Imagine we are building a new air traffic control system for Waterloo Regional Airport (ALO). We have gathered the following requirements:

- The ATC system will need to monitor all aircraft in the area.
- Aircraft in the area can be in one of four states: clear, landing, on the ground, or departing.
- All aircraft have an identifier and know the number of departures they have performed. This information is what is given when we request a String representation of the aircraft.
- There are two types of aircrafts: airplanes and helicopters.
- To ensure safety, we have several rules about aircraft in the area. These are:
  - The number of landing and departing aircraft cannot exceed three at any time.
  - If more than three aircraft are present that wish to land or depart, priority is given to departures.
  - If more than three aircraft wish to depart, helicopters are given priority over airplanes.
  - An aircraft may be removed from the landing or departing lines if a higher-priority aircraft needs to land or depart.