

Homework #2

Due: October 10

100 points

1. [80 points] Consider the Los Angeles International Airport (LAX) traffic data “lax.json”. This JSON data file lists the number of passengers who departed from or arrived at LAX terminals at the first day of each month, starting from January of 2006 to July of 2016. For example, the 5th record says there were 401,535 people arriving at Terminal 1 on 1/1/2006 through domestic flights.

- The “lax.json” is provided to you in the same folder as this handout. It may also be downloaded from <https://s3-us-west-1.amazonaws.com/inf551/lax.json>

Write a Python script “lax.py” that takes “lax.json” and a list of keywords (that specify the search condition) as the input, and outputs the total number of passengers that satisfy the search condition.

The keywords in the list are separated by white spaces and may contain keywords of 3 categories: terminal, year, and traffic type (departure/arrival).

- Accepted keywords for terminals are: T1 (for terminal 1), T2, ..., T6, and TBI (for Tom Bradley International terminal). Keywords are case-insensitive. So you need to recognize t1 is the same as T1, for example.
- Year is a four digit number, e.g., 2006.
- Traffic type is either departure or arrival.

For example, python lax.py “tbi arrival 2015” will return the total number of passengers that arrived at Tom Bradley International terminal in 2015.

Note that the list may include multiple keywords of the same category. For example, “t1 t2 2015 2016” asks the total number of passengers (both departing or arriving) at terminal #1 and #2 in 2015 and 2016.

2. [10 points] Convert the provided “contacts.json” into an XML file. Describe the general rules that you used in the conversion. For example, you may say something like “convert an array in JSON into xyz in XML”.
3. [10 points] Convert the provided “books.xml” into an JSON document. Similarly, describe the rules you used in the conversion.