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CSCI 260  
Form to SQL Assignment

Flight data is collected using a Google Form. Data related to flights includes departure airport, arrival airport, departure time, arrival time, airline, and on time status. After data is collected using Google Forms, the results are download in comma-separated values format (.csv). The data is extracted, parsed, and inserted into the flight database using python. The data is queried using the SQLite3 command line interface.

**Google Form:** [Link](#)

**Google Form Screenshots:**

The screenshot shows a Google Form titled "Flight Data Collection". Below the title is a description: "Submit data related to flights including departure, arrival, airline, on time status, etc. Accounts for limited amount of airports and airlines." At the bottom of the header section, it shows the user's email as "adamson.samuel10@gmail.com (not shared)" with a "Switch account" link and a cloud icon. A red asterisk indicates a required field. The first question is "departureAirport \*", which is a multiple-choice question with the following options: George Bush Intercontinental Airport, Denver International Airport, Los Angeles International Airport, John F Kennedy International Airport, LaGuardia Airport, Hanenda Airport, Narita International Airport, and Incheon International Airport.

## Flight Data Collection

Submit data related to flights including departure, arrival, airline, on time status, etc.  
Accounts for limited amount of airports and airlines.

adamson.samuel10@gmail.com (not shared) [Switch account](#)

\* Required

departureAirport \*

- ☐ George Bush Intercontinental Airport
- ☐ Denver International Airport
- ☐ Los Angeles International Airport
- ☐ John F Kennedy International Airport
- ☐ LaGuardia Airport
- ☐ Hanenda Airport
- ☐ Narita International Airport
- ☐ Incheon International Airport

arrivalAirport \*

- ☐ George Bush Intercontinental Airport
- ☐ Denver International Airport
- ☐ Los Angeles International Airport
- ☐ John F Kennedy International Airport
- ☐ LaGuardia Airport
- ☐ Haneda Airport
- ☐ Narita International Airport
- ☐ Incheon International Airport

airline \*

- ☐ American Airlines
- ☐ South West Airlines
- ☐ United Airlines
- ☐ Korean Airlines
- ☐ Japan Airlines

departureTime \*

Enter time in UTC (Coordinated Universal Time)

Date

Time

mm/dd/yyyy



:

AM



arrivalTime \*

Enter time in UTC (Coordinated Universal Time)

Date

Time

mm/dd/yyyy



:

AM



onTime \*



Yes



No

### Downloaded Data from Google Forms (.csv format):

```
Flight Data Collection.csv
1  "Timestamp","departureAirport","arrivalAirport","airline","departureTime","arrivalTime","onTime"
2  "2021/10/26 1:18:24 AM CDT","George Bush Intercontinental Airport","Denver International Airport","South West Airlines","2021-10-26 00:17","2021-10-26 04:2
3  "2021/10/26 1:19:42 AM CDT","Haneda Airport","Incheon International Airport","Japan Airlines","2021-10-26 08:15","2021-10-26 13:02","Yes"
4  "2021/10/26 1:21:02 AM CDT","LaGuardia Airport","Los Angeles International Airport","American Airlines","2021-10-26 09:27","2021-10-26 15:59","No"
5  "2021/10/26 1:22:23 AM CDT","Los Angeles International Airport","Narita International Airport","American Airlines","2021-10-26 10:21","2021-10-26 00:05","Y
6  "2021/10/26 1:23:17 AM CDT","Los Angeles International Airport","Denver International Airport","United Airlines","2021-10-27 13:05","2021-10-27 17:46","No"
7  "2021/10/26 8:46:17 PM CDT","Incheon International Airport","Los Angeles International Airport","Korean Airlines","2021-10-27 07:43","2021-10-27 20:50","Ye
8  "2021/10/26 8:47:10 PM CDT","Denver International Airport","LaGuardia Airport","United Airlines","2021-10-27 10:51","2021-10-27 14:45","No"
9  "2021/10/26 8:48:19 PM CDT","LaGuardia Airport","George Bush Intercontinental Airport","American Airlines","2021-10-27 16:45","2021-10-27 20:56","Yes"
```

\* For better visibility, see full file in attached source code

## Sqlite3 query of flight table after initial table setup:

```
gitbbu@Thinkpad:~/school/CSCI260/sql_py_form/sqlpy$ conda activate ./env
(/home/gitbbu/school/CSCI260/sql_py_form/sqlpy/env) gitbbu@Thinkpad:~/school/CSCI260/sql_py_form/sqlpy$ ./setup.py
(/home/gitbbu/school/CSCI260/sql_py_form/sqlpy/env) gitbbu@Thinkpad:~/school/CSCI260/sql_py_form/sqlpy$ ./csvReader.py 'Flight Data Collection.csv'
(/home/gitbbu/school/CSCI260/sql_py_form/sqlpy/env) gitbbu@Thinkpad:~/school/CSCI260/sql_py_form/sqlpy$ sqlite3 flight.db
SQLite version 3.36.0 2021-06-18 18:36:39
Enter ".help" for usage hints.
sqlite> select * from flight;
1|1|2|2|2021-10-26 00:17:00|2021-10-26 04:25:00|1
2|6|8|5|2021-10-26 08:15:00|2021-10-26 13:02:00|1
3|5|3|1|2021-10-26 09:27:00|2021-10-26 15:59:00|0
4|3|7|1|2021-10-26 10:21:00|2021-10-26 00:05:00|1
5|3|2|3|2021-10-27 13:05:00|2021-10-27 17:46:00|0
6|8|3|4|2021-10-27 07:43:00|2021-10-27 20:50:00|1
7|2|5|3|2021-10-27 10:51:00|2021-10-27 14:45:00|0
8|5|1|1|2021-10-27 16:45:00|2021-10-27 20:56:00|1
sqlite> 
```

## Sqlite3 query of flight table data using inner joins:

```
sqlite> select f.ID, a1.name, a2.name, airline.name, f.departureUTC, f.arrivalUTC, f.onTime
...> from flight f
...> inner join airport a1 on f.departureAirportID = a1.ID
...> inner join airport a2 on f.arrivalAirportID = a2.ID
...> inner join airline on f.airlineID = airline.ID;
1|George Bush Intercontinental Airport|Denver International Airport|South West Airlines|2021-10-26 00:17:00|2021-10-26 04:25:00|1
2|Haneda Airport|Incheon International Airport|Japan Airlines|2021-10-26 08:15:00|2021-10-26 13:02:00|1
3|LaGuardia Airport|Los Angeles International Airport|American Airlines|2021-10-26 09:27:00|2021-10-26 15:59:00|0
4|Los Angeles International Airport|Narita International Airport|American Airlines|2021-10-26 10:21:00|2021-10-26 00:05:00|1
5|Los Angeles International Airport|Denver International Airport|United Airlines|2021-10-27 13:05:00|2021-10-27 17:46:00|0
6|Incheon International Airport|Los Angeles International Airport|Korean Airlines|2021-10-27 07:43:00|2021-10-27 20:50:00|1
7|Denver International Airport|LaGuardia Airport|United Airlines|2021-10-27 10:51:00|2021-10-27 14:45:00|0
8|LaGuardia Airport|George Bush Intercontinental Airport|American Airlines|2021-10-27 16:45:00|2021-10-27 20:56:00|1
sqlite> 
```