<https://www.flightradar24.com/data/airports/kul/statistics>

<https://samples.adsbexchange.com/index.html#operations-ax-v2>

Flights are mainly concentrated in Southeast Asia, East Asia, and Australia, as travelling to the US usually involves a layover in Dubai.

URL: <https://sherr04.github.io/DV2/>

**Domain**  
Malaysia's International Airports Air Traffic (2024-2025)  
This visualisation explores the air traffic and airport operations within Malaysia’s International airports, specifically focusing on flight movements, airport activity, and aircraft size distribution.

**Why**  
This visualisation allows viewers to analyse and highlight key patterns in Malaysia’s air traffic, such as identifying the busiest airports and operation breakdowns, determining peak and off-peak travel periods and revealing the most popular flight times throughout the year.

**Who**  
This visualisation is primarily designed for students or researchers interested in analysing Malaysia’s air traffic, air travel trends and aviation patterns. The secondary audience is for the general public, who can explore the visualisation interactively.

**What(data)**  
Source & Authors:  
1. ADS-B Exchange. This data determines takeoffs and landings (with runway used) at airports and heliports worldwide.  
2. Flightradar24. This data provides the number of scheduled departures for KUL/WMKK airport per day (UTC time) for the last 30 days.

Relevance & Process:  
Both sources provide real-time and historical flight tracking data, ensuring the visualisation reflects accurate and current air traffic trends in Malaysia’s international airports. The data was collected, combined and cleaned manually, then visualised.

**How**  
Visual Idioms:  
- Stack Bar Chart: To compare the total number of operations for different airports and show the composition of that total (landing vs. takeoff).  
- Proportional Symbol Map: To show the geographic location and intensity (number of flights) of air traffic activity.  
- Line Chart: To track the change in the number of flights over time (monthly) for multiple airports and compare their patterns.  
- Flow Map: To illustrate the connectivity and destinations of direct international flight routes from Malaysia.  
- Heatmap: To show the count of records (flight activity) based on two categorical variables: Month and Hour.  
- Doughnut Chart: To show the part-to-whole distribution of aircraft size categories across all airports.

Rational:  
- Map idioms enable users to visually grasp regional connectivity and hotspot routes.  
- Bar and line idiom are chosen for their clarity in comparing flight volume.  
- Doughnut idiom is suitable for illustrating proportions and emphasising the majority.

Special Feature:  
- Interactivity: Users can hover over data to show its tooltip.  
- Interactive selectors: Users can select the dropdown menu to filter between airports and operation types.  
- Custom-built dashboard structure: Multiple related charts are combined to tell a story.