AIR CRASH INVESTIGATION, FINDINGS AND ANALYSIS

ANALYSIS ON AIRCRAFT WITH MOST CRASHES.

This analysis will give this company an incite on the kind of Aircraft to invest in , Having retrieved data from Kaggle DATASETS on AIR AND AVIATION CRASHES upto 2023, analysis and findings were made:

1. There are over 90,000 values within the data set each of them relating to Event occurrence which is an AIR-CRASH.

2.Not all the values of the dataset are relevant to our Analysis on which plane to this organisation should acquire

3. Through analysing cleaning transforming and visualizing this data we will be able to come with relevant solutions and know which will be more advisable.

4. Only ‘Make’ is important as this organisation wants to narrow down on the make of the aircraft to acquire

5. Proper analysis of this data will be based on relating every other component to make.

WORKING WITH PYTHON TO ANALYZE THE DATA

Before going into the data and manipulating it to suit the needs of the organisation, the data should first be loaded to a base where it shall be analysed from, Data loading and reading is done thru methods taught in python.

Read the data in the CSV(comma separated values)file to the memory of the machine and begin analysing the data by importing standard relevant packages that will be of help.

Some of the standard packages include: Pandas, Matplotlib, SeaBorn , Numpy among others. For this particular data set the suitable libraries are Pandas for reading and carrying out python functions and Matplotlib for visualization.

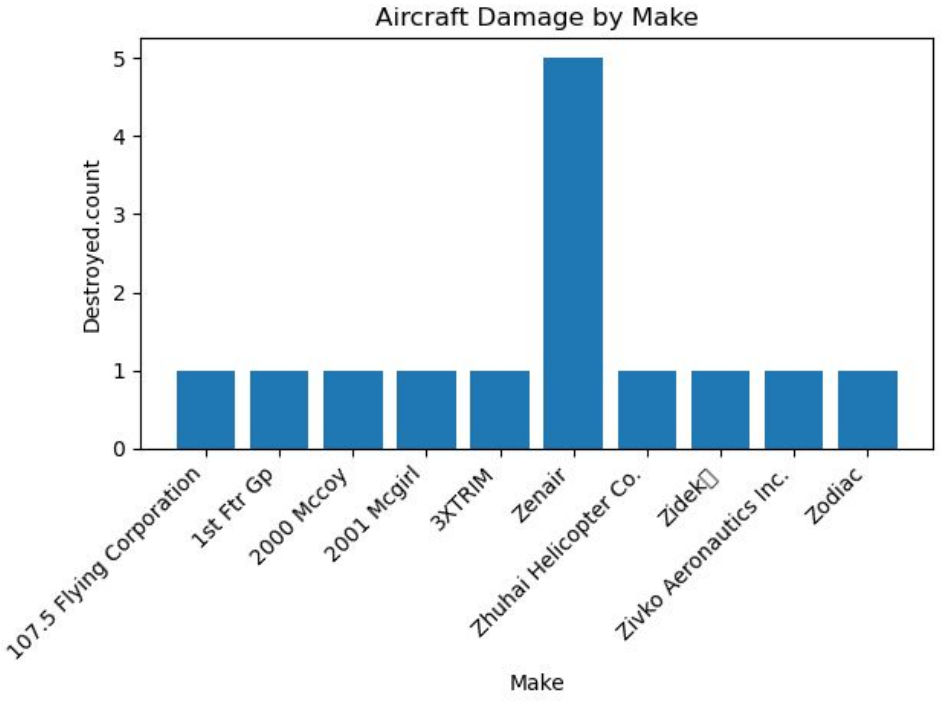
Create Variables to assign to our data once it has been read to memory.

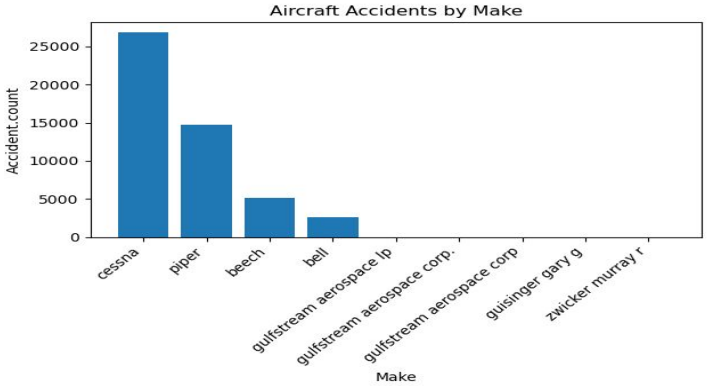
DATA CLEANING

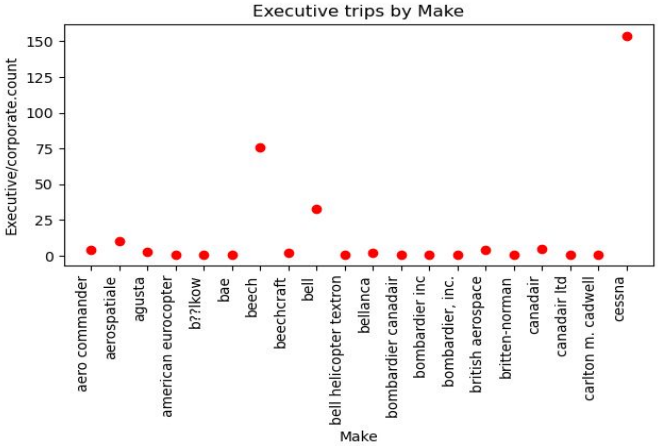
Once the data is in our memory and and standard packages have been imported jump into cleaning the data: what is meant by the term cleaning?

Cleaning is whereby the data will be sorted to relevant columns ,rows, null values will be dropped and duplicates will be eliminated.

- The most relevant column is the ‘Make’ column, relationships to other elements in the list will only revolve around Make of the aircraft.
- Our first relationship will be derived from the make with most Damage after an accident.
- Using relevant methods in python the data is grouped by make and aircraft damage.
- From further methods and analysis we come up with Aircraft with most the highest destroyed count.
- Our Next relationship will be comparing make with investigation type which will give us the accident counts for every aircraft
- Further clean the data to obtain only values in lowercase and drop null values for the column investigation type, from this we find Cessna to be one with the most accidents.
- Run groupby to further cut down the data to manageability ahead to visualize
- Lastly take a look to compare Make of the aircraft to the purpose of the flight to see which flight was taken more on Executive/Corporate trps.
-


Aircraft Damage by Make
Destroyed.count
0
1
2
3
4
5
107.5 Flying Corporation
1st Ftr Gp
2000 Mccoy
2001 Mcgirl
3XTRIM
Zenair
Zhuhai Helicopter Co.
Zidek
Zivko Aeronautics Inc.
Zodiac
Make


Aircraft Accidents by Make
Accident.count
0
5000
10000
15000
20000
25000
cessna
piper
beech
bell
gulfstream aerospace lp
gulfstream aerospace corp.
gulfstream aerospace corp
guisinger gary g
zwicker murray r
Make


Executive trips by Make
Executive/corporate.count
0
25
50
75
100
125
150
aero commander
aerospatiale
agusta
american eurocopter
b??lkow
bae
beech
beechcraft
bell
bell helicopter textron
bellanca
bombardier canadair
bombardier inc
bombardier, inc.
british aerospace
britten-norman
canadair
canadair ltd
carlton m. cadwell
cessna
Make

FINDINGS

From the analysis above carried out it is evident that the most popular aircraft is ‘Cessna’ in terms of trips concerning business and Executive/Corporate trips, the negative is also true the aircraft has had the most fatalities and accidents.

Advising on other plane types other than the popular Cessna

FIN.