**Flights Dataset –**

**Small Analysis exercise**

The excel file contains data derived from 1982 real A319 operational flights performed by one airline.

Each row in the excel represents one flight. In each column you will find values representing a particular property (or characteristic) that occurred and helps to describe the flight. Focus is on the final approach and landing phase of flight.

**Explanations of each property (columns)**

**Flight ref** = Identification number of an individual flight

**A/C Type** = Aircraft Type

**APDEST** = Destination (Landing airport) as per ICAO code.

**Vert Spd\_200ft** = The value of vertical speed at moment when Aircraft is 200ft above runway.

**Vert Spd\_50ft** = The value of vertical speed at moment when Aircraft is 50ft above runway.

**Vert Spd\_IMPACT** = The value of vertical speed at moment when Aircraft touches the runway.

**VRTG** = maximum value of Vertical Acceleration (G Load) which Aircraft experiences at the moment when the aircraft first touches the runway.

**LATG** = maximum value of Lateral Acceleration (side Loads) which Aircraft experiences at the moment when the aircraft first touches the runway.

**LONGI\_WIND** = Average Longitudinal wind (headwind or tailwind) acting on the aircraft between 200 and 100ft above the landing runway (headwind = positive value, tailwind = negative value).

**PTCH\_IMPACT** = The value of aircraft pitch at the moment when the aircraft touches the runway.

**Stick\_INPUT\_FLARE** = Summation of all recorded samples of the side stick inputs (in the pitch direction) between 50ft above the runway and touchdown. Negative values represent a predominant nose up side stick input being applied (typical for most flares) positive values represent a predominant nose down input)

**DECRAB\_ANGLE** = Angle between the aircraft heading and the runway heading at moment of touchdown. Negative or positive values simply denote the direction (left or right)

**CG AT IMPACT** = value of the centre of gravity (as a percentage relative to the Mean Aerodynamic Chord of the aircraft). Low numbers = forward CG, high numbers = aft CG.

**GW AT IMPACT** = value of Gross weight of the aircraft at the time of touchdown.

**Your task**

Attempt a global analysis using any means you can think of (e.g. excel, R, python, MATLAB etc.)

What does the dataset tell you?

Can you make some operational observations?

How would you describe the landings?

Does anything particular pop out and strike you as odd or consistent throughout?

Can you make any correlations between some properties?