# AIRCRAFT ANALYSIS

# PROJECT

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# PROBLEM STATEMENT

This analysis involves determinning aircrafts which are of low risk so as to guide an organization in purchasing and operating airplanes for commercial and private enterprises.

# THE DATA

The data was obtained from Kaggle Datasets. datasetLinks to an external site.

- Used Python for data cleaning and analysis.
- Tableau was used for dashboard creation.

The initial dataset had a shape of 88889, 31 i.e. 88889 rows and 31 columns. However, it resulted into 22 columns after cleaning.

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# DATA CLEANING

01

Dropped columns with relatively high missing values. That is more than 50% missing values of the overall data.

02

Imputed missing values with median for numerical data and mode for the categorical data.

03

Extracted Year, Month and Day into seperate column each from the event date column.

04

Harmonized upper case and lower case naming for elements in each column.

# Research Questions

Least number of accidents by manufacturer Make

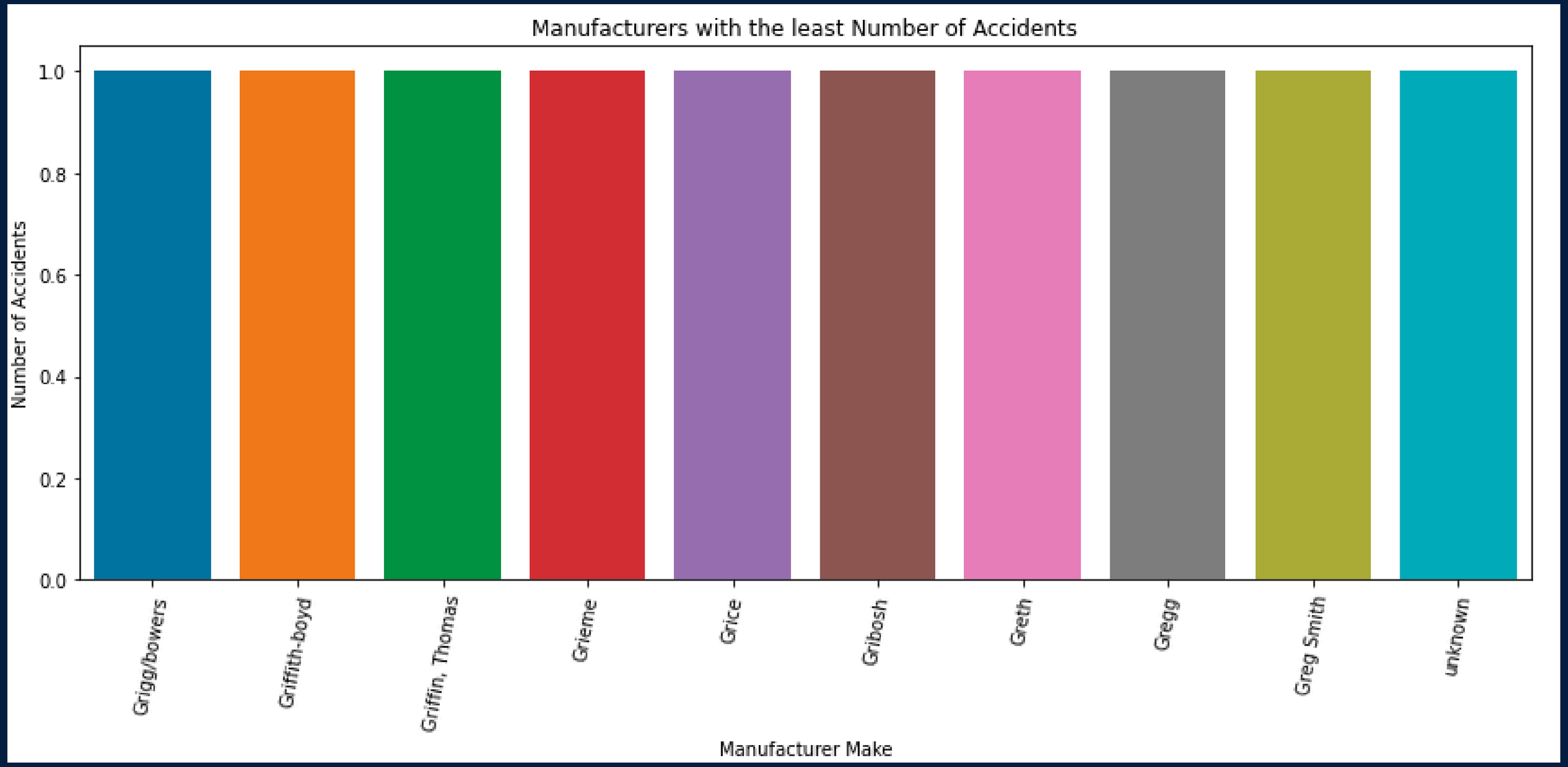
Injury Levels by Aircraft Make and Model  for aircrafts with Least Accidents

Comparing between two selected flights, Greth and Griffith-Boyd, which one is more reliable in terms of engine type.

Overall Level of fatal injuries by Purpose of flight.

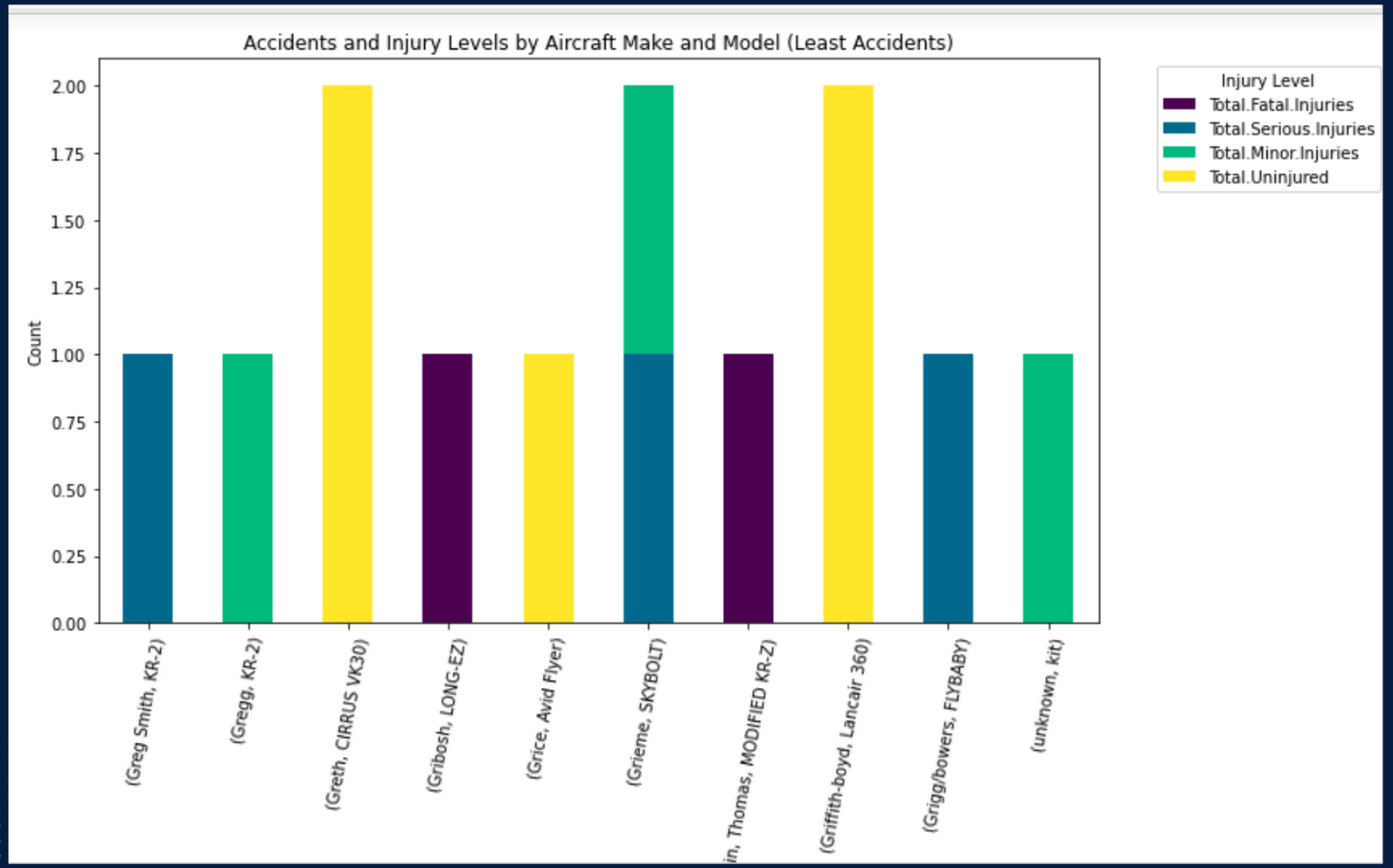
Recommendable months of the year for travelling

# Least number of accidents by manufacturer Make



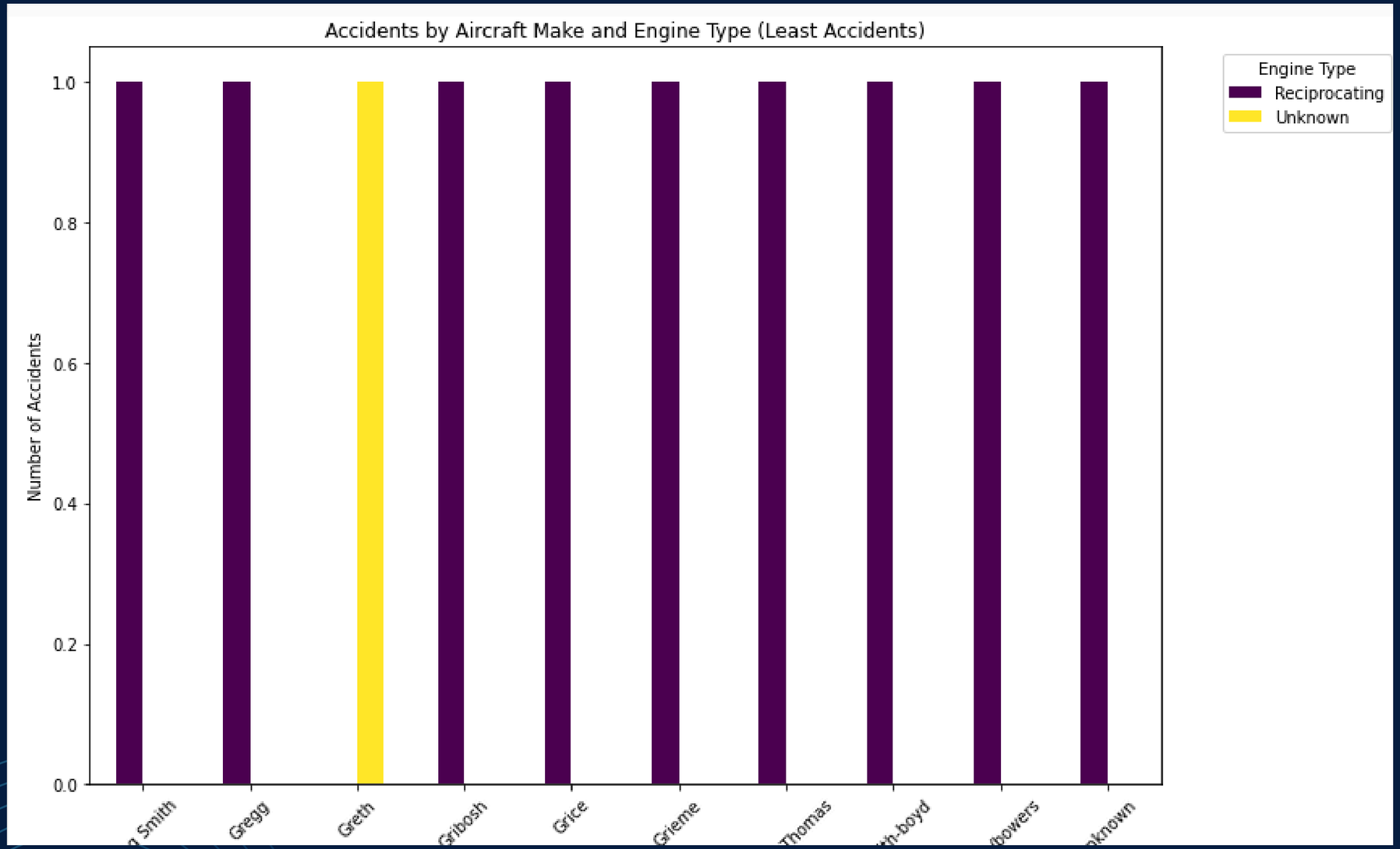

This is the list of aircrafts by make with the least number of accidents in their operation.

# Injury Levels by Aircraft Make and Model for aircrafts with Least Accidents



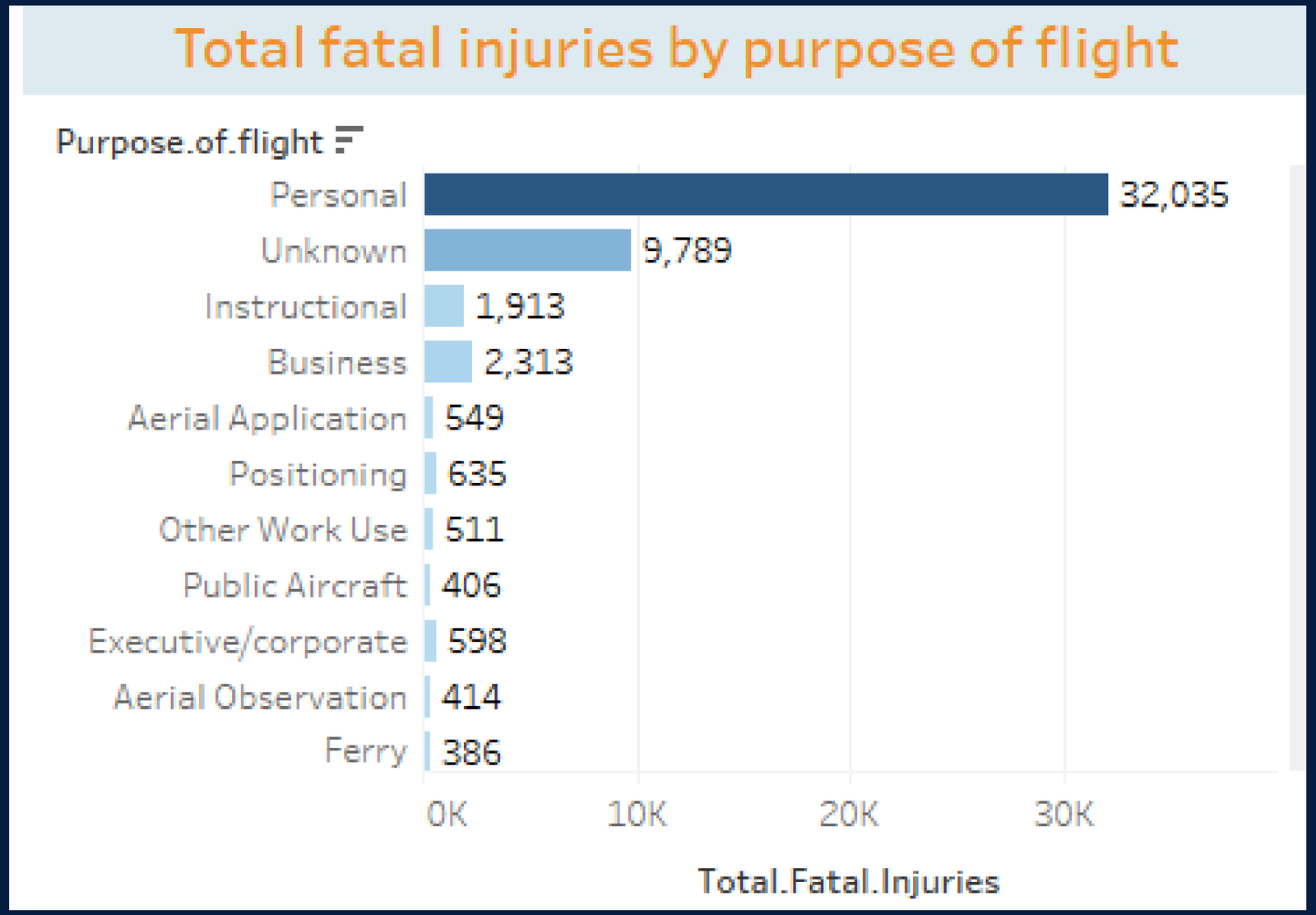

Greth and Griffith-Boyd Makes presents to be the only aircrafts with least number of accidents and more uninjured passengers on board.

# Comparing between two selected flights, Greth and Griffith-Boyd, which one is more reliable in terms of engine type




At this point, we can comfortably say that Griffith-boyd is more reliable to Greth since Griffith has a known engine type, by the name 'reciprocating', unlike Greth whose engine is not known.

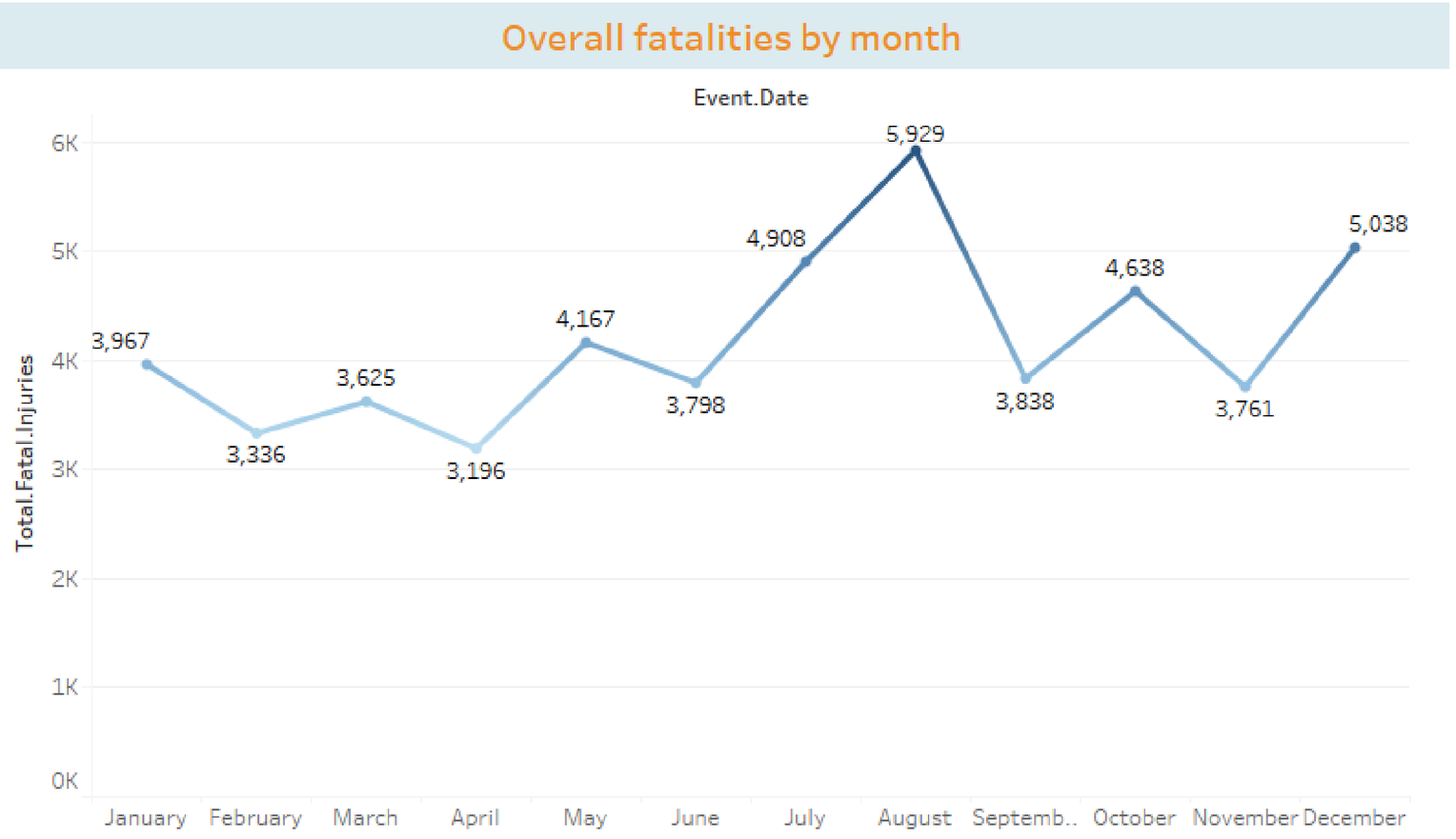
# Overall Level of fatal injuries by Purpose of flight.



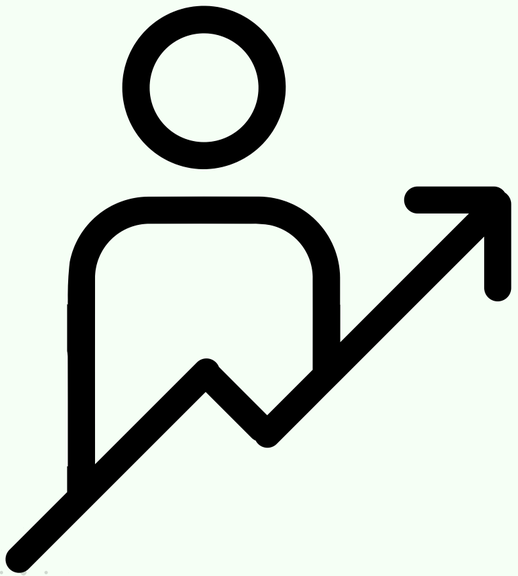

Flights that are usually for personal reasons are more risky because they portray high fatal injuries. Unlike the executive/Corporate flights which portray to be less risky as they are less fatal

# Recommendable months of the year for travelling

- July and August presents to have the highest number of accidents.
- So it would be safe to say that during Summer there are high incidents of flight accidents, while during winter(November, December, January), there are less flight accidents.
- Therefore, winter is more safe for flight travel.



# Key findings

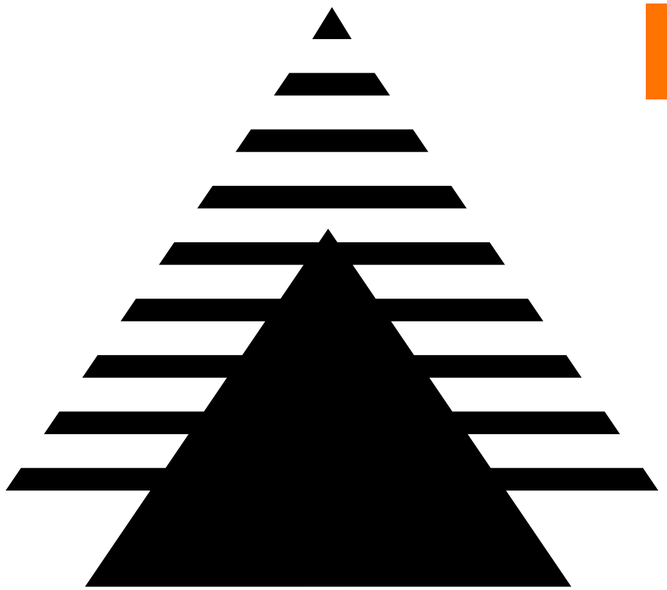


- The Flight Makes with least number of flight accidents entailed; Grigg/bowers,Griffith-boyd,Griffin-Thomas,Grieme,Grice,Gribosh,Greth,Gregg and Greg Smith.
- Griffith-boyd and Greth presented to have higher records of uninjured passengers compared to Grice.
- Greth was ruled out since it did not have a defined engine type.
- Griffith-boyd presented to be the most reliable and less risky aircraft model since it had a defined engine type by the name 'reciprocating'.
- personal flights recorded the highest accident incidents with executive/corporate appearing 12th in the rank with least incidents. Corporate are more safe.
- summer seasons(June, July, August) presented to have higher incidents of flight accidents compared to winter seasons(November, December, January).

# Recommendation

01

It is recommandable that the company considers Griffith-boyd Make as the most reliable and safe aircraft.



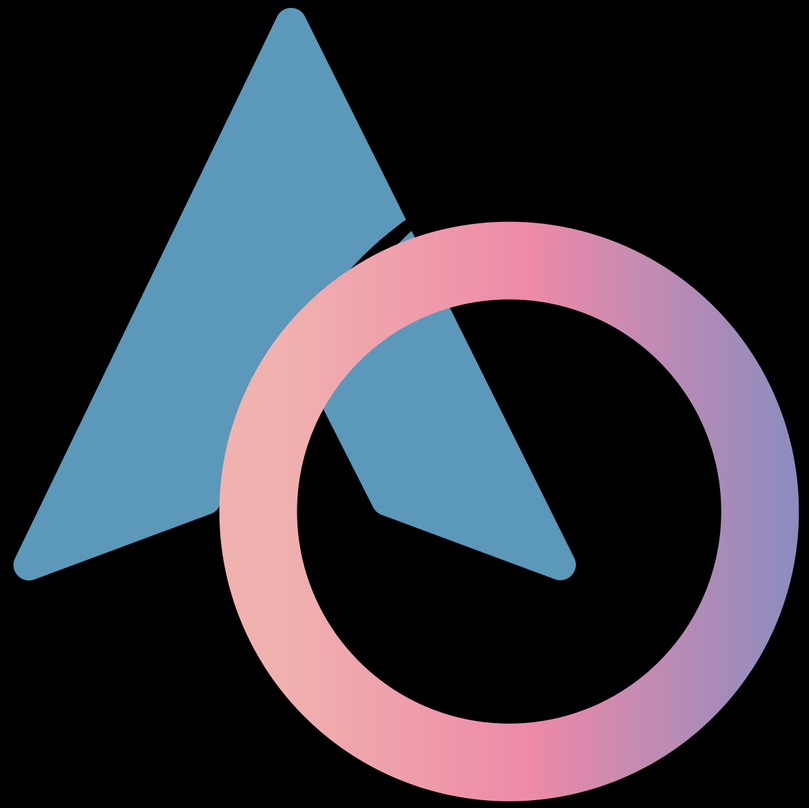
02

In terms of operations, the company can opt for executive/corporate flight business compared to personal flight business.

03

Lastly, once in operation, the company can limit the number of flights in operation during summer seasons or implement more protective gears during that season to counter the chances of the many accidents that occur during that period.

# Thank you!



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