# Air Traffic Control

Write a console-based application to help air traffic control (ATC) monitor all domestic flights taking place during one day (00:00 – 23:59). The application must include the following features:

1. Flight information is kept in a text file, using the format in the example below. When the program starts, flight information is read from the file **[1p]**. Each modification is persisted to the text file **[1p]**.
2. Add a new flight. Each flight has an **identifier**, a **departure city** and **time**, and an **arrival city** and **time** **[1p]**. Flight identifiers are unique; flight times are between 15 and 90 minutes; an airport can handle a single operation (departure or arrival) during each minute **[1p]**.
3. Delete a flight. The user provides the flight identifier. If it does not exist, an error message is displayed **[1p]**.
4. List the airports, in decreasing order of activity (number of departures and arrivals during the day) **[1p]**.
5. List the time intervals during which no flights are taking place, in decreasing order of length. **[1.5p]**.
6. The tracking radar suffers a failure. The backup radar can be used, but it can only track a single flight at a time. Determine the maximum number of flights that can proceed as planned. List them using the format below **[1.5p]**:

        05:45 | 06:40 | RO650 | Cluj - Bucuresti


*Non-functional requirements:*
   - Implement an object-oriented, layered architecture solution using the Python language.
   - Provide specification and unit tests for Repository/Controller functions related with the **second functionality**. In case specification or tests are missing, the functionality is graded at 50%.


*Observations!*
   - The day starts at 00:00 and ends at 23:59.
   - *Default 1p*.


*Example input file.*

| | |
|---|---|
| RO650,Cluj,05:45,Bucuresti,06:40 | SLD363,Cluj,19:35,Timisoara,20:30 |
| 0B3302,Cluj,07:15,Bucuresti,08:15 | RO649,Bucuresti,21:55,Cluj,22:50 |
| SLD322,Timisoara,09:05,Cluj,10:00 | 0B3101,Bucuresti,22:55,Cluj,23:55 |
| RO643,Bucuresti,10:15,Cluj,11:10 | RP621,Bucuresti,07:30,Oradea,08:55 |
| RO734,Timisoara,10:45,Iasi,12:25 | RO622,Oradea,09:20,Bucuresti,10:40 |
| KL2710,Timisoara,14:25,Bucuresti,15:40 | RO627,Bucuresti,17:55,Oradea,19:20 |
| | RO628,Oradea,19:45,Bucuresti,21:05 |
| RO745,Cluj,12:50,Iasi,14:05 | XL897,TgMures,08:55,Oradea,09:30 |
| RO746,Iasi,14:30,Cluj,15:50 | XL898,Oradea,20:45,TgMures,21:25 |
| RO647,Bucuresti,18:05,Cluj,19:00 | LH012,Iasi,14:35,Oradea,15:35 |
| KL2706,Bucuresti,18:10,Timisoara,19:05 | LH013,Oradea,17:00,Iasi,18:10 |
| RO733,Iasi,08:30,Timisoara,10:20 | |