README

#Installation
sudo apt-get update && sudo apt-get -y upgrade
sudo apt-get install python-pip
sudo apt-get install sqlitebrowser
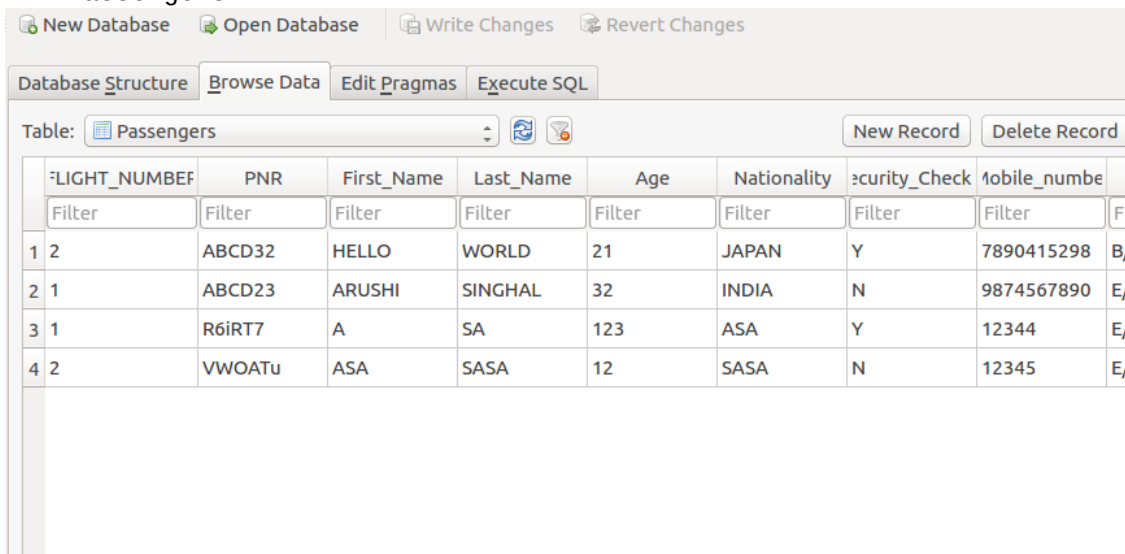sudo pip install tabulate
sudo -H pip install pandas

#Commands
1) Type "sqlitebrowser" on terminal to run sqlite browser. This can be used to dochanges in database if required. Used the sql data base instead of Csv/xsl as it is easy to load and store.
2) To run python code type "python code.py" on terminal.

#Working
Screenshot of the part of database tables

A. Passengers

	FLIGHT_NUMBER	PNR	First_Name	Last_Name	Age	Nationality	Security_Check	Mobile_number	
1	2	ABCD32	HELLO	WORLD	21	JAPAN	Y	7890415298	B/
2	1	ABCD23	ARUSHI	SINGHAL	32	INDIA	N	9874567890	E/
3	1	R6iRT7	A	SA	123	ASA	Y	12344	E/
4	2	VWOATu	ASA	SASA	12	SASA	N	12345	E/

B. Flights

FLIGHT_NAME	SOURCE	DESTINATION	SIZE	FLIGHT_NUMBER	DEPARTURE_TIME	ARRIVAL_TIME	PRICE
INDIGO	A	B	2	1	2018-07-20...	2018-07-21...	900
INDIGO	B	A	50	2	2018-07-21...	2018-07-21...	100
SPICEJET	C	A	100	3	2018-07-20...	2018-07-21...	1000
SPICEJET	A	C	100	4	2018-07-21...	2018-07-21...	1000
JET	D	A	200	5	2018-07-20...	2018-07-21...	300
JET	A	D	200	6	2018-07-21...	2018-07-21...	780
INDIGO	A	B	150	7	2018-07-20...	2018-07-21...	345
INDIGO	B	A	150	8	2018-07-21...	2018-07-21...	600
GO	C	A	80	9	2018-07-20...	2018-07-21...	700

3) Run code

```
seema@seema-Inspiron-15-3567:~/microsoft_hack$ python code.py

Press S if you are Security Personnel.
Press F if you are Flight Staff.
Press P if Passengers.
Press 1 to know the details of all flights departing and arriving from particular airport.
Press 2 to see list of all passengers arriving or departing from particular airport.
Press E to exit.
Input: S
```

4) Press S if want to see Security Functionality
4.a

```
seemagseema-Inspiron-15-3567:~/Microsoft_hack$ python code.py

Press S if you are Security Personnel.
Press F if you are Flight Staff.
Press P if Passengers.
Press 1 to know the details of all flights departing and arriving from particular airport.
Press 2 to see list of all passengers arriving or departing from particular airport.
Press E to exit.
Input: S

For clearing security checkin for passengers press 6 else press 1 to exit: 6
Enter PNR num: ABCD23
Enter flight_num: 1
Passenger details
+----+---------------+--------+-------------+-------------+------+-------------+-----------------+----------------+-----------+------+
-----------+---------+
|    |  FLIGHT_NUMBER | PNR    | First_Name  | Last_Name   |  Age | Nationality | Security_Checkin |  Mobile_number | Class/Seat | We
b_Checkin   | Gender  |
|----+---------------+--------+-------------+-------------+------+-------------+-----------------+----------------+-----------+------+
-----------+---------|
|  0 |             1 | ABCD23 | ARUSHI      | SINGHAL     |   32 | INDIA       | N               |     9874567890 | E/1       | Y
        | M       |
+----+---------------+--------+-------------+-------------+------+-------------+-----------------+----------------+-----------+------+
-----------+---------+
Type Y if all the information are correct else N: Y
Passenger can succesfully board the flight

For clearing security checkin for passengers press 6 else press 1 to exit: 1

Press S if you are Security Personnel.
Press F if you are Flight Staff.
Press P if Passengers.
Press 1 to know the details of all flights departing and arriving from particular airport.
Press 2 to see list of all passengers arriving or departing from particular airport.
Press E to exit.
Input:
```

There are many other options to choose and is explained in the code itself.

5)Press F if flight staff

```
Press S if you are Security Personnel.
Press F if you are Flight Staff.
Press P if Passengers.
Press 1 to know the details of all flights departing and arriving from particular airport.
Press 2 to see list of all passengers arriving or departing from particular airport.
Press E to exit.
Input: F

To see passengers who cleared security checkin PRESS 6 else PRESS 1 to exit: 6
Enter flight number: 1

Total number of passengers who cleared security checkin for this flight are  2 out of 2 total passengers.
Passenger details
+----+--------+-------------+-------------+----------+-------------+----------------+
|    | PNR    | First_Name  | Last_Name   | Gender   | Class/Seat  |  Mobile_number |
|----+--------+-------------+-------------+----------+-------------+----------------|
|  0 | R6iRT7 | A           | SA          | M        | E/2         |          12344 |
|  1 | ABCD23 | ARUSHI      | SINGHAL     | M        | E/1         |     9874567890 |
+----+--------+-------------+-------------+----------+-------------+----------------+
Type Y if want to delete this information else N: N
```

6) Press P if you are passenger

```
Press S if you are Security Personnel.
Press F if you are Flight Staff.
Press P if Passengers.
Press 1 to know the details of all flights departing and arriving from particular airport.
Press 2 to see list of all passengers arriving or departing from particular airport.
Press E to exit.
Input: P

Press 1 to see e-ticket of already booked flight details
press 4 for doing web-checkin
press 2 to exit
press 3 for new booking
Input: 1
Enter your PNR number: ABCD23
Enter your Last name: SINGHAL
Your Ticket details
+----+--------+------------+-----------+---------------+--------+-------------+-------+------------------+------------------+
|    | PNR    | First_Name | Last_Name | FLIGHT_NUMBER | SOURCE | DESTINATION | PRICE | DEPARTURE_TIME   | ARRIVAL_TIME     |
+----+--------+------------+-----------+---------------+--------+-------------+-------+------------------+------------------+
| 0  | ABCD23 | ARUSHI     | SINGHAL   |             1 | A      | B           |   900 | 2018-07-20 23:00 | 2018-07-21 01:00 |
+----+--------+------------+-----------+---------------+--------+-------------+-------+------------------+------------------+

Press 1 to see e-ticket of already booked flight details
press 4 for doing web-checkin
press 2 to exit
press 3 for new booking
Input: 4
Enter your PNR number: ABCD23
Enter your Last name: SINGHAL
Your Ticket details
+----+--------+------------+-----------+---------------+--------+-------------+-------+------------------+------------------+
|    | PNR    | First_Name | Last_Name | FLIGHT_NUMBER | SOURCE | DESTINATION | PRICE | DEPARTURE_TIME   | ARRIVAL_TIME     |
+----+--------+------------+-----------+---------------+--------+-------------+-------+------------------+------------------+
| 0  | ABCD23 | ARUSHI     | SINGHAL   |             1 | A      | B           |   900 | 2018-07-20 23:00 | 2018-07-21 01:00 |
+----+--------+------------+-----------+---------------+--------+-------------+-------+------------------+------------------+

Press Y if want to do web-checking: Y
Web checkin is done succesfully your seat number is E/1
```

```
Press S if you are Security Personnel.
Press F if you are Flight Staff.
Press P if Passengers.
Press 1 to know the details of all flights departing and arriving from particular airport.
Press 2 to see list of all passengers arriving or departing from particular airport.
Press E to exit.
Input: P

Press 1 to see e-ticket of already booked flight details
press 4 for doing web-checkin
press 2 to exit
press 3 for new booking
Input: 3
list of all the cities with airport
  FLIGHT_STATIONS
0            A
1            B
2            C
3            D
4            S
5            T
6            Q
7            P

Press 1 to book else press 2 to exit: 1
Name of boarding station: A
Name of destination station: B
+----+------------+--------+-------------+------+---------------+------------------+------------------+-------+
|    | FLIGHT_NAME | SOURCE | DESTINATION | SIZE | FLIGHT_NUMBER | DEPARTURE_TIME  | ARRIVAL_TIME     | PRICE |
+----+------------+--------+-------------+------+---------------+------------------+------------------+-------+
| 0  | INDIGO     | A      | B           |   2  |             1 | 2018-07-20 23:00 | 2018-07-21 01:00 |   900 |
| 1  | INDIGO     | A      | B           | 150  |             7 | 2018-07-20 23:00 | 2018-07-21 01:00 |   345 |
| 2  | INDIGO     | A      | B           |   2  |             1 | 2018-07-20 23:00 | 2018-07-21 01:00 |   900 |
| 3  | INDIGO     | A      | B           | 150  |             7 | 2018-07-20 23:00 | 2018-07-21 01:00 |   345 |
| 4  | INDIGO     | A      | B           |   2  |             1 | 2018-07-20 23:00 | 2018-07-21 01:00 |   900 |
| 5  | INDIGO     | A      | B           | 150  |             7 | 2018-07-20 23:00 | 2018-07-21 01:00 |   345 |
| 6  | INDIGO     | A      | B           |   2  |             1 | 2018-07-20 23:00 | 2018-07-21 01:00 |   900 |
| 7  | INDIGO     | A      | B           | 150  |             7 | 2018-07-20 23:00 | 2018-07-21 01:00 |   345 |
| 8  | INDIGO     | A      | B           |   2  |             1 | 2018-07-20 23:00 | 2018-07-21 01:00 |   900 |
| 9  | INDIGO     | A      | B           | 150  |             7 | 2018-07-20 23:00 | 2018-07-21 01:00 |   345 |
| 10 | INDIGO     | A      | B           |   2  |             1 | 2018-07-20 23:00 | 2018-07-21 01:00 |   900 |
| 11 | INDIGO     | A      | B           | 150  |             7 | 2018-07-20 23:00 | 2018-07-21 01:00 |   345 |
| 12 | INDIGO     | A      | B           |   2  |             1 | 2018-07-20 23:00 | 2018-07-21 01:00 |   900 |
| 13 | INDIGO     | A      | B           | 150  |             7 | 2018-07-20 23:00 | 2018-07-21 01:00 |   345 |
| 14 | INDIGO     | A      | B           |   2  |             1 | 2018-07-20 23:00 | 2018-07-21 01:00 |   900 |
| 15 | INDIGO     | A      | B           | 150  |             7 | 2018-07-20 23:00 | 2018-07-21 01:00 |   345 |
+----+------------+--------+-------------+------+---------------+------------------+------------------+-------+
Input flight number from available flights: 7
First Name: ARUSHI
Last Name: SINGHAL
Enter your Age: 78
Nationality: India
Enter your MObile Number: 8745309123
Enter class Either B or E: B
Enter Gender Either M or F: F
('7', 'ARUSHI', 'SINGHAL', 78, 'INDIA', 8745309123, 'F')
Press Y if all infomations are correct and want to book flight else exit: Y
sucessfully booked ticket.
```

7) See list of flight coming and going from a station

```
Press S if you are Security Personnel.
Press F if you are Flight Staff.
Press P if Passengers.
Press 1 to know the details of all flights departing and arriving from particular airport.
Press 2 to see list of all passengers arriving or departing from particular airport.
Press E to exit.
Input: 1

list of all the cities with airport
  FLIGHT_STATIONS
0             A
1             B
2             C
3             D
4             S
5             T
6             Q
7             P

Input name of the city for which you want to see flight details else PRESS 1 to exit: A
+----+------------+---------+-------------+------+---------------+-----------------+-----------------+--------+
|    | FLIGHT_NAME | SOURCE | DESTINATION | SIZE | FLIGHT_NUMBER | DEPARTURE_TIME  | ARRIVAL_TIME    | PRICE  |
+----+------------+---------+-------------+------+---------------+-----------------+-----------------+--------+
|  0 | INDIGO     | A       | B           |    2 |             1 | 2018-07-20 23:00 | 2018-07-21 01:00 |    900 |
|  1 | INDIGO     | B       | A           |   50 |             2 | 2018-07-21 02:00 | 2018-07-21 04:00 |    100 |
|  2 | SPICEJET   | C       | A           |  100 |             3 | 2018-07-20 23:00 | 2018-07-21 01:00 |   1000 |
|  3 | SPICEJET   | A       | C           |  100 |             4 | 2018-07-21 02:00 | 2018-07-21 04:00 |   1000 |
|  4 | JET        | D       | A           |  200 |             5 | 2018-07-20 23:00 | 2018-07-21 01:00 |    300 |
|  5 | JET        | A       | D           |  200 |             6 | 2018-07-21 03:00 | 2018-07-21 05:00 |    780 |
|  6 | INDIGO     | A       | B           |  150 |             7 | 2018-07-20 23:00 | 2018-07-21 01:00 |    345 |
|  7 | INDIGO     | B       | A           |  150 |             8 | 2018-07-21 02:00 | 2018-07-21 04:00 |    600 |
|  8 | GO         | C       | A           |   80 |             9 | 2018-07-20 23:00 | 2018-07-21 01:00 |    700 |
|  9 | GO         | A       | C           |   80 |            10 | 2018-07-21 02:00 | 2018-07-21 04:00 |    800 |
| 10 | SPICEJET   | D       | A           |  110 |            11 | 2018-07-20 23:00 | 2018-07-21 01:00 |    900 |
| 11 | SPICEJET   | A       | D           |  110 |            12 | 2018-07-21 03:00 | 2018-07-21 05:00 |   1000 |
+----+------------+---------+-------------+------+---------------+-----------------+-----------------+--------+
```

8) List of passengers going or coming from a particular route.

```
Press S if you are Security Personnel.
Press F if you are Flight Staff.
Press P if Passengers.
Press 1 to know the details of all flights departing and arriving from particular airport.
Press 2 to see list of all passengers arriving or departing from particular airport.
Press E to exit.
Input: 2

To get the list and count of passengers who are either coming and going from particular station press 6 else press 1 to exit: 6
Enter airport name: A
Total of passengers are: 5
Passenger details
+----+--------+------------+-----------+--------+------------+---------------+---------------+--------+-------------+
|    | PNR    | First_Name | Last_Name | Gender | Class/Seat | Mobile_number | FLIGHT_NUMBER | SOURCE | DESTINATION |
+----+--------+------------+-----------+--------+------------+---------------+---------------+--------+-------------+
|  0 | ABCD32 | HELLO      | WORLD     | F      | B/1        |    7890415298 |             2 | B      | A           |
|  1 | ABCD23 | ARUSHI     | SINGHAL   | M      | E/1        |    9874567890 |             1 | A      | B           |
|  2 | R6iRT7 | A          | SA        | M      | E/2        |         12344 |             1 | A      | B           |
|  3 | VWOATu | ASA        | SASA      | M      | E/2        |         12345 |             2 | B      | A           |
|  4 | jYTtII | ARUSHI     | SINGHAL   | M      | E/3        |    8765430908 |             2 | B      | A           |
+----+--------+------------+-----------+--------+------------+---------------+---------------+--------+-------------+
```

#Special Note
Apart from all this there are many other functionalities and cases. All of them
are considered in the code and this code will not stop until exit from it so can
test all the functionalities.
And all the possible type of input cases is considered and explained via
comments.

#Configuration
- Entity Relationship (ER) Diagram of the Airport Managment system:-
  ER_Diagram.png
- Code for all the functionality:- code.py
- Operating System used:- Ubuntu 16.04
- Python version:- Python 2.7.12
- Screencast of all the commands:- Screencast.mp4