# ANALYSIS OF AIRCRAFT ACCIDENTS:TRENDS MANUFACTURERS AND PHASE OF FLIGHT.

# PROJECT OVERVIEW

Air travel accidents tend to be fatal. This study seeks to analyse some factors associated aircraft accidents.

## PROBLEM STATEMENT

- Statistically, air travel is the safest mode of transport but when accidents occur they tend to be fatal. This study seeks to understand factors associated with aircraft accidents so as to improve on safety and inform manufacturers and business operators.

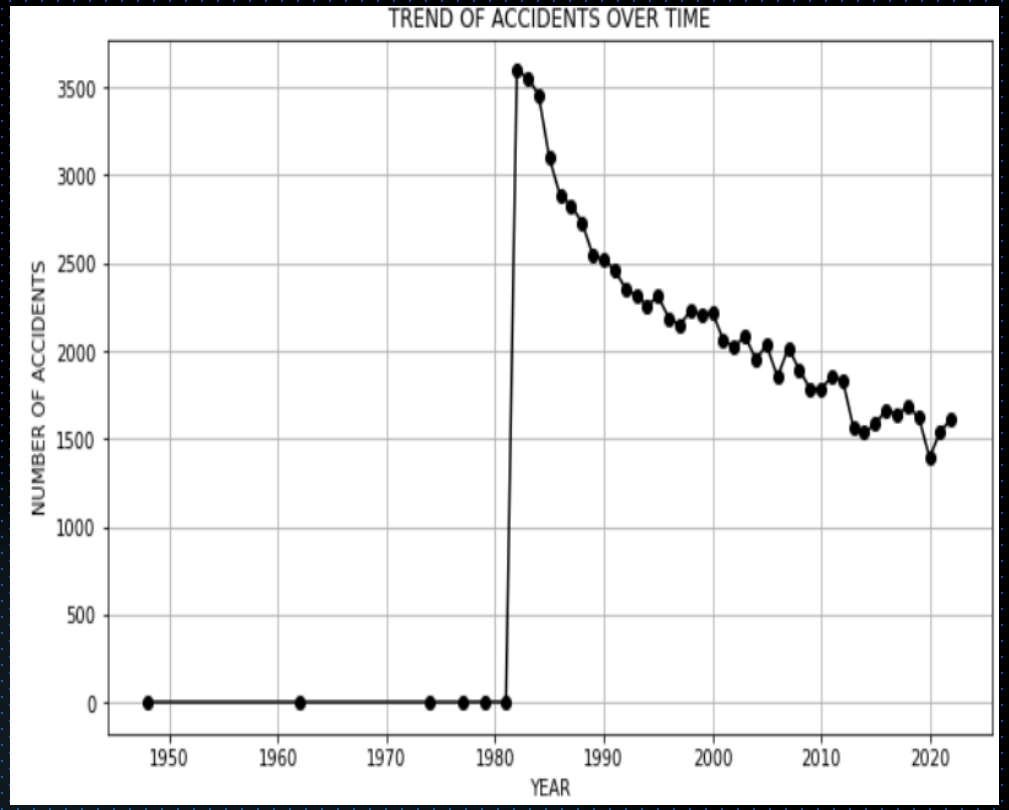
## OBJECTIVES

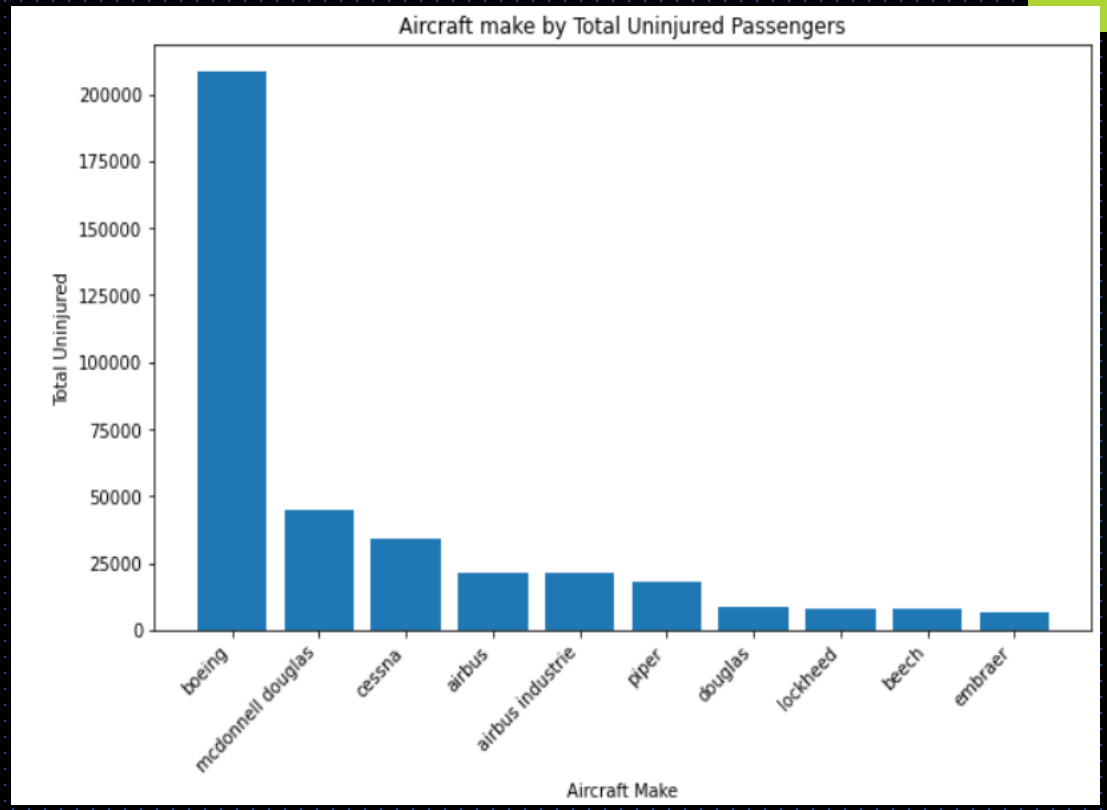
- 1.Analysis of aircraft accidents trends over time.
- 2.Compare survival outcomes(total.uninjured) by manufacturer.
- 3.Identify phases of flight that are accident prone.

# METHODOLOGY .

- 1.DATA CLEANING
- This was done by checking for duplicate rows, removing columns in the data set that were not relevant in my study, replacing missing entries in numerical columns with 0, changing column names to lower case, changing all entries in date columns to date format and filling missing entries in non numeric columns with ‘unknown’

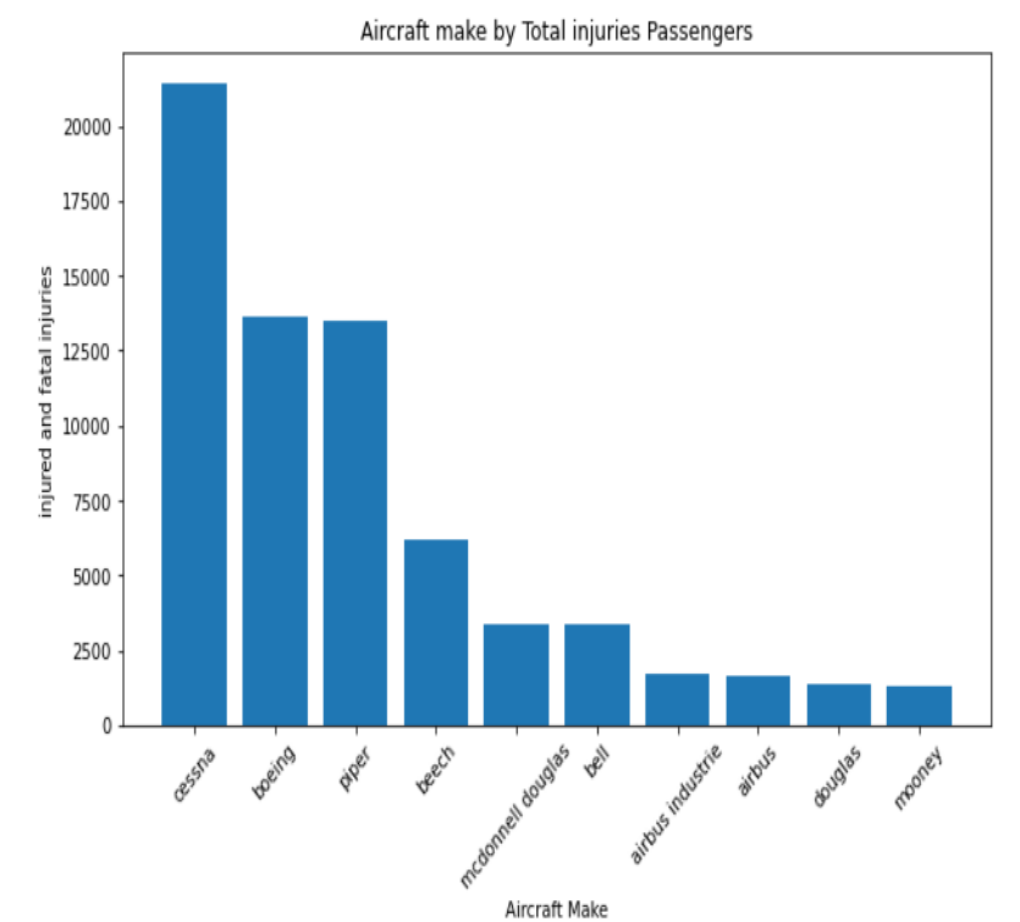
# METHODOLOGY

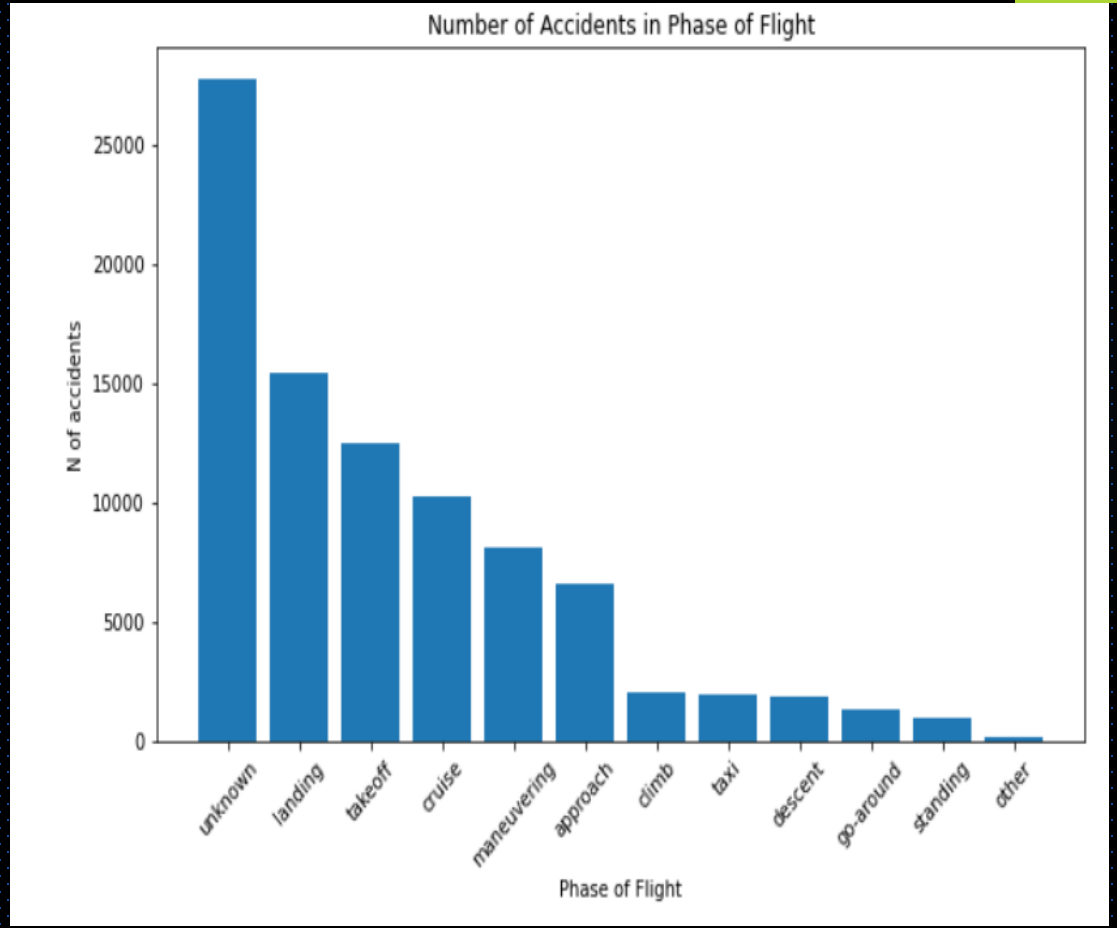



This shows that there was a sharp increase in plane accidents from the year 1980 but Overall the number of plane accidents reduced over time.

This shows how different aircraft makes compares to the number of uninjured people after an accident with boeing having the most number of total uninjured after an accident and embracer having the least.




This shows how different aircraft makes compare when it comes to total injuries and fatalities recorded after an accident. Cessna has the highest number of injuries and fatalities while mooney has the lowest.

This bar graph shows the frequency of incidents on each phase of flight recorded. Landing has the highest frequency of accidents recorded with other phases of flight being the lowest.

# CONCLUSIONS & RECOMMENDATIONS

## CONCLUSIONS

- 1.Aircraft accidents have decreased over time meaning safety features have improved.
- 2.Major manufacturers with large fleets record more accidents but also more survivors eg boeing.
- 3.Despite having a large number of cases whereby the phase of flight is unknown, Landing takeoff and cruise remain the riskiest phase of flight.
- This study shows that air travel safety has improved overtime while highlighting the remaining risk areas.

## RECOMMENDATIONS

- 1.Manufacturers and Regulators could enhance safety features for critical phases. They could come up with better fail safe systems and better alert systems.
- 2.For businesses, investing in data and safety training would reduce accidents and improve cost efficiency.