MAX 8	C-FNAX
11.05.2022	Gol Linhas Aéreas	G31999 / GLO1999	Maceio	Brasilia	Maceio		bird strike	Boeing 737 MAX 8	PR-XMV
10.05.2022	United Airlines	UA855 / UAL855	Lima	Houston	Lima		engine issue	Boeing 767-322(ER)	N651UA
08.05.2022	Air Canada	AC873 / ACA873	Paris	Toronto	Dublin	7700	medical emergency	Boeing 777-333(ER)	C-FNNW
07.05.2022	Azimuth	A49063 / AZO9063	Moscow	Bukhara	Moscow		possible landing gear issue	Sukhoi Superjet 100-95LR	RA-89093
07.05.2022	EasyJet	U26843 / EZY76FN	Glasgow	Faro	Glasgow		bird strike	Airbus A319-111	G-EZGR
06.05.2022	Emirates	EK37 / UAE37AH	Dubai	Birmingham	Istanbul		operational reasons	Boeing 777-31H(ER)	A6-ENQ

Date	Airline	Flight	From	To	Diversion	Squawk	Issue	Aircraft	Registration
06.05.2022	Azul Linhas Aereas	AD4090 / AZU4090	Recife	Fernando De Noronha	Recife		landing gear issue	Embraer E195AR	PR-AXP
06.05.2022	TAP Air Portugal	TP1357 / TAP1357	London	Lisbon	Santiago		medical emergency	Airbus A320-251N	CS-TVE
06.05.2022	IndiGo	6E5283 / IGO5283	Chandigarh	Mumbai	Jaipur		medical emergency	Airbus A321-271NX	VT-IUN
06.05.2022	Air Canada	AC8350 / JZA350	Prince George	Vancouver	Prince George		hydraulic issue	De Havilland Canada Dash 8-400	C-GIJZ
06.05.2022	Jet2	LS382 / EXS33P	Tenerife	Belfast	Shannon		medical emergency	Boeing 737-86N	G-GDFS
06.05.2022	Singapore Airlines	SQ439 / SIA439	Kathmandu	Singapore	Kolkata		technical issue	Boeing 737-8SA	9V-MGL
05.05.2022	Jet2	LS134 / EXS23BT	Malaga	Glasgow	Nantes	7700	medical emergency	Boeing 737-8MG	G-JZBA
05.05.2022	Belavia	B2740 / BRU740	Baku	Minsk	Samara	7700	medical emergency	Boeing 737-3Q8	EW-254PA
04.05.2022	Avianca	AV44 / AVA044	Bogota	Mexico City	Cancun		disruptive passenger	Boeing 787-8 Dreamliner	N785AV

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
04.05.2022	Alaska Airlines	AS317 / ASA317	Portland	Burbank	Portland		bird strike	Airbus A320-214	N639VA
03.05.2022	SpiceJet	SG331 / SEJ331	Chennai	Andal	Chennai		engine issue	Boeing 737 MAX 8	VT-MXA
03.05.2022	Ryanair	FR2778 / RYR2778	Thessaloniki	Krakow	Sofia		odor on board	Boeing 737 MAX 8-200	SP-RZE
03.05.2022	EasyJet	U26701 / EZY15UV	Belfast	Alicante	Brest	7700	medical emergency	Airbus A320-214	G-EZTJ
03.05.2022	United Airlines	A934 / UAL934	New York	London	New York			Boeing 767-3CB(ER)	N685UA
03.05.2022	American Airlines	AA3729 / ENY3729	Charleston	Dallas	Birmingham		winglet issue	Embraer E175LR	N233NN
03.05.2022	Southwest Airlines	WN565 / SWA565	Denver	San Diego	Denver		smoke on board	Boeing 737-7Q8	N7853B
02.05.2022	Virgin Atlantic	VS3 / VIR3N	London	New York	London		"rostering error"	Airbus A330-343	G-VWAG
02.05.2022	TUI Airways	BY44 / TOM044	London	Montego Bay	Shannon		medical emergency	Boeing 787-9 Dreamliner	G-TUIO

Date	Airline	Flight	From	To	Diversion		Reason	Aircraft	Registration
01.05.2022	Brussels Airlines	SN3841 / BEL1LE	Brussels	Marrakesh	Brussels		technical issue	Airbus A320-214	OO-TCH
30.04.2022	EasyJet	U27195 / EZY86PR	Liverpool	Faro	Asturias		medical emergency	Airbus A319-111	[G-EZDD](https://www.mysafersky.com/aircraft-registration/g-ezdd/")
30.04.2022	KLM	KL1651 / KLM1651	Amsterdam	Venice	Dusseldorf		smoke on board	Embraer E195-E2	PH-NXF
29.04.2022	Air France	AF716 / AFR716	Paris	Brazzaville	Marseille	7700	medical emergency	Boeing 777-228(ER)	F-GSPJ
27.04.2022	EasyJet	U27903 / EJU13NF	Amsterdam	Faro	London	7700	medical emergency	Airbus A320-251N	OE-LSL
27.04.2022	Ryanair	FR9282 / RYR1CB	London	Faro	Nantes	7700		Boeing 737-8AS	EI-EMM
27.04.2022	British Airways	BA247 / BAW247	London	Sao Paulo	Lisbon			Airbus A350-1041	G-XWBG
27.04.2022	United Airlines	UA82 / UAL82	New York	Delhi	London			Boeing 787-9 Dreamliner	N24972
26.04.2022	Ryanair	FR9422 / RYR8VW	Pisa	Fuerteventura	Valencia		smoke on board	Boeing 737 MAX 8-200	9H-VUA
24.04.2022	Finnair	AY1392 / FIN1NB	Dusseldorf	Helsinki	Copenhagen		engine issue	Embraer E190LR	OH-LKO

Date	Airline	Flight	From	Via/To	Diversion	Squawk	Reason	Aircraft	Registration
23.04.2022	American Airlines	AA3594 / ENY3594	Harlingen	Dallas	San Antonio	7700	maintenance	Embraer E175LR	[N203NN](https://www.mysafersky.com/aircraft-registration/n203nn/)
23.04.2022	United Airlines	UA2310 / UAL2310	Miami	New York	Orlando		urgent customer situation	Airbus A320-232	N428UA
23.04.2022	Singapore Airlines	SQ34 / SIA34	Singapore	San Francisco	Tokyo		lavatory issue	Airbus A350-941	9V-SGE
23.04.2022	Wizz Air	W61631 / WZZ109P	Gdansk	Paris	Gdansk		technical issue	Airbus A321-271NX	HA-LVE
22.04.2022	SAS	SK535 / SAS31B	Stockholm	Dublin	Edinburgh	7700	medical emergency	Airbus A320-251N	SE-ROG
22.04.2022	Delta Air Lines	DL9966 / DAL9966	Kansas City	Atlanta	Kansas City		technical issue	Airbus A320-212	[N376NW](https://www.mysafersky.com/aircraft-registration/n376nw/)
22.04.2022	Delta Air Lines	DL5090 / EDV5090	New York	St. Louis	Pittsburgh		smoke in cockpit	Mitsubishi CRJ-900LR	N298PQ
21.04.2022	Ryanair	FR3232 / RYR1RP	Manchester	Malaga	Madrid		disruptive passenger	Boeing 737-8AS	EI-EBP
21.04.2022	Air France	AF348 / AFR348	Paris	Montreal	Paris	7700		Airbus A350-941	F-HTYC
20.04.2022	Wizz Air								

Date	Airline	Flight	From	To	Diversion	Squawk	Issue	Aircraft	Registration
		W61515 / WZZ1UZ	Warsaw	Oslo	Gdansk		bomb threat	Airbus A321-231	HA-LXP
20.04.2022	SpiceJet	SG1007 / SEJ1007	Kishangarh	Hyderabad	Jaipur		medical emergency	De Havilland Canada Dash 8-400	VT-SUL
19.04.2022	Pascan Aviation	P6478 / PSC478	Iles-de-la-Madeleine	Gaspe	Mont-Joli	7700	engine issue	Saab 340B	C-GANR
18.04.2022	Italia Trasporto Aereo	AZ146 / ITY146	Milan	Luxembourg	Milan		airspeed issue	Embraer E190AR	D-AMWO
18.04.2022	Lufthansa	LH431 / DLH431	Chicago	Frankfurt	Chicago		lavatory issue	Boeing 747-830	D-ABYR
18.04.2022	American Airlines	AA3130 / SKW3130	Phoenix	Arcata	Fresno		cracked windshield	Mitsubishi CRJ-700ER	N720EV
18.04.2022	Delta Air Lines	DL4 / DAL4	London	New York	Dublin		smoke in cockpit	Boeing 767-432(ER)	N833MH
17.04.2022	Austrian Airlines	OS94 / AUA94	Washington	Vienna	Washington		engine issue	Boeing 767-3Z9(ER)	OE-LAE
17.04.2022	TUI fly	OR703 / TFL703	Bonaire	Amsterdam	Curacao		cracked windshield	Boeing 787-8 Dreamliner	PH-TFL
16.04.2022	JetBlue								

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
		B62033 / JBU2033	Boston	Houston	Buffalo		engine issue	Airbus A220-300	N3062J
16.04.2022	Air France	AF19 / AFR019	New York	Paris	St. John's	7700	medical emergency	Boeing 777-228(ER)	F-GSPM
15.04.2022	American Airlines	AA796 / AAL796	Washington	Dallas	Memphis			Boeing 737-823	N337PJ
15.04.2022	Swiss	LX52 / SWR52	Zurich	Boston	Zurich		engine issue	Airbus A330-343	HB-JHE
14.04.2022	Spirit Airlines	NK1722 / NKS1722	Chicago	Las Vegas	Denver		smoke in cockpit	Airbus A320-232	N655NK
14.04.2022	United Airlines	UA26 / UAL26	London	Denver	London		maintenance	Boeing 787-9 Dreamliner	N27957
14.04.2022	Aeroflot	SU6718 / SDM6718	Sochi	Moscow	Saratov		air conditioning issue	Sukhoi Superjet 100-95B	RA-89051
14.04.2022	British Airways	BA2698 / BAW2698	London	Faro	London	7700		Airbus A320-232	G-MIDS
14.04.2022	Delta Air Lines	DL2176 / DAL2176	Santa Ana	Seattle	Santa Ana		maintenance	Airbus A220-100	N115DU
13.04.2022	LOT	L							

		O21 / LOT21E	Warsaw	Los Angeles	Warsaw		engine issue	Boeing 787-8 Dreamliner	SP-LRF
12.04.2022	Ethiopian Airlines	ET900 / ETH900	Lagos	Addis Ababa	Lagos			Boeing 777-260(LR)	ET-ANN
11.04.2022	TUIfly	TB1271 / JAF4MY	Brussels	Murcia	Toulouse		medical emergency	Boeing 737-8K5	OO-JEF
11.04.2022	Uzbekistan Airways	HY710 / UZB710	Minsk	Tashkent	Moscow		bomb threat	Airbus A320-214	UK32020
11.04.2022	United Airlines	UA6081 / ASH6081	Houston	Charlotte	Lafayette	7700	pressurisation issue	Embraer E175LR	N88341
10.04.2022	EasyJet	U22213 / EZY46KX	London	Agadir	Faro		medical emergency	Airbus A320-251N	G-UZHA
10.04.2022	Vueling	VY2117 / VLG1HV	Barcelona	Malaga	Alicante		possible technical issue	Airbus A320-214	EC-JYX
09.04.2022	Azul Linhas Aéreas	AD4357	Rio de Janeiro	Campinas	Rio de Janeiro		cracked windshield	Embraer E195AR	PR-AYE
09.04.2022	Emirates	EK3 / UAE8TG	Dubai	London	Istanbul			Airbus A380-842	A6-EVR
09.04.2022	Pakistan International Airlines	PK9759 / PIA9759	Lahore	Jeddah	Karachi		cracked windshield	Boeing 777-240(ER)	AP-BGJ

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
09.04.2022	Icelandair	FI542 / ICE8K	Reykjavik	Paris	Glasgow	7700		Boeing 767-319(ER)	TF-ISO
08.04.2022	Southwest Airlines	WN539 / SWA539	Austin	Phoenix	Austin		engine issue	Boeing 737-8H4	N8600F
08.04.2022	Lufthansa	LH773 / DLH773	Bangkok	Munich	Ankara			Airbus A350-941	D-AIXJ
08.04.2022	LOT	LO6505 / LOT6505	Warsaw	Cancun	Reykjavik			Boeing 787-8 Dreamliner	SP-LRH
08.04.2022	Southwest Airlines	WN1749 / SWA1749	Washington	Tampa	Washington		cracked windshield	Boeing 737-7H4	N434WN
08.04.2022	Avianca	AV120 / AVA120	Bogota	London	Bogota			Boeing 787-8 Dreamliner	N780AV
08.04.2022	Allegiant Air	G4929 / AAY929	Fort Lauderdale	Syracuse	Fort Lauderdale			Airbus A320-214	N223NV
07.04.2022	Spirit Airlines	NK1005 / NKS1005	Philadelphia	Fort Lauderdale	Daytona Beach		mechanical issue	Airbus A320-271N	N915NK
06.04.2022	United Airlines	UA52 / UAL52	Washington	Zurich	Shannon		engine issue	Boeing 767-322(ER)	N670UA
06.04.2022	United Airlines								

Date	Airline	Flight	Column-4	Column-5	Column-6	Column-7	Column-8	Aircraft	Registration
		UA1478 / UAL1478	Denver	San Francisco	Denver		flaps issue	Boeing 737-824	N33294
05.04.2022	United Airlines	UA1706 / UAL1706	Hilo	Los Angeles	Honolulu		mechanical issue	Boeing 737-824	N27246
05.04.2022	United Airlines	UA1137 / UAL1137	Las Vegas	Washington	Chicago		hydraulic issue	Airbus A320-232	N455UA
04.04.2022	Lufthansa	LH457 / DLH457	Los Angeles	Frankfurt	Denver			Boeing 747-830	D-ABYN
04.04.2022	IndiGo	6E7074 / IGO7074	Nagpur	Lucknow	Nagpur		technical issue	ATR 72-600	VT-IYW
04.04.2022	FlySafair	FA143 / SFR143	East London	Cape Town	Port Elizabeth		technical issue	Boeing 737-4Y0	ZS-JRE
04.04.2022	Malaysia Airlines	MH129 / MAS129	Kuala Lumpur	Melbourne	Perth		operational reasons	Airbus A330-323	9M-MTJ
03.04.2022	Ryanair	FR2522 / RYR351M	Glasgow	Alicante	Manchester		medical emergency	Boeing 737-8AS	EI-EME
03.04.2022	Lufthansa	LH778 / DLH778	Frankfurt	Singapore	Frankfurt		flaps issue	Airbus A340-313	D-AIGU
03.04.2022	Malaysia Airlines	MH2664 / MAS2664	Kuala Lumpur	Tawau	Kuala Lumpur		technical issue	Boeing 737-8H6	9M-MLS

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
03.04.2022	Alaska Airlines	AS305 / ASA305	Seattle	New Orleans	Spokane			Boeing 737-890	N564AS
03.04.2022	Turkish Airlines	TK29 / THY29M	Istanbul	New York	Shannon		medical emergency	Airbus A330-303	TC-JOA
02.04.2022	EasyJet	U28569 / EJU41AR	London	Barcelona	Paris	7700	medical emergency	Airbus A320-214	OE-IZH
02.04.2022	American Airlines	AA3667 / ENY3667	Columbus	Miami	Columbus		pressurisation issue	Embraer E175LR	N201NN
01.04.2022	WestJet	WS656 / WJA656	Calgary	Toronto	Regina		medical emergency	Boeing 787-9 Dreamliner	C-GURP
01.04.2022	EasyJet	U2407 / EZY869U	Bristol	Glasgow	Bristol		medical emergency	Airbus A321-251NX	G-UZMC
31.03.2022	Delta Air Lines	DL760 / DAL760	Salt Lake City	Washington	Denver		cracked windshield	Boeing 757-232	N689DL
31.03.2022	Air Senegal	HC408 / SZN408	New York	Dakar	Boston		medical emergency	Airbus A330-941	9H-SZN
31.03.2022	Ryanair	FR6837 / RYR6837	Valencia	Naples	Alghero		cargo smoke indication	Boeing 737-8AS	EI-DCO
31.03.2022	Brussels Airlines								

Date	Airline	Flight	From	To	Diversion	Squawk	Issue	Aircraft	Registration
		SN203 / BEL203	Brussels	Dakar	Tenerife		medical emergency	Airbus A330-343	OO-SFG
30.03.2022	Brussels Airlines	SN369 / BEL369	Yaounde	Brussels	Tammanrassa		medical emergency	Airbus A330-342	OO-SFB
30.03.2022	FlySafair	FA143 / SFR143	East London	Cape Town	Port Elizabeth		slat issue	Boeing 737-4Y0	ZS-JRE
30.03.2022	Alaska Airlines	AS840 / ASA840	Boston	Seattle	Boston		tail strike on takeoff	Boeing 737-990(ER)	N238AK
29.03.2022	Southwest Airlines	WN1859 / SWA1859	Milwaukee	Baltimore	Milwaukee		engine issue	Boeing 737-7H4	N295WN
29.03.2022	LATAM Airlines	LA4292 / ARE4292	Medellin	Cartagena	Medellin		landing gear issue	Airbus A320-214	CC-BAS
29.03.2022	Aeroflot	SU1967 / AFL1967	Yerevan	Moscow	Samara		bomb threat	Sukhoi Superjet 100-95B	RA-89027
28.03.2022	Delta Air Lines	DL339 / DAL339	Atlanta	Seattle	Denver	7700	pressurisation issue	Boeing 757-232	N686DA
27.03.2022	Air Astana	KC622 / KZR622	Nur-Sultan	Almaty	Nur-Sultan	7700	pressurisation issue	Airbus A321-271N	EI-KDC

Date	Airline	Flight	Column-4	Column-5	Column-6	Column-7	Reason	Aircraft	Registration
27.03.2022	United Airlines	UA134 / UAL134	New York	Zurich	New York	7700	engine issue	Boeing 767-322(ER)	N675UA
27.03.2022	Enter Air	E47835 / ENT7835	Warsaw	Espargos	Fuerteventura		disruptive passenger	Boeing 737 MAX 8	SP-EXB
27.03.2022	Lufthansa	LH438 / DLH438	Frankfurt	Dallas	Reykjavik		smoke on board	Airbus A340-313	D-AIGN
26.03.2022	Avianca	AV7392 / GLG7392	Guayaquil	New York	Guayaquil		bird strike	Airbus A320-214	N748AV
25.03.2022	United Airlines	UA3942 / AWI3942	Montreal	Washington	Syracuse		engine issue	Mitsubishi CRJ-200LR	N445AW
25.03.2022	Singapore Airlines	SQ305 / SIA305	London	Singapore	London		engine issue	Boeing 777-312(ER)	9V-SWZ
24.03.2022	British Airways	BA304 / BAW304	London	Paris	London	7700	mechanical issue	Airbus A320-232	G-GATJ
24.03.2022	S7 Airlines	S75211 / SBI5211	Novosibirsk	Blagoveshchensk	Irkutsk		engine issue	Airbus A321-271N	VQ-BDI
23.03.2022	Air Niugini	PX3 / ANG3	Port Moresby	Brisbane	Port Moresby		pressurisation issue	Boeing 767-341(ER)	P2-PXV
22.03.2022	Aer Lingus								

		EI111 / EIN11H	Shannon	New York	Shannon		emergency door possibly open	Airbus A321-253NX	EI-LRB
22.03.2022	United Airlines	UA47 / UAL47	Frankfurt	Houston	Frankfurt	7700	mechanical issue	Boeing 777-224(ER)	N78013
21.03.2022	Qatar Airways	QR579 / QTR579	Delhi	Doha	Karachi		cargo smoke indication	Airbus A350-941	A7-ALZ
21.03.2022	LOT	LO6293 / LOT6293	Prague	Punta Cana	Paris	7700	medical emergency	Boeing 787-9 Dreamliner	SP-LSC
21.03.2022	Jet2	LS895 / EXS4UA	Manchester	Antalya	Vienna		disruptive passenger	Airbus A321-211	G-HLYF
20.03.2022	American Airlines	AA876 / AAL876	Pittsburgh	Phoenix	Kansas City			Airbus A321-211	N167US
20.03.2022	Azul Linhas Aereas	AD8750 / AZU8750	Campinas	Lisbon	Recife		medical emergency	Airbus A330-941	PR-ANY
20.03.2022	American Airlines	AA113 / AAL113	Barcelona	Miami	Barcelona		possible technical issue	Boeing 777-223(ER)	N777AN
20.03.2022	TUI Airways	BY6701 / TOM44J	Lanzarote	Exeter	Porto			Boeing 737-8K5	G-TAWL
19.03.2022	United Airlines	UA517 / UAL517	New York	Lo					

Date	Airline	Flight	From	To	Diversion	Code	Issue	Aircraft	Registration
			…s Angeles	Denver			lavatory issue	Boeing 757-224	N14106
19.03.2022	Bulgaria Air	FB471 / LZB471	Sofia	Madrid	Nice	7700	possible technical issue	Embraer E190STD	LZ-PLO
19.03.2022	Gol Linhas Aéreas	G31718 / GLO1718	Brasilia	Teresina	Palmas		medical emergency	Boeing 737 MAX 8	PR-XMC
19.03.2022	Southwest Airlines	WN634 / SWA634	Baltimore	Jacksonville	Tampa		mechanical issue	Boeing 737-8H4	N8615E
18.03.2022	United Airlines	UA2633 / UAL2633	Houston	Portland	Amarillo		smoke in cabin	Airbus A319-131	N813UA
17.03.2022	United Airlines	UA997 / UAL997	Accra	Washington	San Juan		urgent customer situation on board	Boeing 787-8 Dreamliner	N30913
15.03.2022	Turkish Airlines	TK2111 / THY2XN	Ankara	Istanbul	Ankara		technical issue	Boeing 737-9F2(ER)	TC-JYI
14.03.2022	Lufthansa	LH772 / DLH772	Frankfurt	Bangkok	Frankfurt		cargo door indication	Airbus A340-313	D-AIGS
14.03.2022	Air Serbia	JU652 / ASL652	Belgrade	Moscow	Belgrade		bomb threat	Airbus A319-132	YU-APK
14.03.2022	EasyJet	U27594 / EJU139C	Zurich	Porto	Lyon	7700	medical

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
							emergency	Airbus A320-214	OE-ICF
14.03.2022	El Al	LY618 / ELY618	Moscow	Tel Aviv	Moscow		suspected tail strike	Boeing 737-958(ER)	4X-EHH
14.03.2022	LOT	LO483 / LOT4YH	Warsaw	Oslo	Warsaw		pressurisation issue	Embraer E195LR	SP-LNH
13.03.2022	AirAsia India	I52472 / IAD2472	Bengaluru	Kolkata	Bhubaneswar		medical emergency	Airbus A320-216	VT-APJ
13.03.2022	United Airlines	UA5303 / SKW5303	Huntsville	Denver	Wichita		unruly passenger	Embraer E175LL	N618UX
13.03.2022	United Airlines	UA363 / UAL363	New York	Honolulu	New York		technical issue	Boeing 767-424(ER)	N66051
13.03.2022	TUI fly	X32146 / TUI2146	Hannover	Palma de Mallorca	Brussels		hydraulic issue	Boeing 737-8K5	D-AHFV
13.03.2022	Delta Air Lines	DL1041 / DAL1041	Dallas	Los Angeles	Dallas		technical issue	Airbus A320-212	N347NW
12.03.2022	AirAsia India	I51228 / IAD1228	Chennai	Jaipur	Bengaluru		technical issue	Airbus A320-216	VT-PNQ
11.03.2022	Air France	AF422 / AFR422	Paris	Bogota	Paris	7700	smoke on board	Boeing 787-9 Dreamliner	F-H

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Date	Airline	Flight	From	To	Div	Squawk	Reason	Aircraft	Reg
11.03.2022	United Airlines	UA2425 / UAL2425	Santa Ana	Houston	Austin		mechanical issue	Boeing 737-824	N73291
11.03.2022	Air Serbia	JU652 / ASL652	Belgrade	Moscow	Belgrade		bomb threat	Airbus A330-243	YU-ARB
11.03.2022	American Airlines	AA5593 / JIA5593	Minneapolis	Washington	Minneapolis		door indication	Mitsubishi CRJ-900LR	N592NN
09.03.2022	Pobeda	DP306 / PBD306	Sochi	St. Petersburg	Samara		bomb threat	Boeing 737-8LJ	VQ-BHC
09.03.2022	TUI Airways	BY2384 / TOM3WK	Manchester	Fuerteventura	Manchester	7700	technical issue	Boeing 737-8K5	G-TAWY
08.03.2022	LATAM Airlines	LA8114 / TAM8114	Sao Paulo	Barcelona	Fortaleza		disruptive passenger	Boeing 767-316(ER)	PT-MSY
08.03.2022	Pakistan International Airlines	PK783 / PIA783	Karachi	Toronto	Karachi		medical emergency	Boeing 777-240(LR)	AP-BGY
07.03.2022	Delta Air Lines	DL643 / DAL643	Cancun	New York	Cancun		smoke in cabin	Boeing 757-232	N673DL
07.03.2022	Air Transat	TS327 / TSC327	Cancun	Toronto	Cancun		brakes issue	Airbus A330-243	C-GUBC

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3">MN451 / CAW451</td><td class="column-4">Johannesburg</td><td class="column-5">Cape To
wn</td><td class="column-6">Johannesburg</td><td class="column-7"></td><td class="column
-8">engine issue</td><td class="column-9">Boeing 737-8LD</td><td class="column-10">ZS-ZW
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Jacksonville</td><td class="column-6">Charleston</td><td class="column-7">7700</td><td c
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5">Raleigh-Durham</td><td class="column-6">Washington</td><td class="column-7"></td><td
 class="column-8">technical issue</td><td class="column-9">Embraer E175LR</td><td class
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3">LG8013 / LGL8013</td><td class="column-4">Luxembourg</td><td class="column-5">Paris</
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</td><td class="column-6">Dubai</td><td class="column-7"></td><td class="column-8">tail
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10">PR-TYI</td>
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ss="column-3">AD4763 / AZU4763</td><td class="column-4">Campinas</td><td class="column-
5">Fortaleza</td><td class="column-6">Campinas</td><td class="column-7"></td><td class
="column-8">engine shut down</td><td class="column-9">Airbus A320-251N</td><td class="co
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ank">PR-YYI</a></td>
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5">Chicago O'Hare</td><td class="column-6">Chicago Rockford</td><td class="column-7"></t
d><td class="column-8">medical emergency</td><td class="column-9">Airbus A320-232</td><t
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td><td class="column-6">Bristol</td><td class="column-7">7700</td><td class="column-8">t
echnical issue</td><td class="column-9">Airbus A319-111</td><td class="column-10">G-EZBO
</td>
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 <td class="column-1">04.03.2022</td><td class="column-2">Aerolíneas Argentinas</td><td
 class="column-3">AR1516 / ARG1516</td><td class="column-4">Cordoba</td><td class="colum
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Date	Airline	Flight	column-4	column-5	column-6	column-7	Reason	Aircraft	Registration
			Salta	Cordoba			pressurisation issue	Boeing 737-8MB	LV-FXQ
03.03.2022	United Airlines	UA4845 / UCA4845	Springfield	Denver	Wichita		flight control issue	Embraer ERJ-145XR	N16170
03.03.2022	S7 Airlines	S75258 / SBI5258	Yuzhno-Sakhalinsk	Novosibirsk	Khabarovsk		medical emergency	Airbus A320-271N	VP-BTX
03.03.2022	Aeromexico	AM617 / AMX617	Toronto	Mexico City	Houston		disruptive passenger	Boeing 737 MAX 8	N105JS
02.03.2022	EasyJet	U22406 / EZY58FP	Malaga	London	Madrid		medical emergency	Airbus A319-111	G-EZDD
02.03.2022	TUI Airways	BY735 / TOM735	Boa Vista	Birmingham	Gran Canaria		medical emergency	Boeing 737 MAX 8	G-TUMJ
01.03.2022	JetBlue	B62060 / JBU2060	Fort Myers	New York – LaGuardia	New York – JFK		hydraulic issue	Airbus A320-232	N598JB
28.02.2022	American Airlines	AA9898 / SKW9898	Montreal	Chicago	Montreal		fuel imbalance	Mitsubishi CRJ-701ER	N718SK
28.02.2022	Aerolíneas Argentinas	AR1686 / AR1686	Buenos Aires	San Carlos de Bariloche	Buenos Aires			Boeing 737-8SH	LV-FVO
28.02.2022	Ryanair	FR7032 / RYR42LZ	Dublin	Faro	Bordeaux	7700	medic

							al emergency	Boeing 737-8AS	EI-EMJ
27.02.2022	Qantas	QF2534 / QLK534D	Brisbane	Longreach	Brisbane		bird strike	De Havilland Canada Dash 8-400	VH-QOM
26.02.2022	EasyJet	U28538 / EZY586E	Fuerteventura	London	Fuerteventura			Airbus A321-251NX	G-UZME
26.02.2022	Iberia	IB3859 / IBS38JU	Lanzarote	Madrid	Lanzarote		medical emergency	Airbus A321-251NX	EC-NJI
25.02.2022	Ryanair	FR1444 / RYR75MG	Milan	Valencia	Milan		bird strike	Boeing 737 MAX 8-200	9H-VUN
25.02.2022	Air France	AF66 / AFR066	Paris	Los Angeles	Paris	7700		Boeing 777-328(ER)	F-GSQB
24.02.2022	Nordwind Airlines	N44145 / NWS4145	Novosibirsk	Sharm el-Sheikh	Sochi		medical emergency	Airbus A321-253N	VQ-BJC
24.02.2022	Aerolíneas Argentinas	AR1802 / ARG1802	Buenos Aires	Rio Gallegos	Buenos Aires		pressurisation issue	Embraer E190AR	LV-GIQ
24.02.2022	Southwest Airlines	WN350 / SWA350	Kansas City	Dallas	Kansas City		bird strike	Boeing 737-7H4	N967WN
23.02.2022	KLM	KL686 / KLM142	Mexico City	Amsterdam	New York		medical emergency	Boeing 787-9 Dreamliner	PH-BHI

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
23.02.2022	American Airlines	AA534 / AAL534	Oranjestad	Philadelphia	Oranjestad		cargo smoke indication	Airbus A320-214	N105UW
23.02.2022	Nouvelair	BJ786 / LBT786	Tunis	Nice	Alghero		smoke in cabin	Airbus A320-214	TS-IND
23.02.2022	Vueling	VY3290 / VLG6YZ	Gran Canaria	Bilbao	Lanzarote		medical emergency	Airbus A320-271N	EC-NBA
21.02.2022	Ryanair	FR4158 / RYR4158	Shannon	Alicante	Cork		medical emergency	Boeing 737-8AS	EI-DWH
20.02.2022	Aurigny Air Services	GR678 / AUR78B	Guernsey	Manchester	Liverpool	7700	technical issue	ATR 72-600	G-OATR
20.02.2022	TUI fly Netherlands	OR371 / TFL371	Amsterdam	Punta Cana	Amsterdam		technical issue	Boeing 787-8 Dreamliner	PH-TFK
20.02.2022	Finnair	AY1305 / FIN2XL	Helsinki	Amsterdam	Helsinki		engine issue	Airbus A319-112	OH-LVD
20.02.2022	United Airlines	UA2192 / UAL2192	Chicago	Santa Ana	Denver		technical issue	Boeing 737-724	N14704
20.02.2022	Ural Airlines	U62932 / SVR2932	Simferopol	Yekaterinburg	Volgograd		technical issue	Airbus A319-112	VQ-BTZ
19.02.2022	Juneyao Air	HO1231 / DKH1231	Shanghai	Cheng					

Date	Airline	Flight	From	To	Diversion		Reason	Aircraft	Registration
					Wuhan		cracked cockpit window	Airbus A320-214	B-6572
18.02.2022	Transavia	HV5662 / TRA5662	Gran Canaria	Amsterdam	Faro		medical emergency	Boeing 737-8K2	PH-HXN
18.02.2022	LOT	LO6505 / LOT6505	Warsaw	Cancun	Warsaw		slat issue	Boeing 787-8 Dreamliner	SP-LRG
18.02.2022	Air Inuit	3H700 / AIE700	Montreal	Puvirnituq	La Grande Riviere		engine issue	Boeing 737-2Q2C(A)	C-GMAI
17.02.2022	PAL Airlines	PB901 / PVL901	Goose Bay	Churchill Falls	Goose Bay		technical issue	De Havilland Canada Dash 8-400	C-GYYR
17.02.2022	China Eastern Airlines	MU5804 / CES5804	Shanghai	Kunming	Changsha		medical emergency	Boeing 787-9 Dreamliner	B-209N
17.02.2022	Vistara	UK697 / VTI697	Delhi	Amritsar	Delhi		hydraulic issue	Airbus A320-251N	VT-TNI
17.02.2022	Finnair	AY1107 / FIN7GJ	Helsinki	Vilnius	Riga		smoke on board	ATR 72-500	OH-ATI
16.02.2022	American Airlines	AA2036 / AAL2036	New York	Charlotte	Greensboro		odor on board	Airbus A321-231	N519UW
15.02.2022	S7 Airlines	S73641 / SBI3641	Moscow	Alicante	Minsk		medical emergency	Airbus A320-271N	VQ-BYT

Date	Airline	Flight	From	To	Diversion		Reason	Aircraft	Reg
13.02.2022	American Airlines	AA5561 / JIA5561	Washington	Birmingham	Washington		pressurisation issue	Mitsubishi CRJ-701ER	N514AE
13.02.2022	American Airlines	AA694 / AAL694	Phoenix	Honolulu	Phoenix		disruptive passenger	Airbus A321-253NX	N412UW
13.02.2022	American Airlines	AA1775 / AAL1775	Los Angeles	Washington	Kansas City		unruly passenger	Airbus A321-253NX	N446AN
12.02.2022	SkyUp	PQ902 / SQP902	Funchal	Kyiv	Chisinau		lessor requirements	Boeing 737-82R	UR-SQO
12.02.2022	S7 Airlines	S75066 / SBI5066	Kaliningrad	Novosibirsk	Omsk		medical emergency	Airbus A320-271N	VQ-BSC
12.02.2022	American Airlines	AA313 / AAL313	Dallas	San Diego	Dallas		fumes on board	Airbus A321-211	N150UW
12.02.2022	TUI Airways	BY704 / TOM704	Birmingham	Espargos	Tenerife		medical emergency	Boeing 787-8 Dreamliner	G-TUIB
12.02.2022	Blue Air	0B9046 / BLA9046	Stockholm	Gothenburg	Stockholm		cracked windshield	Boeing 737-8FH	YR-BMQ
12.02.2022	Cebu Pacific	5J773 / CEB773	Manila	Pagadian	Cebu	7700		Airbus A320-214	RP-C4104
11.02.2022	JetSMART	JA230 / JAT230	Concepcion	Calama					

Date	Airline	Flight	Origin	Destination	Diversion	Squawk	Reason	Aircraft	Registration
					Concepcion		landing gear issue	Airbus A320-232	CC-AWF
11.02.2022	TUIfly Belgium	TB353 / JAF353	Brussels	Havana	Nantes		medical emergency	Boeing 787-8 Dreamliner	[PH-TFL](https://www.mysafersky.com/aircraft-registration/ph-tfl/")
10.02.2022	Southwest Airlines	WN1187 / SWA1187	Indianapolis	Phoenix	Wichita		generator issue	Boeing 737-7H4	N408WN
10.02.2022	AirAsia	AK5748 / AXM5748	Kuala Lumpur	Tawau	Kuching		animal (snake) on board	Airbus A320-216	9M-RAN
10.02.2022	Comair	MN451 / CAW451	Johannesburg	Cape Town	Johannesburg	7700	technical issue	Boeing 737-8LD	ZS-ZWD
09.02.2022	Frontier Airlines	F91335 / FFT1335	New York	Orlando	Raleigh-Durham		disruptive passenger	Airbus A320-251N	N364FR
09.02.2022	American Airlines	AA5354 / JIA5354	Washington	Greensboro	Washington			Mitsubishi CRJ-701ER	N501BG
08.02.2022	Corsair	SS926 / CRL926	Paris	Pointe-a-Pitre	Santiago de Compostela		medical emergency	Airbus A330-941	F-HRNB
07.02.2022	Emirates	EK235 / UAE235	Dubai	Chicago	Winnipeg		mechanical issue	Boeing 777-31H(ER)	[A6-EQD](https://www.mysafersky.com/aircraft-registration/A6-EQD/)
07.02.2022	American Airlines	AA5681 / JIA5681	Jacksonville	Philadelphia	Jacksonville				

Date	Airline	Flight	Origin	Destination	Diversion	Squawk	Issue	Aircraft	Registration
							mechanical issue	Mitsubishi CRJ-900LR	N567NN
07.02.2022	Aeroflot	SU1524 / AFL1524	Moscow	Gorno-Altaysk	Omsk		smell on board	Boeing 737-8LJ	VQ-BWE
07.02.2022	American Airlines	AA482 / AAL482	Charlotte	Los Angeles	Albuquerque	7700	disruptive passenger	Airbus A321-231	N923US
07.02.2022	Lufthansa	LH400 / DLH400	Frankfurt	New York	Frankfurt	7700	technical issue	Boeing 747-430	D-ABTK
06.02.2022	Turkish Airlines	TK1030 / THY2RQ	Sofia	Istanbul	Sofia		flight control issue	Boeing 737-9F2(ER)	TC-JYF
06.02.2022	Jet2	LS776 / EXS776	Alicante	Edinburgh	Manchester	7700	medical emergency	Boeing 737-8MG	G-JZBC
05.02.2022	Nepal Airlines	RA230 / RNA230	Dubai	Kathmandu	Dubai		possible hydraulic issue	Airbus A320-233	9N-AKX
05.02.2022	Delta Air Lines	DL54 / DAL54	Atlanta	Lagos	Bermuda		medical emergency	Airbus A330-223	N859NW
04.02.2022	British Airways	BA400 / BAW400	London	Cairo	Dubrovnik		medical emergency	Airbus A321-251NX	G-NEOR
04.02.2022	Avelo Airlines	XP323 / VXP323	New Haven	Fort Lauderdale	Windsor Locks				

Col-1	Col-2	Col-3	Col-4	Col-5	Col-6	Col-7	Col-8	Col-9	Col-10
							bird strike	Boeing 737-7H4	N701VL
03.02.2022	Delta Air Lines	DL9770 / DAL9770	Seattle	Seoul	Seattle		engine issue	Airbus A330-941	N408DX
03.02.2022	Sun Country	SY110 / SCX110	Las Vegas	Minneapolis	Las Vegas		landing gear issue	Boeing 737-8K2	N817SY
03.02.2022	JetBlue	B61730 / JBU1730	Fort Myers	New York	Raleigh-Durham		radio issue	Airbus A320-232	N641JB
02.02.2022	SAS	SK4112 / SAS4112	Oslo	Bodo	Trondheim		pressurisation issue	Boeing 737-85P	LN-RRE
02.02.2022	Wizz Air	W63265 / WZZ3265	Bucharest	Dubai	Ankara		disruptive passenger	Airbus A321-271NX	HA-LVN
02.02.2022	South African Airways	SA60 / SAA060	Johannesburg	Lagos	Libreville		medical emergency	Airbus A330-343	ZS-SXM
02.02.2022	American Airlines	AA1233 / AAL1233	Dallas	Bentonville	Dallas	7700	technical issue	Airbus A319-112	N769US
01.02.2022	Frontier Airlines	F91511 / FFT1511	New York	Atlanta	Greenville-Spartanburg		medical emergency	Airbus A320-251N	N348FR
01.02.2022	American Airlines	AA412 / AAL412	Windsor Locks	Miami	Norfolk	7700	mechanical issue	Boeing 737-823	

Date	Airline	Flight	From	To	Diversion		Issue	Aircraft	Registration
									N834NN
31.01.2022	KLM	KL1825 / KLM25B	Amsterdam	Berlin	Amsterdam		engine issue	Embraer E190STD	PH-EXE
31.01.2022	Delta Air Lines	DL4140 / SKW4140	Windsor Locks	Minneapolis	Saginaw MBS		smoke indication	Mitsubishi CRJ-900LR	N170PQ
31.01.2022	American Airlines	AA293 / AAL293	Delhi	New York	Bangor		technical issue	Boeing 777-323(ER)	N721AN
31.01.2022	Delta Air Lines	DL65 / DAL65	Rome	Atlanta	Barcelona		disruptive passenger	Airbus A330-302	N824NW
31.01.2022	Air France	AF958 / AFR958	Paris	Douala	Barcelona		medical emergency	Airbus A330-203	F-GZCA
29.01.2022	Qatar Airways	QR731 / QTR66G	Doha	Dallas	Lisbon			Boeing 777-2DZ(LR)	A7-BBB
29.01.2022	Southwest Airlines	WN2988 / SWA2988	Los Angeles	St. Louis	Los Angeles		smoke in cabin	Boeing 737-7H4	N425LV
29.01.2022	Wizz Air	W62427 / WZZ2427	Budapest	Reykjavik	Aberdeen			Airbus A321-271NX	HA-LZE
27.01.2022	Azul Linhas Aereas	AD2695 / AZU2695	Campinas	Goiania	Campinas		technical issue	Embraer E195-E2	PS-AEG

Date	Airline	Flight	From	To	Diversion		Reason	Aircraft	Registration
27.01.2022	KLM	KL861 / KLM861	Amsterdam	Tokyo	Helsinki		medical emergency	Boeing 787-9 Dreamliner	PH-BHI
27.01.2022	JetBlue	B61411 / JBU1411	Fort Lauderdale	Oranjestad	Fort Lauderdale		bird strike	Airbus A320-232	N640JB
26.01.2022	Air New Zealand	NZ1082 / ANZ1082	Christchurch	Guangzhou	Hong Kong		cracked windshield	Boeing 787-9 Dreamliner	ZK-NZH
25.01.2022	Delta Air Lines	DL439 / DAL439	New York	Los Angeles	Buffalo		smell on board	Boeing 767-332(ER)	N185DN
25.01.2022	LOT	LO223 / LOT2AZ	Warsaw	Vienna	Krakow		cockpit door issue	De Havilland Canada Dash 8-400	SP-EQC
24.01.2022	LOT	LO233 / LOT3ML	Warsaw	Brussels	Dusseldorf	7700	pressurisation issue	Embraer E195LR	SP-LND
23.01.2022	All Nippon Airways	NH801 / AJX801	Tokyo	Singapore	Tokyo		medical emergency	Boeing 787-9 Dreamliner	JA888A
23.01.2022	Aeroflot	SU1730 / AFL1730	Moscow	Petropavlovsk-Kamchatsky	Nizhnevartovsk		medical emergency	Boeing 777-300(ER)	VQ-BFO
23.01.2022	United Airlines	UA867 / UAL867	San Francisco	Delhi	Anchorage		customer service matter	Boeing 787-9 Dreamliner	N38950
22.01.2022	JetBlue	B61748 / JBU1748	Hayden	Fort Lauder

Date	Airline	Flight	From	To	Diversion	Squawk	Issue	Aircraft	Registration
...dale	Denver						tail strike on takeoff	Airbus A320-232	N760JB
21.01.2022	WestJet	WS3202 / WEN3202	Vancouver	Fort St. John	Vancouver		landing gear issue	De Havilland Canada Dash 8-400	[C-FENO](https://www.mysafersky.com/aircraft-registration/c-feno/")
21.01.2022	Air France	AF7470 / AFR16JP	Paris	Perpignan	Paris	7700	engine issue	Airbus A318-111	[F-GUGP](https://www.mysafersky.com/aircraft-registration/f-gugp/")
20.01.2022	Avianca	AV257 / AVA257	Cancun	Bogota	San Andres		hydraulic issue	Airbus A320-214	N992AV
20.01.2022	United Airlines	UA90 / UAL90	New York	Tel Aviv	New York		disruptive passenger	Boeing 787-10 Dreamliner	[N17002](https://www.mysafersky.com/aircraft-registration/n17002/)
20.01.2022	Hevilift	HT728 / HT728	Moranbah	Brisbane	Bundaberg		smell on board	ATR 72-500	VH-FVL
20.01.2022	LOT	LO6521 / LOT6521	Warsaw	Puerto Plata	Warsaw		lightning strike	Boeing 787-8 Dreamliner	SP-LRB
20.01.2022	Air France	AFR362V	Paris	Algiers	Paris		engine issue	Airbus A318-111	[F-GUGP](https://www.mysafersky.com/aircraft-registration/f-gugp/")
19.01.2022	Transavia France	TO4360 / TVF4360	Paris	Montpellier	Paris	7700	smell in cockpit	Boeing 737-86J	F-HTVR
19.01.2022	American Airlines	AA38 / AAL38	Miami	London	Miami		disruptive passenger	Boeing 777-323(ER)	N7...

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 <td class="column-1">18.01.2022</td><td class="column-2">Emirates</td><td class="column-3">EK225 / UAE225</td><td class="column-4">Dubai</td><td class="column-5">San Francisco</td><td class="column-6">St. Petersburg</td><td class="column-7"></td><td class="column-8">technical issue</td><td class="column-9">Boeing 777-31H(ER)</td><td class="column-10"><a href='https://www.mysafersky.com/aircraft-registration/a6-eqd/"' target="_blank">A6-EQD</a></td>
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Date	Airline	Flight	From	To	Diversion	Code	Issue	Aircraft	Registration
12.01.2022	Azul Linhas Aereas	AD2637 / AZU2637	Porto Alegre	Recife	Vitoria		medical emergency	Airbus A320-251N	PR-YRU
11.01.2022	Air Canada	AC8930 / JZA930	Thunder Bay	Toronto	Thunder Bay		lavatory smoke indication	Mitsubishi CRJ-900LR	C-FDJZ
10.01.2022	Azul Linhas Aereas	AD2649 / AZU2649	Manaus	Recife	Manaus		engine issue	Airbus A320-251N	PR-YRC
10.01.2022	S7 Airlines	S73313 / SBI3313	Moscow	Karshi	Urgench		medical emergency	Boeing 737-8LP	VQ-BRK
10.01.2022	All Nippon Airways	NH238 / ANA238	Brussels	Tokyo	Brussels		engine issue	Boeing 787-9 Dreamliner	JA891A
09.01.2022	AirAsia India	I51531 / IAD1531	Ranchi	Chennai	Bhubaneswar		medical emergency	Airbus A320-214	VT-IXR
09.01.2022	LOT	LO407 / LOT407	Warsaw	Dusseldorf	Warsaw		flight control issue	Boeing 737-89P	SP-LWA
09.01.2022	LATAM Airlines	LA8115 / TAM8115	Barcelona	Sao Paulo	Fortaleza		medical emergency	Boeing 767-316(ER)	PT-MSS
09.01.2022	United Airlines	UA3578 / RPA3578	Indianapolis	New York	Columbus	7700	pressurisation issue	Embraer E170SE	N865RW

Date	Airline	Flight	From	To	Diversion		Issue	Aircraft	Registration
09.01.2022	Air Austral	UU977 / REU977	Nairobi	Paris	Athens		electrical issue	Boeing 787-8 Dreamliner	F-OLRC
08.01.2022	American Airlines	AA5144 / JIA5144	Providence	Charlotte	Washington		smoke in cabin	Mitsubishi CRJ-900LR	N572NN
08.01.2022	Condor	DE2162 / CFG2162	Frankfurt	Punta Cana	Lisbon		engine issue	Boeing 767-330(ER)	D-ABUD
08.01.2022	Aeromexico	AM650 / SLI650	Mexico City	Managua	Tapachula		disruptive passenger	Embraer E190LR	XA-ALW
08.01.2022	KLM	KL701 / KLM701	Amsterdam	Buenos Aires	Brasília		medical emergency	Boeing 777-206(ER)	PH-BQM
08.01.2022	Jetstar Airways	JQ259 / JST259	Auckland	Wellington	Auckland		engineering issue	Airbus A320-232	VH-VGR
08.01.2022	Libyan Airlines	LN301 / LAA301	Tunis	Misrata	Tripoli		technical issue	Airbus A320-214	5A-LAP
07.01.2022	Condor	DE1439 / CFG1ML	Lanzarote	Hamburg	Fuerteventura		engine issue	Boeing 757-330	D-ABOB
05.01.2022	Pobeda	DP827 / PBD827	Moscow	Pafos	Krasnodar		technical issue	Boeing 737-8LJ	VQ-BWG

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
05.01.2022	Vietnam Airlines	VN5311 / HVN5311	Tokyo	Hanoi	Fukuoka		shoot down threat	Boeing 787-9 Dreamliner	[VN-A868](https://www.mysafersky.com/aircraft-registration/vn-a868/)
05.01.2022	Aeroflot	SU1701 / AFL1701	Vladivostok	Moscow	Khabarovsk		medical emergency	Boeing 777-300(ER)	VQ-BFO
05.01.2022	Finnair	AY141 / FIN141	Helsinki	Bangkok	Helsinki		smoke on board	Airbus A350-941	OH-LWH
04.01.2022	Delta Air Lines	DL5441 / EDV5441	New York	Minneapolis	Detroit		damaged windshield	Mitsubishi CRJ-701ER	N391CA
04.01.2022	LATAM Airlines	LA3275 / TAM3275	Navegantes	Sao Paulo	Florianopolis		bird strike	Airbus A320-214	PR-MYO
04.01.2022	American Airlines	AA2811 / AAL2811	Los Angeles	Dallas	Phoenix	7700	medical emergency	Boeing 737-823	N865NN
04.01.2022	Air Tahiti Nui	TN7 / THT7	Paris	Los Angeles	Manchester	7700	medical emergency	Boeing 787-9 Dreamliner	F-OVAA
03.01.2022	Flair Airlines	F8802 / FLE802	Edmonton	Waterloo	Toronto		flaps issue	Boeing 737-86N	C-FFLA
03.01.2022	Aeroflot	SU6287 / SDM6287	Moscow	Khabarovsk	Moscow		possible engine issue	Boeing 777-31H(ER)	EI-GFB
03.01.2022	Aer Lingus	EI277 / EIN27G	Birmingham	Dublin	Manchester	7700			

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
							technical issue	Airbus A320-214	EI-DVM
03.01.2022	British Airways	BA7319 / CFE7319	Belfast	Exeter	Belfast		medical emergency	Embraer E190SR	G-LCYK
03.01.2022	Ryanair	FR4052 / RYR85BC	Manchester	Faro	Brest	7700	possible fire on board	Boeing 737-8AS	EI-EFY
02.01.2022	Vueling	VY1290 / VLG1290	Barcelona	A Coruna	Santiago de Compostela		technical issue	Airbus A320-232	EC-MFK
01.01.2022	Eurowings	EW242 / EWG2JR	Cologne	Fuerteventura	Seville		disruptive passenger	Airbus A320-214	D-AEWT
01.01.2022	Aeroflot	SU6227 / SDM6227	Moscow	Chelyabinsk	Moscow		technical issue	Sukhoi Superjet 100-95B	RA-89099
01.01.2022	Brussels Airlines	SN465 / BEL465	Brussels	Kigali	Dubrovnik		medical emergency	Airbus A330-342	OO-SFD
01.01.2022	Wizz Air	W61730 / WZZ1730	Kutaisi	Gdansk	Cluj-Napoca		medical emergency	Airbus A321-231	HA-LTH
01.01.2022	Delta Air Lines	DL127 / DAL127	Madrid	New York	Madrid		engine issue	Boeing 767-332(ER)	N173DZ
01.01.2022	Vueling	VY8306 / VLG1FP	Barcelona	Amsterdam					

Date	Airline	Flight	From	To	Diversion		Reason	Aircraft	Registration
					Barcelona		bird strike	Airbus A320-271N	EC-NAY
31.12.2021	Flybondi	FO5121 / FBZ5121	Posadas	Buenos Aires	Posadas		cracked windshield	Boeing 737-838	LV-HKN
31.12.2021	Gol Linhas Aéreas	G31875 / GLO1875	Juazeiro Do Norte	Sao Paulo	Petrolina		engine issue	Boeing 737-8EH	PR-GXM
29.12.2021	WestJet	WS3312 / WEN3312	Kelowna	Edmonton	Kelowna		pressurisation issue	De Havilland Canada Dash 8-400	C-GWUE
28.12.2021	Wizz Air	W64278 / WZZ1086	Billund	Tuzla	Belgrade		unruly passenger (may not be a reason for diversion)	Airbus A320-232	HA-LPK
28.12.2021	Air Caraïbes	TX527 / FWI27H	Sint Maarten	Paris	Sint Maarten	7700	engine issue	Airbus A330-323	F-ORLY
27.12.2021	WestJet	WS656 / WJA656	Calgary	Toronto	Winnipeg		medical emergency	Boeing 737-8CT	C-FUSM
27.12.2021	Qatar Airways	QR714 / QTR63M	Houston	Doha	Barcelona		medical emergency	Airbus A350-1041	A7-ANL
26.12.2021	Azul Linhas Aereas	AD9245 / AZU9245	Cuiaba	Chapeco	Cuiaba		possible technical issue	Embraer E195AR	PR-AUO
25.12.2021	TAP Air Portugal	TP5 / TAP005	Lisbon	Natal	Funchal		sec

Date	Airline	Flight	From	To	Diverted	Squawk	Reason	Aircraft	Registration
							urity issue	Airbus A321-251NX	CS-TXA
24.12.2021	United Airlines	UA794 / UAL794	New York	San Diego	New York		engine shut down	Boeing 737-824	N78509
23.12.2021	TAP Air Portugal	TP1689 / TAP1689	Lisbon	Funchal	Lisbon		technical issue	Airbus A330-941	CS-TUD
23.12.2021	SriLankan Airlines	UL606 / ALK606	Colombo	Sydney	Colombo		hydraulic issue	Airbus A330-343	4R-ALQ
22.12.2021	EasyJet	U27592 / EJU16TP	Nantes	Porto	Bordeaux	7700		Airbus A319-111	OE-LKC
22.12.2021	Aeromexico	AM22 / AMX022	Madrid	Mexico City	Shannon		medical emergency	Boeing 787-9 Dreamliner	N128AM
22.12.2021	Pakistan International Airlines	PK9739 / PIA9739	Multan	Jeddah	Muscat		cargo smoke indication	Boeing 777-240(LR)	AP-BGZ
21.12.2021	Summit Air	SUT8225	Thunder Bay	Waterloo	Thunder Bay		pressurisation issue	Avro RJ100	C-FRJY
21.12.2021	Air New Zealand	NZ1104 / ANZ1104	Sydney	Auckland	Sydney		engine issue	Boeing 787-9 Dreamliner	ZK-NZN

Date	Airline	Flight	From	To	Diversion	Code	Reason	Aircraft	Registration
21.12.2021	Belavia	B2755 / BRU755	Minsk	Tashkent	Minsk		technical issue	Boeing 737-3Q8	EW-254PA
20.12.2021	Pobeda	DP6506 / PBD6506	Ufa	Moscow	Kazan		medical emergency	Boeing 737-8MC	VP-BQJ
20.12.2021	Etihad	EY474 / ETD474	Abu Dhabi	Jakarta	Phuket		medical emergency	Boeing 787-9 Dreamliner	A6-BLZ
19.12.2021	Eastern Airlines	2D154 / EAL	Miami	Montevideo	Miami		flaps issue	Boeing 767-336(ER)	N705KW
19.12.2021	Aerolíneas Argentinas	AR1666 / ARG1666	Buenos Aires	Esquel	Buenos Aires	7700	passenger's cell phone battery caught fire	Boeing 737-8HX	LV-FUA
18.12.2021	Gol Linhas Aéreas	G31512 / GLO1512	Sao Paulo	Joao Pessoa	Salvador		cargo smoke indication	Boeing 737-8EH	PR-GTC
18.12.2021	United Airlines	UA3803 / AWI3803	Pensacola	Chicago	South Bend		engine issue	Mitsubishi CRJ-200LR	N455AW
18.12.2021	Delta Air Lines	DL5609 / RPA5609	New York	Columbus	Detroit		maintenance	Embraer E175LR	N235JQ
18.12.2021	Air Canada	AC598 / ACA598	Vancouver	Santa Ana	Los Angeles		flight control issue	Airbus A220-300	C-GUAC
18.12.2021	American Airlines	AA6165 / PDT6165	Charlotte	Mobile	Charlotte		cracked windshield	Embraer ERJ-145LR	[n651ae](https://www.mysafersky.com/aircraft-registration/n651ae/)

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Date	Airline	Flight	From	To	Diverted		Issue	Aircraft	Registration
							technical issue	ATR 72-600	VT-IYK
14.12.2021	Binter Canarias	NT9301 / IBB93WE	Turin	Gran Canaria	Lanzarote		cargo smoke indication	Embraer E195-E2	EC-NFA
13.12.2021	Lion Air	JT145 / LNI145	Padang	Batam	Padang		pressurisation issue	Boeing 737-9GP(ER)	PK-LQR
13.12.2021	Caribbean Airlines	BW483 / BWA483	Miami	Port of Spain	San Juan		medical emergency	Boeing 737-86J	9Y-JME
13.12.2021	JetBlue	B6583 / JBU583	New York	Orlando	Philadelphia			Airbus A321-271NX	N2038J
12.12.2021	Gol Linhas Aéreas	G31395 / GLO1395	Vitoria	Sao Paulo	Vitoria		technical issue	Boeing 737-8EH	PR-GUZ
12.12.2021	American Airlines	AA146 / AAL146	New York	Tel Aviv	Athens		unruly passenger	Boeing 777-223(ER)	N760AN
12.12.2021	Pakistan International Airlines	PK301 / PIA301	Islamabad	Karachi	Islamabad		engine issue	Airbus A320-214	AP-BLB
11.12.2021	United Airlines	UA1161 / UAL1161	New York	Puerto Vallarta	Houston		weather radar issue	Boeing 737-924(ER)	N38443
11.12.2021	American Airlines								

Date	Airline	Flight	From	To	Diversion		Reason	Aircraft	Registration
		AA2801 / AAL2801	Los Angeles	Cancun	Los Angeles			Airbus A321-231	N130AN
11.12.2021	United Airlines	UA5324 / SKW5324	Oklahoma City	Chicago	St. Louis		medical emergency	Embraer E175LR	N207SY
11.12.2021	WestJet	WS1862 / WJA1862	Vancouver	Honolulu	Vancouver		engine shut down	Boeing 737 MAX 8	C-GAMQ
11.12.2021	Air France	AF1600 / AFR23UF	Paris	Madrid	Bordeaux			Airbus A220-300	F-HZUB
11.12.2021	Nordwind Airlines	N4161 / NWS161	Moscow	Krasnodar	Moscow		pressurisation issue	Boeing 737-83N	VP-BPI
11.12.2021	SpiceJet	SG386 / SEJ386	Gorakhpur	Mumbai	Nagpur		medical emergency	Boeing 737 MAX 8	VT-MXK
10.12.2021	iAero Airways	WQ452 / SWQ452	Los Angeles	Milwaukee	Denver		cracked windshield	Boeing 737	
09.12.2021	Alaska Airlines	AS2232 / QXE2232	Portland	Spokane	Portland		engine issue	De Havilland Canada Dash 8-400	N450QX
09.12.2021	Turkish Airlines	TK7236 / THY7UK	Istanbul	Samsun	Istanbul		engine issue	Boeing 737-8F2	TC-JFT
09.12.2021	Delta Air Lines	DL5500 / EDV5500	Raleigh-Durham	New York	Raleigh-Durham		brakes issue	Mitsubishi CRJ-900LR	

Date	Airline	Flight	From	To	Diversion		Reason	Aircraft	Registration
									N936XJ
09.12.2021	Delta Air Lines	DL342 / DAL342	Washington	Los Angeles	Oklahoma City		unruly passenger	Boeing 757-2Q8	N706TW
09.12.2021	SpiceJet	SG467 / SEJ467	Mumbai	Kolkata	Mumbai		engine issue	Boeing 737 MAX 8	VT-MXE
08.12.2021	Air Canada	AC466 / ACA466	Toronto	Ottawa	Toronto		odor in cockpit	Airbus A220-300	C-GUPL
08.12.2021	Air Europa	UX6060 / AEA6060	Palma de Mallorca	Barcelona	Palma de Mallorca		possible technical issue	Boeing 737-85P	EC-LVR
08.12.2021	Wizz Air	W63606 / WUK992	London	Suceava	Wroclaw			Airbus A321-271NX	G-WUKM
08.12.2021	TUI Airways	BY186 / TOM186	Manchester	Puerto Vallarta	Manchester	7700	landing gear issue	Boeing 787-8 Dreamliner	G-TUIB
07.12.2021	Azul Linhas Aereas	AD9169 / AZU9169	Sao Jose Do Rio Preto	Belo Horizonte	Sao Jose Do Rio Preto		engine issue	ATR 72-600	4X-EDA
07.12.2021	American Airlines	AA2854 / AAL2854	Des Moines	Charlotte	Des Moines		bird strike	Airbus A319-132	N808AW
06.12.2021	WestJet	WS1590 / WJA1590	Calgary	Atlanta	Calgary		medical emergency	Boeing 737 MAX 8	C-GXAX

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
05.12.2021	WestJet	WS3406 / WEN3406	Toronto	Fredericton	Toronto			De Havilland Canada Dash 8-400	[C-FENO](https://www.mysafersky.com/aircraft-registration/c-feno/)
05.12.2021	Air Canada	AC8936 / JZA936	Thunder Bay	Toronto	Montreal		airspeed issue	De Havilland Canada Dash 8-400	C-GGMI
05.12.2021	Southwest Airlines	WN224 / SWA224	San Jose	Dallas	Albuquerque			Boeing 737 MAX 8	N8807L
05.12.2021	Alaska Airlines	AS792 / ASA792	Seattle	Detroit	Seattle			Boeing 737-990	N302AS
05.12.2021	Condor	DE1462 / CFG5PF	Leipzig	Gran Canaria	Frankfurt	7700	smoke in cockpit	Airbus A321-211	D-AIAF
05.12.2021	British Airways	BA2798 / BAW2798	London	Seville	London			Airbus A320-232	G-EUUM
04.12.2021	Eurowings	EW9552 / EWG9552	Dusseldorf	Fuerteventura	Dusseldorf		engine issue	Airbus A320-214	D-ABNN
04.12.2021	American Airlines	AA1845 / AAL1845	West Palm Beach	Charlotte	Orlando		possible mechanical issue	Boeing 737-823	N815NN
04.12.2021	United Airlines	UA3678 / RPA3678	Key West	Washington	Miami	7700		Embraer E170SE	N654RW
04.12.2021	Air India	AI105 / AIC105	Delhi	New York	Delhi		medical emergency	Boeing 777-337(ER)	VT-ALT

Date	Airline	Flight	From	To	Diversion	Squawk	Issue	Aircraft	Registration
04.12.2021	Kuwait Airways	KU117 / KAC117	Kuwait City	New York	London	7700	medical emergency	Boeing 777-369(ER)	9K-AOH
03.12.2021	Qatar Airways	QR817 / QTR817	Hong Kong	Doha	Karachi		engine issue	Airbus A350-941	A7-ALH
03.12.2021	Alaska Airlines	AS809 / ASA809	Portland	Kahului	Seattle		mechanical issue	Boeing 737-890	N597AS
02.12.2021	Gol Linhas Aéreas	G32090 / GLO2090	Rio de Janeiro	Salvador	Rio de Janeiro		engine issue	Boeing 737-76N	PR-GEH
02.12.2021	Frontier Airlines	F92074 / FFT2074	Las Vegas	San Antonio	El Paso		medical emergency and fumes on board	Airbus A321-211	N718FR
02.12.2021	S7 Airlines	S75220 / SBI5220	Magadan	Novosibirsk	Irkutsk		airspeed issue	Airbus A321-271N	VQ-BGU
01.12.2021	Azul Linhas Aereas	AD2663 / AZU2663	Belo Horizonte	Uberaba	Belo Horizonte		engine issue	ATR 72-600	PR-AQP
01.12.2021	United Airlines	UA4602 / GJS4602	St. Louis	New York	Columbus		engine shut down	Mitsubishi CRJ-550	N523GJ
01.12.2021	United Airlines	UA47 / UAL47	Frankfurt	Houston	Gander			Boeing 777-224(ER)	N78017
01.12.2021	KLM	KL1715 / KLM87Y	Amsterdam	Porto					

column-1	column-2	column-3	column-4	column-5	column-6	column-7	column-8	column-9	column-10
					Nantes	7700		Embraer E195-E2	[PH-NXD](https://www.mysafersky.com/aircraft-registration/ph-nxd/)
30.11.2021	British Airways	BA268 / BAW268	Los Angeles	London	Toronto			Boeing 777-336(ER)	[G-STBK](https://www.mysafersky.com/aircraft-registration/g-stbk/)
29.11.2021	LATAM Airlines	LA3090 / TAM3090	Porto Alegre	Brasilia	Porto Alegre		engine issue	Airbus A321-231	PT-MXM
29.11.2021	LOT	LO3923 / LOT3923	Warsaw	Krakow	Warsaw		technical issue	Boeing 737-86N	SP-LWF
29.11.2021	Brussels Airlines	SN277 / BEL277	Brussels	Accra	Brussels		medical emergency	Airbus A330-343	OO-SFF
29.11.2021	Air Canada	AC8767 / JZA767	San Diego	Vancouver	Los Angeles		fuel and engine issue	Mitsubishi CRJ-900LR	C-GJZV
29.11.2021	Southwest Airlines	WN1644 / SWA1644	Orlando	Indianapolis	Atlanta			Boeing 737-7H4	N941WN
29.11.2021	Aer Lingus	EI123 / EIN123	Dublin	Chicago	Goose Bay			Airbus A330-302	EI-EIN
28.11.2021	EasyJet	U29816 / EZY9816	Jersey	Glasgow	Bristol	7700	pressurisation issue	Airbus A320-214	G-EZUK
27.11.2021	Delta Air Lines	DL201 / DAL201	Johannesburg	Atlanta	Boston		"technical specifications"	Airbus A350-941	N514DN

Date	Airline	Flight	From	To	Diverted	Sq	Issue	Aircraft	Registration
27.11.2021	Delta Air Lines	DL31 / DAL31	London	Atlanta	Halifax			Airbus A330-323	N805NW
27.11.2021	Go First	G8873 / GOW873	Bengaluru	Patna	Nagpur		possible engine issue	Airbus A320-271N	VT-WGA
27.11.2021	Air France	AF351 / AFR351	Toronto	Paris	Halifax			Airbus A350-941	F-HTYJ
26.11.2021	EasyJet	U21357 / EZS1357	Geneva	Amsterdam	Geneva		odor on board	Airbus A319-111	HB-JYK
26.11.2021	American Airlines	AA5597 / JIA5597	Washington □ Ronald Reagan	Tallahassee	Washington □ Dulles			Mitsubishi CRJ-702ER	N531EG
26.11.2021	TAP Air Portugal	TP213 / TAP213A	Porto	New York	Lajes			Airbus A330-941	CS-TUF
25.11.2021	Corsair	SS926 / CRL926	Paris	Pointe-a-Pitre	Brest	7700	smoke on board	Airbus A330-343	F-HROK
24.11.2021	EasyJet	U21885 / EZY76AG	Manchester	Hurghada	Athens			Airbus A320-251N	G-UZLM
24.11.2021	Alaska Airlines	AS297 / ASA297	Portland	San Francisco	Portland		engine issue	Airbus A320-214	N851VA
23.11.2021	Air France	AF762 / AFR762	Paris	Pointe-a-Pitre	Paris	7700			

Date	Airline	Flight	From	To	Diversion	Squawk	Notes	Aircraft	Registration
								Boeing 777-328(ER)	F-GSQO
23.11.2021	United Airlines	UA3651 / RPA3651	Pittsburgh	Chicago	Pittsburgh	7700		Embraer E170SE	N642RW
22.11.2021	JetBlue	B61261 / JBU1261	New York	Bridgetown	San Juan			Airbus A321-231	N950JT
22.11.2021	UTAir	UT677 / UTA677	Ufa	Kogalym	Ufa		pressurisation issue	Boeing 737-524	VP-BXY
22.11.2021	Vistara	UK807 / VTI807	Delhi	Bengaluru	Indore		medical emergency	Airbus A320-251N	VT-TQA
22.11.2021	Binter Canarias	NT9401 / IBB29ER	Venice	Gran Canaria	Barcelona		medical emergency	Embraer E195-E2	EC-NFA
22.11.2021	British Airways	BA401 / BAW401	Cairo	London	Belgrade			Airbus A321-251NX	G-NEOS
21.11.2021	Lufthansa	LH456 / DLH456	Frankfurt	Los Angeles	Denver			Boeing 747-830	D-ABYR
20.11.2021	Turkish Airlines	TK1 / THY1	Istanbul	New York	Shannon		medical emergency	Boeing 777-3F2(ER)	TC-JJS
19.11.2021	Oman Air	WY144 / OMA144	Milan	Muscat	Al Najaf			Boeing 787-9 Dreamliner	A4O-SC
19.11.2021	Air Canada	AC897 / ACA897	Athens	Toronto					

Date	Airline	Flight	From	To	Diversion	Squawk	Issue	Aircraft	Registration
					Shannon		medical emergency	Boeing 787-8 Dreamliner	[C-GHPT](https://www.mysafersky.com/aircraft-registration/c-ghpt/)
19.11.2021	Brussels Airlines	SN501 / BEL1CP	Brussels	New York	Dublin		engine issue	Airbus A330-343	[OO-SFG](https://www.mysafersky.com/aircraft-registration/oo-sfg//)
19.11.2021	American Airlines	AA400 / AAL400	Washington □ Ronald Reagan	Charlotte	Washington □ Dulles		mechanical issue	Airbus A319-132	N836AW
19.11.2021	Spirit Airlines	NK967 / NKS967	Cleveland	Fort Myers	Cleveland			Airbus A320-232	N602NK
18.11.2021	Air Canada	AC45 / ACA45	Delhi	Vancouver	Delhi			Boeing 787-9 Dreamliner	C-FRTU
17.11.2021	American Airlines	AA3829 / ENY3829	Greensboro	Chicago	Indianapolis		mechanical issue	Embraer ERJ-145LR	[N613AE](https://www.mysafersky.com/aircraft-registration/n613ae/)
17.11.2021	United Airlines	UA4422 / GJS4422	New York	Rochester	New York			Mitsubishi CRJ-550	N538GJ
17.11.2021	United Airlines	UA5184 / SKW5184	Chicago	Mason Cit	Waterloo		engine issue	Mitsubishi CRJ-200LR	N221PS
17.11.2021	American Airlines	AA2813 / AAL2813	New York	Austin	Pittsburgh	7700	odor in cockpit	Boeing 737-823	[N976NN](https://www.mysafersky.com/aircraft-registration/n976nn/)
16.11.2021	LATAM Airlines	LA3090 / TAM3090	Porto Alegre	Brasilia	Porto Alegre				

Date	Airline	Flight	From	To	Diversion	Squawk	Reason	Aircraft	Registration
							bird strike	Airbus A321-211	PT-XPC
16.11.2021	United Airlines	UA3542 / RPA3542	Chicago	Norfolk	Roanoke	7700	technical issue	Embraer E170SE	N646RW
16.11.2021	S7 Airlines	S72616 / SBI2616	Tomsk	Moscow	Novosibirsk		flaps issue	Boeing 737-83N	VP-BNG
16.11.2021	Air India	AI127 / AIC127	Delhi	Chicago	Oslo		medical emergency	Boeing 777-337(ER)	VT-ALS
15.11.2021	Aeromexico	AM789 / AMX789	Sacramento	Guadalajara	Sacramento		bird strike	Boeing 737-852	XA-AMB
14.11.2021	Spirit Airlines	NK135 / NKS135	Minneapolis	Orlando	Minneapolis		engine issue	Airbus A320-271N	N922NK
14.11.2021	Ryanair	FR1344 / RYR89VY	Shannon	Lanzarote	Shannon		medical emergency	Boeing 737-8AS	EI-EFJ
13.11.2021	American Airlines	AA146 / AAL146	New York	Tel Aviv	Paris	7700		Boeing 777-223(ER)	N779AN
12.11.2021	Voyageur Airways	VC200 / VAL200	North Bay	Muskoka	North Bay		engine shut down	Mitsubishi CRJ-200ER	C-GIXT
12.11.2021	Delta Air Lines	DL2085 / DAL2085	Minneapolis	Phoenix	Minneapolis			Airbus A321-211	N377DN

Date	Airline	Flight	From	To	Diversion	Squawk	Issue	Aircraft	Registration
12.11.2021	LOT	LO3 / LOT3T	Warsaw	Chicago	Goose Bay			Boeing 787-9 Dreamliner	SP-LSF
11.11.2021	United Airlines	UA4488 / GJS4488	New York	Washington	New York		flight control issue	Mitsubishi CRJ-550	N535GJ
11.11.2021	Gazpromavia	4G292 / GZP292	Noyabrsk	Moscow	Nadym		air conditioning issue	Sukhoi Superjet 100-95LR	RA-89031
11.11.2021	Air India	AI148 / AIC148	London	Hyderabad	Ankara		fuel leak	Boeing 787-8 Dreamliner	[VT-ANB](https://www.mysafersky.com/aircraft-registration/vt-anb/)
11.11.2021	American Airlines	AA4210 / ENY4210	Alexandria	Dallas	Longview	7700	possible mechanical issue	Embraer ERJ-145LR	N667GB
10.11.2021	Lufthansa	LH143 / DLH6NC	Nuremberg	Frankfurt	Nuremberg		bird strike	Airbus A319-114	D-AILM
10.11.2021	Air India	AI754 / AIC754	Silchar	Kolkata	Silchar		landing gear issue	Airbus A319-112	VT-SCB
10.11.2021	LATAM Airlines	LA3511 / TAM3511	Florianopolis	Sao Paulo	Florianopolis		pressurisation issue	Airbus A321-231	PT-MXE
09.11.2021	United Airlines	UA4408 / GJS4408	Washington	New York	Washington		mechanical issue	Mitsubishi CRJ-550	N545GJ
09.11.2021	United Airlines								

Date	Airline	Flight	From	To	Diversion	7700	Issue	Aircraft	Registration
		UA957 / UAL957	Geneva	New York	Dublin		possible fuel (system) issue	Boeing 767-322(ER)	N652UA
09.11.2021	Air India	AI127 / AIC127	Delhi	Chicago	Stockholm		medical emergency	Boeing 777-337(ER)	VT-ALQ
08.11.2021	Air Canada	AC720 / ACA720	Toronto	New York - LaGuardia	New York □ Newark		engine issue	Airbus A220-300	C-GNBE
08.11.2021	Air France	AF610K / AFR610K	Paris	Nantes	Paris	7700	pressurisation issue	Airbus A220-300	F-HZUC
08.11.2021	Allegiant Air	G42471 / AAY2471	Orlando	Plattsburgh	Orlando		bird strike	Airbus A320-214	N217NV
08.11.2021	Vueling	VY6246 / VLG6246	Barcelona	Zurich	Barcelona		bird strike	Airbus A320-232	EC-MGE
07.11.2021	Vueling	VY7108 / VLG99CH	Santiago	London	Santiago		engine issue	Airbus A320-232	EC-LVT
07.11.2021	Amelia International	AF7604 / AFR19RA	Paris	Aurillac	Toulouse		possible landing gear issue	ATR 42-500	F-HLIA
07.11.2021	Delta Air Lines	DL3622 / SKW3622	Seattle	Portland	Seattle		bird strike	Embraer E175LR	N262SY
07.11.2021	Swiss	LX339 / SWR339	London	Zurich	London		smell in cockpit	Airbus A220-100	HB-JBD

Date	Airline	Flight	From	To	Diversion		Issue	Aircraft	Registration
07.11.2021	Azul Linhas Aéreas	AD2420 / AZU2420	Campinas	Jericoacoara	Campinas		pressurisation issue	Airbus A320-251N	PR-YYI
06.11.2021	Eurowings	EW5110 / EWG5BG	Cologne	Hurghada	Klagenfurt		medical emergency	Airbus A320-214	D-AEWK
06.11.2021	Air Baltic	BT879 / BTI8ZF	Tallinn	Malaga	Tallinn		lightning strike	Airbus A220-300	YL-CSE
06.11.2021	TUI Airways	BY2662 / TOM37M	Manchester	Fuerteventura	Manchester			Boeing 737-8K5	G-FDZS
05.11.2021	S7 Airlines	S72103 / SBI2103	Moscow	Anapa	Rostov-on-Don		medical emergency	Airbus A320-214	VQ-BRC
05.11.2021	Air Arabia Maroc	3O437 / MAC437	Casablanca	Istanbul	Palma de Mallorca		alleged medical emergency	Airbus A320-214	CN-NMG
05.11.2021	TUI fly Netherlands	OR611 / TFL611	Groningen	Gran Canaria	Faro			Boeing 737 MAX 8	PH-TFP
05.11.2021	Vistara	UK992 / VTI992	Pune	Delhi	Mumbai		technical issue	Airbus A320-232	VT-TTM
04.11.2021	Allegiant Air	G42254 / AAY2254	Orlando	Traverse City	Orlando		possible engine issue	Airbus A319-112	N307NV
04.11.2021	Azul Linhas Aéreas								

```
ss="column-3">AD4327 / AZU4327</td><td class="column-4">Goiani</td><td class="column-5">
Campinas</td><td class="column-6">Brasilia</td><td class="column-7"></td><td class="colu
mn-8">technical issue</td><td class="column-9">Embraer E195-E2</td><td class="column-1
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="column-3">UA818 / UAL818</td><td class="column-4">Buenos Aires</td><td class="column-
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ey West</td><td class="column-6">Atlanta</td><td class="column-7"></td><td class="column
-8">airspeed issue</td><td class="column-9">Airbus A319-114</td><td class="column-10">N3
64NB</td>
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="column-3">DL365 / DAL365</td><td class="column-4">Atlanta</td><td class="column-5">Los
 Angeles</td><td class="column-6">Dallas</td><td class="column-7"></td><td class="column
-8">disruptive passenger</td><td class="column-9">Airbus A321-211</td><td class="column-
10">N390DN</td>
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<tr class="row-685 odd">
<td class="column-1">01.11.2021</td><td class="column-2">El Al</td><td class="column-
3">LY82 / ELY082</td><td class="column-4">Bangkok</td><td class="column-5">Tel Aviv</td>
<td class="column-6">Goa</td><td class="column-7"></td><td class="column-8">possible fue
l (system) issue</td><td class="column-9">Boeing 787-9 Dreamliner</td><td class="column-
10"><a href="https://www.mysafersky.com/aircraft-registration/4x-eda/" rel="noopener" ta
rget="_blank">4X-EDA</a></td>
</tr>
</tbody>
</table>]
```

In [18]:
```python
#Load the data table to a dataframe
flight_diverted_table = pd.read_html(str(flight_diverted_table))
flight_diverted_df = flight_diverted_table[0]
flight_diverted_df
```

Out[18]:

	Date	Airlines/Operator	Flight number	Departure airport	Destination airport	Diverted to	Emergency code	Alleged reason	Airc
0	20.07.2022	Go First	G8151 / GOW151	Delhi	Guwahati	Jaipur	NaN	cracked windshield	Air A3 2
1	20.07.2022	Wizz Air	W65058 / WZZ101S	Bari	Krakow	Budapest	NaN	bomb threat	Air A3 27
2	19.07.2022	Go First	G8386 / GOW386	Mumbai	Leh	Delhi	NaN	engine issue	Air A3 2
3	19.07.2022	Go First	G86202 / GOW6202	Srinagar	Delhi	Srinagar	NaN	engine issue	Air A3 2
4	19.07.2022	LOT	LO6297 / LOT6297	Prague	Zanzibar	Warsaw	NaN	brakes issue	Boe 78 Dreaml
...	...	...	...	...	...	...	...	...	...

679	04.11.2021	Azul Linhas Aéreas	AD4327 / AZU4327	Goiani	Campinas	Brasilia	NaN	technical issue	Emb E19!
680	02.11.2021	United Airlines	UA818 / UAL818	Buenos Aires	Houston	Buenos Aires	NaN	pressurisation issue	Bo 78 Dreaml
681	01.11.2021	Delta Air Lines	DL9962 / DAL9962	Atlanta	Key West	Atlanta	NaN	airspeed issue	Air A319-
682	01.11.2021	Delta Air Lines	DL365 / DAL365	Atlanta	Los Angeles	Dallas	NaN	disruptive passenger	Air A321-
683	01.11.2021	El Al	LY82 / ELY082	Bangkok	Tel Aviv	Goa	NaN	possible fuel (system) issue	Bo 78 Dreaml

684 rows × 10 columns

\# Another way of reading html data without having to parse it #Read Diverted data from "https://www.diverted.eu/" into a dataframe url = 'https://www.diverted.eu/' df = pd.read_html(url) data = df[0]

Data Transformation

String to Date conversion

```
In [19]: flight_diverted_df.Date.dtype
```

```
Out[19]: dtype('O')
```

> Flight date is formatted as a string (Pandas type 'O' is a string).

```
In [20]: #Format Flight date from string to Date
         flight_diverted_df.Date = pd.to_datetime(flight_diverted_df["Date"], format='%d.%m.%Y')
         flight_diverted_df.head(5)
```

Out[20]:

	Date	Airlines/Operator	Flight number	Departure airport	Destination airport	Diverted to	Emergency code	Alleged reason	Aircraft	Regi
0	2022-07-20	Go First	G8151 / GOW151	Delhi	Guwahati	Jaipur	NaN	cracked windshield	Airbus A320-271N	
1	2022-07-20	Wizz Air	W65058 / WZZ101S	Bari	Krakow	Budapest	NaN	bomb threat	Airbus A321-271NX	
2	2022-07-19	Go First	G8386 / GOW386	Mumbai	Leh	Delhi	NaN	engine issue	Airbus A320-271N	
3	2022-07-19	Go First	G86202 / GOW6202	Srinagar	Delhi	Srinagar	NaN	engine issue	Airbus A320-271N	
4	2022-07-19	LOT	LO6297 / LOT6297	Prague	Zanzibar	Warsaw	NaN	brakes issue	Boeing 787-9 Dreamliner	

Filter Flights by Date

> Only select data for May'22, since our excel data is for May 2022

```
In [21]: diverted_df = flight_diverted_df[(flight_diverted_df.Date >= '2022-05-01') & (flight_div
         diverted_df.head(5)
```

Out[21]:

	Date	Airlines/Operator	Flight number	Departure airport	Destination airport	Diverted to	Emergency code	Alleged reason	Aircraft	Re
147	2022-05-31	Virgin Australia	VA9223 / VOZ9223	Perth	Boolgeeda	Perth	NaN	hydraulic issue	Airbus A320-232	
148	2022-05-31	Aer Lingus	EI3326 / EAI26MH	Dublin	Manchester	Dublin	7700.0	technical issue	ATR 72-600	
149	2022-05-30	American Airlines	AA720 / AAL720	Charlotte	Rome	Charlotte	NaN	maintenance issue	Boeing 777-223(ER)	
150	2022-05-29	Swiss	LX340 / SWR340V	Zurich	London	Zurich	NaN	odor in cockpit	Airbus A220-100	
151	2022-05-29	Qantas	QF2008 / QLK8D	Sydney	Tamworth	Sydney	NaN	hydraulic issue	De Havilland Canada Dash 8-400	

Repalce Headers

```
In [22]: #Columns before renaming
         diverted_df.columns
```

```
Out[22]: Index(['Date', 'Airlines/Operator', 'Flight number', 'Departure airport',
                'Destination airport', 'Diverted to', 'Emergency code',
                'Alleged reason', 'Aircraft', 'Registration'],
               dtype='object')
```

```
In [23]: #Renaming columns
         diverted_df.columns = ['FL_DATE', 'OP_UNIQUE_CARRIER', 'FL_NUM', 'ORIGIN', 'DEST', 'DIVE
```

```
In [24]: #Columns after renaming
         diverted_df.columns
```

```
Out[24]: Index(['FL_DATE', 'OP_UNIQUE_CARRIER', 'FL_NUM', 'ORIGIN', 'DEST',
                'DIVERTED_TO', 'EMERGENCY_CODE', 'DIVERTED_REASON', 'AIRCRAFT',
                'AIRCRAFT_REGISTRATION'],
               dtype='object')
```

Drop rows

Drop null rows, if any

```
In [25]: print('Data before dropping null rows : ',diverted_df.shape)
         diverted_df.dropna()
         print('Data after dropping null rows : ', diverted_df.shape)
```

```
Data before dropping null rows :  (87, 10)
Data after dropping null rows :  (87, 10)
```

> No null rows to drop

Drop duplicates, if any

```
In [26]:   print('Dataframe before dropping duplicates :', diverted_df.shape)
           diverted_df = diverted_df.drop_duplicates()
           print('Dataframe after dropping duplicates :',diverted_df.shape)
           #No duplicates in the website data table
```

```
Dataframe before dropping duplicates : (87, 10)
Dataframe after dropping duplicates : (87, 10)
```

Update rows

> Look for rows with inconsistent reason for diversion

```
In [27]:   diverted_df.groupby(['DIVERTED_REASON'])['DIVERTED_REASON'].count()
```

```
Out[27]:   DIVERTED_REASON
           air conditioning issue      1
           bird strike                 8
           bomb threat                 1
           brakes issue                1
           cracked windshield          1
           disruptive passenger        5
           engine issue                4
           hydraulic issue             5
           landing gear issue          3
           maintenance issue           1
           medical emergency          14
           odor in cockpit             1
           odor on board               2
           operational reasons         1
           possible landing gear issue 1
           possible medical emergency  1
           possible technical issue    2
           pressurisation issue        6
           smell on board              3
           smoke indication            1
           smoke on board              1
           technical issue             8
           weather radar issue         1
           winglet issue               1
           "rostering error"           1
           Name: DIVERTED_REASON, dtype: int64
```

> Rostering error has unwanted quotes. Removing them for consistency.

```
In [28]:   diverted_df.loc[diverted_df.DIVERTED_REASON == '"rostering error"', 'DIVERTED_REASON'] =
```

```
In [29]:   #Validate data after update
           diverted_df.groupby(['DIVERTED_REASON'])['DIVERTED_REASON'].count()
```

```
Out[29]:   DIVERTED_REASON
           air conditioning issue      1
           bird strike                 8
           bomb threat                 1
           brakes issue                1
           cracked windshield          1
           disruptive passenger        5
           engine issue                4
           hydraulic issue             5
           landing gear issue          3
           maintenance issue           1
```

```
medical emergency                14
odor in cockpit                   1
odor on board                     2
operational reasons               1
possible landing gear issue       1
possible medical emergency        1
possible technical issue          2
pressurisation issue              6
rostering_error                   1
smell on board                    3
smoke indication                  1
smoke on board                    1
technical issue                   8
weather radar issue               1
winglet issue                     1
Name: DIVERTED_REASON, dtype: int64
```

Fill NA/NaN values

In [30]:
```python
print('EMERGENCY_CODE before updating NA/NAN : ',diverted_df.EMERGENCY_CODE.unique())
```
```
EMERGENCY_CODE before updating NA/NAN :  [  nan 7700.]
```

In [31]:
```python
diverted_df = diverted_df.replace(np.nan,0)
```

In [32]:
```python
print('EMERGENCY_CODE after updating NA/NAN : ',diverted_df.EMERGENCY_CODE.unique())
```
```
EMERGENCY_CODE after updating NA/NAN :  [   0. 7700.]
```

Ethical implications:

> Website Data - The data source of the flat file is genuine and reliable (Bureau of Transportation). However, the website may not hold accurate information because it is not government or FAA authorized source. The webiste does not mention the source of data, making the accuracy and legality of data questionable. The website also states the same in the disclaimer. However, on running a high level search for a couple of diverted flight information, we are able to confirm the accuracy of the data.

Conclusion:

> As a part of this milestone, the following Data Transformation steps have been performed.
>
> 1. Data Type conversion
> 2. Renamed columns
> 3. Replaced values in a dataframe column
> 4. Filtered data
> 5. Filled NA/NAN values
> 6. Performed checks for duplicates and null rows

Milestone 4 - Connecting to an API/Pulling in the Data and Cleaning/Formatting

> Data from the flat file has cancellations and delays due to weather. The API gets the historic weather data for a location (origin or destination city name). This will enable us to validate if

there truly was a bad weather situation for a flight to be delayed or cancelled. With this, we can also identify the cause of bad weather like storms, snow, wind, etc.

```
In [323…  #Working with weather delays. Creating a dataframe with only weather delays.
          weather_delay_df = flight_data_df[flight_data_df.DELAY_REASON=='Weather']
          print(weather_delay_df.shape)
          weather_delay_df.head(5)
```

(4152, 35)

Out[323]:

	YEAR	QUARTER	MONTH	DAY_OF_MONTH	DAY_OF_WEEK	FL_DATE	MKT_UNIQUE_CARRIER	OP_UNIQUE_
87	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	
191	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	
227	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	
1962	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	
2000	2022	2	5	1	7	5/1/2022 12:00:00 AM	AA	

5 rows × 35 columns

Function to make the API call to get historic weather data based on flight time and origin.

```
In [306…  def get_historic_geo_data_by_zip(startDateTime, originCityName, endDateTime):
              #URL
              #url = 'https://visual-crossing-weather.p.rapidapi.com/history?'
              #API key Request Headers
              headers = {"X-RapidAPI-Key": "046c439acamshd081e11265aa749p15f219jsn1275dc460233",
                      "X-RapidAPI-Host": "visual-crossing-weather.p.rapidapi.com"}

              #URL
              geocode_request_url = "https://visual-crossing-weather.p.rapidapi.com/history?"
              #Request Parameters
              parms = {'startDateTime': startDateTime, 'aggregateHours': 24, 'location': originCit
                      'endDateTime': endDateTime, 'unitGroup': 'us'}
              try:
                  #API call to get the weather data at the scheduled time of flight.
                  response = requests.get(geocode_request_url, params=parms, headers=headers)
              except requests.exceptions.RequestException as e:  # This is the correct syntax
                  print('There was an error in the API call : ', e)
              except requests.exceptions.Timeout as t:
                  print('The API call timedout. Please retry.')
              return response
```

Data Transformation

1. Data manipulation using regular expressions to convert response text into a list of keys and values

2. Data transformation to parse the list of keys and values to form a dictionary (key-value pair)

```python
#Function to process the API response
def process_api_data(response, index):
    try:
        if response.status_code==200: #OK
            try:
                # The API response is not a formatted JSON. Parsing through the text to
                json_data = response.text.splitlines()
                if len(json_data) <= 2: #We only expect a list of keys and values. Ideal
                    keys = (re.split(',', json_data[0]))
                    # replace ', ' by | to be able to split the strings correctly for ke
                    values = (json_data[1].replace(', ','|').replace('"', '')).split(','
                    #print(len(keys), len(values))
                    if len(keys) == len(values): #Converting to dict only when keys and
                        for i in range(len(keys)):
                            historic_weather_data[keys[i]] = values[i]
                    else:
                        print("Key value pair counts don't match")
            except RuntimeError as ex:
                print('There was an error in processing the API response : ', ex)
        elif response.status_code==404:
            print("Requested historic weather data not found for parms : Fl_Date - ",sta
        else:
            print('Unable to get historic weather data for parms : Fl_Date - ',start_dat
    except RuntimeError as ex:
        print("There was an error in dictionary creation from API response.")


    return historic_weather_data
```

Function call to create the API request, get and process the response.

3. Data transformation to convert the dictionary to a dataframe

```python
index = 0
historic_weather_data = {}
weather_data_df = pd.DataFrame()

for inx, row in weather_delay_df.iterrows():
    start_date_time = pd.to_datetime(row.FL_DATE).strftime("%Y-%m-%dT%H:%M:%S") #Fl star
    end_date_time=start_date_time

    #Switching back the if condition and reducing the API calls to 2, incase of a rerun
    #Since this is a public API there is a limit to the number of calls I can make per m
    #The loop for entire dataframe has been run and the weather_data_df is created for a
    #This condition will be removed again for the final project submission
    if index < 2:
        #Call funtion to get weather at origin and flight time
        response = get_historic_geo_data_by_zip(start_date_time,row.ORIGIN_CITY_NAME , e

        weather_dict={}
        weather_dict = process_api_data(response, index) #Get each API response in a dic

        df   = pd.DataFrame([weather_dict], columns=weather_dict.keys()) #Convert dict to
        weather_data_df = pd.concat([weather_data_df, df], axis =0).reset_index(drop=Tru

        index = index + 1
```

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In [327… *# Final weather_data_df*
weather_data_df

Out[327]:

	Address	Date time	Minimum Temperature	Maximum Temperature	Temperature	Dew Point	Relative Humidity	Heat Index	Wind Speed	
0	Birmingham|AL	05/01/2022	65.0	82.1	73.0	63.6	73.68	83.5	10.8	

	Address	Date time	Minimum Temperature	Maximum Temperature	Temperature	Dew Point	Relative Humidity	Heat Index	Wind Speed
1	Cleveland|OH	05/01/2022	53.1	74.0	62.2	45.6	60.2		18.3
2	Charlotte|NC	05/01/2022	57.3	80.5	68.6	59.5	73.82	81.8	13.1
3	Pittsburgh|PA	05/01/2022	53.5	70.4	60.8	46.6	64.71		9.2
4	Raleigh/Durham|NC	05/01/2022	50.5	82.2	65.0	57.3	79.5	82.6	12.5
...	...	...	...	...	...	...	...	...	...
4147	Savannah|GA	05/31/2022	70.5	84.0	76.6	73.2	89.54	91.7	8.8
4148	Dallas|TX	05/31/2022	76.0	92.3	84.0	69.4	63.24	96.7	18.3
4149	Kansas City|MO	05/31/2022	65.0	78.2	72.3	65.9	81.0		16.1
4150	Tampa|FL	05/31/2022	72.7	91.2	80.3	69.3	71.22	95.5	15.3
4151	Tampa|FL	05/31/2022	72.7	91.2	80.3	69.3	71.22	95.5	15.3

4152 rows × 25 columns

> Now that we have the weather data in dataframe, we'll perform the Data Transformation Steps

4. Look for empty rows and null values

In [328...
```
weather_data_df.dropna()
```

Out[328]:

	Address	Date time	Minimum Temperature	Maximum Temperature	Temperature	Dew Point	Relative Humidity	Heat Index	Wind Speed	V
0	Birmingham|AL	05/01/2022	65.0	82.1	73.0	63.6	73.68	83.5	10.8	
1	Cleveland|OH	05/01/2022	53.1	74.0	62.2	45.6	60.2		18.3	
2	Charlotte|NC	05/01/2022	57.3	80.5	68.6	59.5	73.82	81.8	13.1	
3	Pittsburgh|PA	05/01/2022	53.5	70.4	60.8	46.6	64.71		9.2	
4	Raleigh/Durham|NC	05/01/2022	50.5	82.2	65.0	57.3	79.5	82.6	12.5	
...	...	...	...	...	...	...	...	...	...	
4147	Savannah|GA	05/31/2022	70.5	84.0	76.6	73.2	89.54	91.7	8.8	
4148	Dallas|TX	05/31/2022	76.0	92.3	84.0	69.4	63.24	96.7	18.3	

4149	Kansas City|MO	05/31/2022	65.0	78.2	72.3	65.9	81.0		16.1
4150	Tampa|FL	05/31/2022	72.7	91.2	80.3	69.3	71.22	95.5	15.3
4151	Tampa|FL	05/31/2022	72.7	91.2	80.3	69.3	71.22	95.5	15.3

4152 rows × 25 columns

> No null rows to drop.

5. Drop Columns

```
In [ ]:   weather_data_df.groupby(['Info'])['Info'].count().sort_index()
          #There doesn't seem to be any relevant information in the Info column.
```

```
In [342...   weather_data_df[weather_data_df['Resolved Address'] == weather_data_df['Name']]
```

Out[342]:

	Address	Date time	Minimum Temperature	Maximum Temperature	Temperature	Dew Point	Relative Humidity	Heat Index	Wind Speed	
0	Birmingham|AL	05/01/2022	65.0	82.1	73.0	63.6	73.68	83.5	10.8	
1	Cleveland|OH	05/01/2022	53.1	74.0	62.2	45.6	60.2		18.3	
2	Charlotte|NC	05/01/2022	57.3	80.5	68.6	59.5	73.82	81.8	13.1	
3	Pittsburgh|PA	05/01/2022	53.5	70.4	60.8	46.6	64.71		9.2	
4	Raleigh/Durham|NC	05/01/2022	50.5	82.2	65.0	57.3	79.5	82.6	12.5	
...	...	...	...	...	...	...	...	...	...	
4147	Savannah|GA	05/31/2022	70.5	84.0	76.6	73.2	89.54	91.7	8.8	
4148	Dallas|TX	05/31/2022	76.0	92.3	84.0	69.4	63.24	96.7	18.3	
4149	Kansas City|MO	05/31/2022	65.0	78.2	72.3	65.9	81.0		16.1	
4150	Tampa|FL	05/31/2022	72.7	91.2	80.3	69.3	71.22	95.5	15.3	
4151	Tampa|FL	05/31/2022	72.7	91.2	80.3	69.3	71.22	95.5	15.3	

4152 rows × 25 columns

> All rows have same data from resolved area and Name. Dropping one of these columns since its a duplicate. Info has all NAN values. Dropping the 2 columns

```
In [349...   weather_data_df = weather_data_df.drop(columns=['Info', 'Resolved Address'])
```

```
In [356...   weather_data_df.shape
```

```
Out[356]:   (4152, 23)
```

6. Drop Duplicates

```
In [350...   #Dropping dups from the copy and retaining the original df,
             #to avoid having to recreate the df with multiple hits to the API.
             weather_data_df_copy = weather_data_df
```

```
In [351...   weather_data_df_copy.shape, weather_data_df.shape
```

```
Out[351]:   ((4152, 23), (4152, 23))
```

```
In [352...   print('Dataframe before dropping duplicates :', weather_data_df_copy.shape)
             weather_data_df_copy = weather_data_df_copy.drop_duplicates() # 1,389 rows dropped
             print('Dataframe after dropping duplicates :',weather_data_df_copy.shape)
```

```
Dataframe before dropping duplicates : (4152, 23)
Dataframe after dropping duplicates : (1376, 23)
```

7. Replace column names

```
In [353...   weather_data_df.columns
```

```
Out[353]:   Index(['Address', 'Date time', 'Minimum Temperature', 'Maximum Temperature',
                    'Temperature', 'Dew Point', 'Relative Humidity', 'Heat Index',
                    'Wind Speed', 'Wind Gust', 'Wind Direction', 'Wind Chill',
                    'Precipitation', 'Precipitation Cover', 'Snow Depth', 'Visibility',
                    'Cloud Cover', 'Sea Level Pressure', 'Weather Type', 'Latitude',
                    'Longitude', 'Name', 'Conditions'],
                   dtype='object')
```

```
In [354...   columns = ['ORIGIN', 'FL_DATE', 'MIN_TEMP', 'MAX_TEMP','TEMP', 'DEW_POINT', 'RELATIVE_HU
                        'WIND_GUST', 'WIND_DIRECTION', 'WIND_CHILL', 'PRECIPITATION', 'PRECIPITATION_
                        'VISIBILITY','CLOUD_COVER', 'SEA_LEVEL_PRESSURE', 'WEATHER_TYPE', 'LATITUDE',

             weather_data_df_copy.columns = columns
```

```
In [355...   weather_data_df_copy.columns
```

```
Out[355]:   Index(['ORIGIN', 'FL_DATE', 'MIN_TEMP', 'MAX_TEMP', 'TEMP', 'DEW_POINT',
                    'RELATIVE_HUMIDITY', 'HEAT_INDEX', 'WIND_SPEED', 'WIND_GUST',
                    'WIND_DIRECTION', 'WIND_CHILL', 'PRECIPITATION', 'PRECIPITATION_COVER',
                    'SNOW_DEPTH', 'VISIBILITY', 'CLOUD_COVER', 'SEA_LEVEL_PRESSURE',
                    'WEATHER_TYPE', 'LATITUDE', 'LONGITUDE', 'CITY_NAME', 'CONDITIONS'],
                   dtype='object')
```

8. Fill NA/NaN values, if any

```
In [363...   print(weather_data_df_copy[weather_data_df_copy.LATITUDE.isna()==True])
             print(weather_data_df_copy[weather_data_df_copy.LONGITUDE.isna()==True])
             print(weather_data_df_copy[weather_data_df_copy.MIN_TEMP.isna()==True])
             print(weather_data_df_copy[weather_data_df_copy.MAX_TEMP.isna()==True])
             print(weather_data_df_copy[weather_data_df_copy.TEMP.isna()==True])
             print(weather_data_df_copy[weather_data_df_copy.DEW_POINT.isna()==True])
             print(weather_data_df_copy[weather_data_df_copy.RELATIVE_HUMIDITY.isna()==True])
             print(weather_data_df_copy[weather_data_df_copy.HEAT_INDEX.isna()==True])
             print(weather_data_df_copy[weather_data_df_copy.WIND_SPEED.isna()==True])
```

```
print(weather_data_df_copy[weather_data_df_copy.WIND_GUST.isna()==True])
print(weather_data_df_copy[weather_data_df_copy.WIND_DIRECTION.isna()==True])
print(weather_data_df_copy[weather_data_df_copy.WIND_CHILL.isna()==True])
print(weather_data_df_copy[weather_data_df_copy.PRECIPITATION.isna()==True])
print(weather_data_df_copy[weather_data_df_copy.PRECIPITATION_COVER.isna()==True])
print(weather_data_df_copy[weather_data_df_copy.SNOW_DEPTH.isna()==True])
print(weather_data_df_copy[weather_data_df_copy.VISIBILITY.isna()==True])
print(weather_data_df_copy[weather_data_df_copy.CLOUD_COVER.isna()==True])
print(weather_data_df_copy[weather_data_df_copy.SEA_LEVEL_PRESSURE.isna()==True])
```

```
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
```

```
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
```

```
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
Empty DataFrame
Columns: [ORIGIN, FL_DATE, MIN_TEMP, MAX_TEMP, TEMP, DEW_POINT, RELATIVE_HUMIDITY, HEAT_
INDEX, WIND_SPEED, WIND_GUST, WIND_DIRECTION, WIND_CHILL, PRECIPITATION, PRECIPITATION_C
OVER, SNOW_DEPTH, VISIBILITY, CLOUD_COVER, SEA_LEVEL_PRESSURE, WEATHER_TYPE, LATITUDE, L
ONGITUDE, CITY_NAME, CONDITIONS]
Index: []

[0 rows x 23 columns]
```

There are no Nan values in numeric columns.

Ethical implications:

API Data - The data source of the API is genuine and reliable as stated in the terms of use in the website and I do not see any legal concers in using the data. However, I would like to validate the accuracy of the data by looking up the weather at a certain place and time known to have a bad weather situation.

Conclusion:

As a part of this milestone, the following Data Transformation steps have been performed.

1. Data manipulation using regular expressions to convert response text into a list of keys and values
2. Data transformation to parse the list of keys and values to form a dictionary (key-value pair)
3. Data transformation to convert the dictionary to a dataframe
4. Look for empty rows and null values
5. Drop Columns
6. Drop Duplicates
7. Replace column names
8. Fill NA/NaN values, if any

During the final project analysis, if there was no concerning weather condition at the origin airport, the same can be run against the destination airport to see if a flight was delayed/cancelled due to bad weather at the destination airport

In [ ]:

In [ ]:

Bureau data is limited to carriers in USA. Get the unique operating carriers to identify US based carriers for flights diverted.

```
json_data = response.text.splitlines() if len(json_data) <= 2: keys = (re.split(',', json_data[0])) # replace ', ' by | to be able to split
the strings correctly for key value pair values = (json_data[1].replace(', ','|').replace('"', '')).split(',')

match response.status_Code: case 200: try: json_data = response.text.splitlines() if len(json_data) <= 2: keys = (re.split(',',
json_data[0])) # replace ', ' by | to be able to split the strings correctly for key value pair values = (json_data[1].replace(',
','|').replace('"', '')).split(',') print(len(keys), len(values)) if len(keys) == len(values): if index == 0: for i in range(len(keys)):
historic_weather_data[keys[i]] = values[i] else: for key, value in historic_weather_data.items(): historic_weather_data[key] =
values[] else: print("Key value pair counts don't match") except RuntimeError as ex: print('There was an error in processing the
API response : ', ex) case 404: print("Requested historic weather data not found for parms : Fl_Date - ",start_date_time, ' City -
',row.ORIGIN_CITY_NAME) case _: print('Unable to get historic weather data for parms : Fl_Date - ',start_date_time, ' City -
',row.ORIGIN_CITY_NAME)

historic_weather_data = {} print(len(keys), len(values)) if len(keys) == len(values): for i in range(len(keys)):
historic_weather_data[keys[i]] = values[i] else: print("Key value pair counts don't match")
```