COMM 7360 Big Data Management and Analytics
Laboratory 2 – SQLite & Python

Instructions:

1. Download the **Lab2 Material files** from the course webpage (Moodle/GitHub).

   The flight data in the database is shown below:

Flight_No	Depart	Arrive	Fare	Source	Dest
CX100	2019-03-15 12:00:00	2019-03-15 16:00:00	2000	HK	Tokyo
CX101	2019-03-15 18:30:00	2019-03-15 23:30:00	4000	Tokyo	New York
CX102	2019-03-15 10:00:00	2019-03-15 13:00:00	2000	HK	Beijing
CX103	2019-03-15 15:00:00	2019-03-15 18:00:00	1500	Beijing	Tokyo
CX104	2019-03-15 10:00:00	2019-03-15 14:00:00	1500	New York	Beijing
CX105	2019-03-15 4:00:00	2019-03-15 9:00:00	1000	HK	New York
CX106	2019-03-15 23:40:00	2019-03-16 3:00:00	5000	New York	LA
CX107	2019-03-15 8:00:00	2019-03-15 11:00:00	1500	Beijing	Tokyo

2. Open **FlightManager.ipynb** in jupyter notebook and run the python program.

3. Add flights with provided program.
   (a) Program prompts main menu as:

   Please choose following option:
   1. add a flight
   2. print flight information (by flight_no)
   3. delete a flight (by flight_no)
   4. select a flight (by source, dest, stop_no = 0)
   5. select a flight (by source, dest, stop_no = 1)
   6. exit

   (b) Choose ‘add a flight’ option by inputting ‘1’.

   (c) Add a flight:

   CX109, 2019-03-15 13:00:00, 2019-03-15 19:00:00, 2000, HK, Tokyo

   (d) Repeat the (a)(b)(c) to add another flight:

   CX111, 2019-03-16 13:00:00, 2019-03-16 19:00:00, 2000, Beijing, Tokyo

   (e) Your database now is shown as:

Flight_No	Depart	Arrive	Fare	Source	Dest
CX100	2019-03-15 12:00:00	2019-03-15 16:00:00	2000	HK	Tokyo
CX101	2019-03-15 18:30:00	2019-03-15 23:30:00	4000	Tokyo	New York
CX102	2019-03-15 10:00:00	2019-03-15 13:00:00	2000	HK	Beijing
CX103	2019-03-15 15:00:00	2019-03-15 18:00:00	1500	Beijing	Tokyo
CX104	2019-03-15 10:00:00	2019-03-15 14:00:00	1500	New York	Beijing
CX105	2019-03-15 4:00:00	2019-03-15 9:00:00	1000	HK	New York
CX106	2019-03-15 23:40:00	2019-03-16 3:00:00	5000	New York	LA
CX107	2019-03-15 8:00:00	2019-03-15 11:00:00	1500	Beijing	Tokyo
CX109	2019-03-15 13:00:00	2019-03-15 19:00:00	2000	HK	Tokyo
CX111	2019-03-16 13:00:00	2019-03-16 19:00:00	2000	Beijing	Tokyo

4. Implement the function ‘deleteFlight()’.
   (a) Your program prompts ‘Please input the flight_no to delete:’.
   (b) User inputs the flight_no, e.g., ‘CX104’.
   (c) Flight CX104 is deleted from the database.

5. Implement the function ‘selectFlightsInZeroStop()’.
   (a) Your program prompts ‘Please input source, dest:’.
   (b) User inputs the source and dest, e.g., ‘HK, Tokyo’.
   (c) Your program outputs the flights information, e.g.,:

```
Flight_no : CX109
Depart_Time : 2019-03-15 13:00:00.0
Arrive_Time : 2019-03-15 19:00:00.0
Fare : 2000
Source : HK
Dest : Tokyo
================================
Flight_no : CX100
Depart_Time : 2019-03-15 12:00:00.0
Arrive_Time : 2019-03-15 16:00:00.0
Fare : 2000
Source : HK
Dest : Tokyo
================================
Total 2 choice(s).
```

6. Implement the function ‘selectFlightsInOneStop()’.
   (a) Your program prompts ‘Please input source, dest:’.
   (b) User inputs the source and dest, e.g., ‘HK, Tokyo’.
   (c) Your program outputs the flights information, e.g.,:

```
Flight_no : CX102
Depart_Time : 2019-03-15 10:00:00.0
Arrive_Time : 2019-03-15 13:00:00.0
Fare : 2000
Source : HK
Dest : Beijing
-----------------------------------------------
Flight_no : CX111
Depart_Time : 2019-03-16 13:00:00.0
Arrive_Time : 2019-03-16 19:00:00.0
Fare : 2000
Source : Beijing
Dest : Tokyo
===============================
Flight_no : CX102
Depart_Time : 2019-03-15 10:00:00.0
Arrive_Time : 2019-03-15 13:00:00.0
Fare : 2000
Source : HK
Dest : Beijing
-----------------------------------------------
Flight_no : CX103
Depart_Time : 2019-03-15 15:00:00.0
Arrive_Time : 2019-03-15 18:00:00.0
Fare : 1500
Source : Beijing
Dest : Tokyo
===============================
Total 2 choice(s).
```

~ END ~