

AIRLINES BOOKING SYSTEM

Report/Writeup

List of Query statements and corresponding answers as the screenshots with output

/*Displaying name and seat_no of travelers with window seat */

```
abs=# select seat_no, fname from seat as s, usser as us where s.location = 'Window' and s.t_id = us.t_id order by fname desc;
```

seat_no	fname
164	Sriranga
379	Debarghya
123	Anika
69	Akshay

(4 rows)

/*Displaying name of travelers travelling in airplane_no= CONI */

```
abs=# select fname, lname, airplane_no from usser, seat where seat.airplane_no = 'CONI' and usser.t_id = seat.t_id;
```

fname	lname	airplane_no
Sriranga	K	CONI

(1 row)

/* Displaying details of flight trip at specified time */

```
abs=# select dept_time, arrival_time, source, destination from flight_trip where flight_trip.dept_time > '15:00:00' or flight_trip.arrival_time > '15:00:00';
```

dept_time	arrival_time	source	destination
13:00:00	21:20:00	VIJU	VLPS
19:30:00	02:00:00	VOBG	VHSS
23:40:00	18:30:00	VAAH	VNKT
15:25:00	19:55:00	VIDD	VCCK
21:20:00	04:10:00	VHSS	VLPS
17:50:00	22:40:00	VQPR	VOBG

(6 rows)

```
abs=# select dept_time, arrival_time, source, destination from flight_trip where flight_trip.dept_time > '15:00:00' and flight_trip.arrival_time > '15:00:00';
```

dept_time	arrival_time	source	destination
23:40:00	18:30:00	VAAH	VNKT
15:25:00	19:55:00	VIDD	VCCK
17:50:00	22:40:00	VQPR	VOBG

(3 rows)

/* Displaying details of the user who have booked a seat */

```
abs=# select * from usser natural join seat where usser.t_id = seat.t_id;
```

t_id	fname	mname	lname	dob	ph_no	gender	passport_id	seat_no	type	class	location	airplane_no
TA128181	Roseline		Matthew	1999-02-05	9928183641	F	A2938181	45	seater	Economy	Aisle	A158
TA162416	Akshay	A	Law	1997-01-18	8771871898	M	N8162416	69	sleeper	Business	Window	837M
TA173823	Agasthya		Kasthuri	2005-06-01	8190181772	M	A9173823	236	couch	Business	Aisle	8748
TA252611	Anika		Sharma	1994-04-29	7199976567	F	H7252611	123	sleeper	First	Window	D328
TA273518	Sriranga	S	K	1971-05-09	8837856281	M	19273518	164	seater	Business	Window	CONI
TA361892	Sonakshi		Dixit	1964-08-13	9730389992	F	28361892	97	seater	Business	Aisle	T210
TA528169	Mohammad		Talha	2000-07-23	9992837599	M	62528169	61	seater	Economy	Middle	8L8
TA813576	Simon	M	Peter	2001-09-11	6628367188	M	82813576	401	couch	First	Aisle	E190
TA817253	Rashmi		Kousalya	2001-12-14	9188277163	F	C8817253	10	seater	Economy	Middle	F2TH
TA836374	Bhumika	M	S	1985-11-16	8777272622	F	M1836374	538	sleeper	Business	Middle	GAB
TA826329	Debaghya	S	Bose	1999-11-25	6978179763	M	X1826329	379	couch	First	Window	DOVE

(11 rows)

/* Displaying details flight that have seats booked */

```
abs=# select * from flight_trip natural join fare where flight_trip.trip_id = fare.trip_id;
```

trip_id	source	destination	via	dept_time	arrival_time	no_of_passengers	discount	tax	final_amount	price	fare_type
T123	VIJU	VLPS		13:00:00	21:20:00	2655	100.00	45.53	1645.53	1700.00	cash
T261	VOBG	VHSS		19:30:00	02:00:00	1829	150.00	53.22	1903.22	2000.00	online
T433	VAAH	VNKT		23:40:00	18:30:00	923	90.00	26.49	1336.49	1400.00	online
T728	VNKT	VIDD		06:00:00	12:15:00	5432	125.00	57.03	1732.03	1800.00	card
T153	VLPS	VQPR		11:45:00	14:30:00	4276	110.00	49.77	2039.77	2100.00	card
T192	VGRJ	VOBG		08:10:00	13:00:00	3701	200.00	91.04	2391.04	2500.00	online
T839	VIDD	VCCK		15:25:00	19:55:00	2200	80.00	32.16	1552.16	1600.00	cash
T523	VHSS	VLPS		21:20:00	04:10:00	799	75.00	23.98	1168.98	1200.00	online
T222	VCCK	VGRJ		05:00:00	10:35:00	3302	125.00	56.12	1681.12	1750.00	cash
T437	VQPR	VOBG		17:50:00	22:40:00	1220	175.00	69.25	2194.25	2300.00	card
T325	VCCK	VAAH		09:35:00	12:25:00	2937	125.00	57.13	1732.13	1820.00	card

(11 rows)

/* Displaying flight details of specified arrival and departure airport */

```
abs=# select airplane_no, dept_time, arrival_time from HOP where dept_airport = 'VCCK' and arrival_airport = 'VGRJ';
```

airplane_no	dept_time	arrival_time
T210	08:10:00	09:00:00

(1 row)

/* Displaying number of seats and class of seat in airplane with specified departure airport */

```
abs=# select count(seat_no), seat.class from seat where seat.class = 'Business' and seat.t_id in (select t_id from booking where booking.trip_id in (select trip_id from flight_trip where flight_trip.destination in (select airport_code from airport where airport.country = 'India')))) group by seat.class;
```

count	class
1	Business

(1 row)

/* Displaying the details the airplanes with specified airline company it belongs to */

```
abs=# select * from(select * from airport natural join goes_to where airport.airport_code = goes_to.airport_code and airport.country = 'India') as a1 inner join (select * from airplane natural join airline_c
company where airplane.company_id = airline_company.company_id and company_id = 'BML') as a2 on a1.airplane_no = a2.airplane_no;
 airport_code | airport_name | city | country | zip | airplane_no | company_id | airplane_no | aircraft_type | seating_capacity | company_name
-----
VIJU | Jammu Airport | Jammu | India | 190007 | A158 | BML | A158 | | 4000 | Bismillah Airlines
(1 row)
```

/* Displaying details of all airplanes and their airline company */

```
abs=# select * from(select * from airline_company natural join airplane where airline_company.company_id = airplane.company_id) as a1
abs=# inner join
abs=# (select * from airport natural join goes_to where airport.airport_code = goes_to.airport_code and airport.country = 'India') as a2 on a1.airplane_no = a2.airplane_no;
 company_id | company_name | airplane_no | aircraft_type | seating_capacity | airport_code | airport_name | city | country | zip | airplane_no
-----
BML | Bismillah Airlines | A158 | | 4000 | VIJU | Jammu Airport | Jammu | India | 190007 | A158
BAV | Bay Aviation Ltd | B37M | | 3500 | VAAH | Sardar Vallabhbhai Patel International Airport | Ahmedabad | India | 382475 | B37M
DRK | Druk Air | B748 | | 5000 | VOBG | HAL Airport | Bengaluru | India | 560017 | B748
CPA | Cathay Pacific | D328 | | 1100 | VIDO | Safdarjung Airport | New Delhi | India | 110003 | D328
(4 rows)
```

/*Boarding pass */

```
abs=# select * from ( select * from (select * from booking natural join user where booking.t_id = user.t_id and pnr = 'X37Q1C') as a1
abs=# natural join seat where a1.t_id = seat.t_id) as a2
abs=# natural join flight_trip as f where a2.trip_id = f.trip_id;
 trip_id | t_id | pnr | fname | lname | dob | ph_no | gender | passport_id | seat_no | type | class | location | airplane_no | source
-----
1123 | 1 | X37Q1C | Roseline | Matthew | 1999-02-05 | 9928183641 | F | A2938101 | 45 | seater | Economy | Aisle | A158 | VIJU
(1 row)
```

Multiple users with different access privilege levels

```
create user travelling_agent_alex with password 1234 createdb;
create user travelling_agent_julia with password abcd createdb;
create user user_user1 with password pqrs createdb;
create user user_user2 with password 3456 createdb;

grant all on user, seat to travelling_agent_alex;
grant update, delete flight_trip, fare to travelling_agent_julia;

grant select on flight_trip, seat, fare, travelling_agent to user_user1;
grant select on flight_trip, seat, fare, travelling_agent to user_user2;
```

```
abs=# create user travelling_agent_alex with password '1234';
CREATE ROLE
abs=# create user travelling_agent_julia with password 'abcd';
CREATE ROLE
abs=# create user user_user1 with password 'pqrs';
CREATE ROLE
abs=# create user user_user2 with password '3456';
CREATE ROLE
```

```
abs=# grant all on usser , seat to travelling_agent_alex;
GRANT
abs=# grant update , delete on flight_trip , fare to travelling_agent_julia;
GRANT
abs=# grant select on flight_trip,seat,fare,travelling_agent to user_user1;
GRANT
abs=# grant select on flight_trip,seat,fare,travelling_agent to user_user2;
GRANT
abs=# grant update on travelling_agent to user_user1;
GRANT
abs=# grant update on travelling_agent to user_user2;
GRANT
```

As User_User1

User has an access to view tables like seat , flight_trip,fare and they can update and view travelling_agent

```
C:\Program Files\PostgreSQL\13\bin>psql -U user_user1 -d abs
Password for user user_user1:
psql (13.4, server 10.10)
WARNING: Console code page (850) differs from Windows code page (1252)
         8-bit characters might not work correctly. See psql reference
         page "Notes for Windows users" for details.
Type "help" for help.

abs=> select * from flight_trip;
 source | destination | via | dept_time | arrival_time | no_of_passengers | trip_id
-----|-----|-----|-----|-----|-----|-----
 VJGU   | VLPS        |     | 13:00:00  | 21:20:00    | 2655             | T123
 VOBG   | VHSS        |     | 19:30:00  | 02:00:00    | 1829             | T261
 VAAH   | VIKT        |     | 23:40:00  | 18:30:00    | 923              | T433
 VIKT   | VTDD        |     | 06:00:00  | 12:15:00    | 5432             | T728
 VLPS   | VQPR        |     | 11:45:00  | 14:30:00    | 4226             | T153
 VGRJ   | VOBG        |     | 08:10:00  | 13:00:00    | 3701             | T192
 VTDD   | VCCK        |     | 15:25:00  | 19:55:00    | 2200             | T839
 VHSS   | VLPS        |     | 21:20:00  | 04:10:00    | 799              | T523
 VCCB   | VGRJ        |     | 05:00:00  | 10:35:00    | 3302             | T222
 VQPR   | VOBG        |     | 17:50:00  | 22:40:00    | 1220             | T437
 VCCK   | VAAH        |     | 09:35:00  | 12:25:00    | 2937             | T325
(11 rows)

abs=> select * from fare;
 discount | tax | final_amount | price | fare_type | trip_id
-----|-----|-----|-----|-----|-----
 100.00   | 45.53 | 1645.53      | 1700.00 | cash      | T123
 150.00   | 53.22 | 1983.22      | 2000.00 | online    | T261
 90.00    | 26.49 | 1326.49      | 1400.00 | online    | T433
 125.00   | 57.03 | 1732.03      | 1800.00 | card      | T728
 110.00   | 49.77 | 2039.77      | 2100.00 | card      | T153
 200.00   | 91.04 | 2391.04      | 2500.00 | online    | T192
 80.00    | 32.16 | 1552.16      | 1600.00 | cash      | T839
 75.00    | 23.98 | 1168.98      | 1200.00 | online    | T523
 125.00   | 56.12 | 1681.12      | 1750.00 | cash      | T222
 175.00   | 69.25 | 2194.25      | 2300.00 | card      | T437
 125.00   | 57.13 | 1732.13      | 1820.00 | card      | T325
(11 rows)
```

As User_User2 :

User has an access to view tables like seat , flight_trip,fare and they can update and view travelling_agent

```
C:\Program Files\PostgreSQL\13\bin>psql -U user_user2 -d abs
Password for user user_user2:
psql (13.4, server 10.18)
WARNING: Console code page (850) differs from Windows code page (1252)
        8-bit characters might not work correctly. See psql reference
        page "Notes for Windows users" for details.
Type "help" for help.

abs=> select * from seat;
 seat_no | type   | class | location | airplane_no | t_id
-----+-----+-----+-----+-----+-----
      45 | seater | Economy | Aisle    | A158         | TA128101
      69 | sleeper | First  | Window   | B37M         | TA162416
     236 | couch  | Business | Aisle    | B748         | TA173023
     123 | sleeper | First  | Window   | D328         | TA252611
     164 | seater | Business | Window   | CONI         | TA273518
      97 | seater | Business | Aisle    | T210         | TA361892
      61 | seater | Economy | Middle   | BL8          | TA528169
     401 | couch  | First  | Aisle    | E190         | TA813576
      10 | seater | Economy | Middle   | F2TH         | TA817253
     538 | sleeper | Business | Middle   | GA8          | TA836374
     379 | couch  | First  | Window   | DOVE         | TA826329
(11 rows)

abs=> update travelling_agent
abs-> set name ='Rahul'
abs-> where name='Raj';
UPDATE 1
abs=> select * from travelling_agent;
 name | t_id | ph_no | company_name
-----+-----+-----+-----
 Hank | TA273518 | 7162643927 | Cheapflights
 Jones | TA836374 | 8263411032 | Skyscanner
 Karthik | TA813576 | 9173428819 | Kiwi.com
 Bala | TA528169 | 6172539271 | LowFares.com
 Peter | TA252611 | 9327436222 | Goibibo
 Mike | TA826329 | 8299917238 | Makemytrip
 Shaurya | TA361892 | 9122910199 | Kesari Tours
 Chen | TA173023 | 8279918201 | Expedia
 Debarghya | TA162416 | 7771912435 | Priceline
 Abe | TA817253 | 6618181717 | Cheapflights
 Rahul | TA128101 | 9182638213 | Yatra
(11 rows)
```

As Travelling_agent_alex

These particular travelling_agent will have access of all kind of modifications on table user and seat

```
C:\Program Files\PostgreSQL\13\bin>psql -U travelling_agent_alex -d abs
Password for user travelling_agent_alex:
psql (13.4, server 10.18)
WARNING: Console code page (850) differs from Windows code page (1252)
        8-bit characters might not work correctly. See psql reference
        page "Notes for Windows users" for details.
Type "help" for help.

abs=> select * from usser;
 fname | mname | lname | dob | ph_no | gender | passport_id | t_id
-----+-----+-----+-----+-----+-----+-----+-----
 Roseline | | Matthew | 1999-02-05 | 9928183641 | F | A2938101 | TA128101
 Sriranga | S | K | 1971-05-09 | 8837856281 | M | 19273518 | TA273518
 Bhumika | M | S | 1985-11-16 | 8777272622 | F | M1836374 | TA836374
 Simon | H | Peter | 2001-09-11 | 6628367188 | M | B2813576 | TA813576
 Mohammad | | Talha | 2000-07-23 | 9992837599 | M | 62528169 | TA528169
 Anika | | Sharma | 1994-04-29 | 7199976567 | F | H7252611 | TA252611
 Debarghya | S | Bose | 1999-11-25 | 6978179763 | M | X1826329 | TA826329
 Sonakshi | | Dixit | 1964-08-13 | 9739389992 | F | 28361892 | TA361892
 Agasthya | M | Kasthuri | 2005-06-01 | 8199181772 | M | A9173023 | TA173023
 Akshay | A | Law | 1997-01-18 | 8771871898 | M | M8162416 | TA162416
 Rashmi | | Kousalya | 2001-12-14 | 9188277163 | F | C8817253 | TA817253
(11 rows)

abs=> update usser
abs-> set passport_id='04486889'
abs-> where fname='Rashmi'
abs-> ;
UPDATE 1
abs=> select * from usser;
 fname | mname | lname | dob | ph_no | gender | passport_id | t_id
-----+-----+-----+-----+-----+-----+-----+-----
 Roseline | | Matthew | 1999-02-05 | 9928183641 | F | A2938101 | TA128101
 Sriranga | S | K | 1971-05-09 | 8837856281 | M | 19273518 | TA273518
 Bhumika | M | S | 1985-11-16 | 8777272622 | F | M1836374 | TA836374
 Simon | H | Peter | 2001-09-11 | 6628367188 | M | B2813576 | TA813576
 Mohammad | | Talha | 2000-07-23 | 9992837599 | M | 62528169 | TA528169
 Anika | | Sharma | 1994-04-29 | 7199976567 | F | H7252611 | TA252611
 Debarghya | S | Bose | 1999-11-25 | 6978179763 | M | X1826329 | TA826329
 Sonakshi | | Dixit | 1964-08-13 | 9739389992 | F | 28361892 | TA361892
 Agasthya | M | Kasthuri | 2005-06-01 | 8199181772 | M | A9173023 | TA173023
 Akshay | A | Law | 1997-01-18 | 8771871898 | M | M8162416 | TA162416
 Rashmi | | Kousalya | 2001-12-14 | 9188277163 | F | 04486889 | TA817253
(11 rows)
```

```
abs=> select * from seat;
seat_no | type | class | location | airplane_no | t_id
-----+-----+-----+-----+-----+-----
45 | seater | Economy | Aisle | A158 | TA128101
69 | sleeper | First | Window | B37M | TA162416
236 | couch | Business | Aisle | B748 | TA173023
123 | sleeper | First | Window | D328 | TA252611
164 | seater | Business | Window | CON1 | TA273518
97 | seater | Business | Aisle | T210 | TA361892
61 | seater | Economy | Middle | BL8 | TA528169
401 | couch | First | Aisle | E190 | TA813576
10 | seater | Economy | Middle | F2TH | TA817253
538 | sleeper | Business | Middle | GA8 | TA836374
379 | couch | First | Window | DOVE | TA826329
(11 rows)

abs=> update seat
abs-> set type='sleeper'
abs-> where seat_no=97;
UPDATE 1
abs=> update seat
abs-> set location='Window'
abs-> where seat_no=236;
UPDATE 1
abs=> select * from seat;
seat_no | type | class | location | airplane_no | t_id
-----+-----+-----+-----+-----+-----
45 | seater | Economy | Aisle | A158 | TA128101
69 | sleeper | First | Window | B37M | TA162416
123 | sleeper | First | Window | D328 | TA252611
164 | seater | Business | Window | CON1 | TA273518
61 | seater | Economy | Middle | BL8 | TA528169
401 | couch | First | Aisle | E190 | TA813576
10 | seater | Economy | Middle | F2TH | TA817253
538 | sleeper | Business | Middle | GA8 | TA836374
379 | couch | First | Window | DOVE | TA826329
97 | sleeper | Business | Aisle | T210 | TA361892
236 | couch | Business | Window | B748 | TA173023
(11 rows)
```

As Travelling_agent_julia

These particular travelling_agent will have access of update and delete flight_trip and fare

```
abs=> select * from fare;
discount | tax | final_amount | price | fare_type | trip_id
-----+-----+-----+-----+-----+-----
100.00 | 45.53 | 1645.53 | 1700.00 | cash | T123
150.00 | 53.22 | 1903.22 | 2000.00 | online | T261
90.00 | 26.49 | 1336.49 | 1400.00 | online | T433
125.00 | 57.03 | 1732.03 | 1800.00 | card | T728
110.00 | 49.77 | 2039.77 | 2100.00 | card | T153
200.00 | 91.04 | 2391.04 | 2500.00 | online | T192
80.00 | 32.16 | 1552.16 | 1600.00 | cash | T839
75.00 | 23.98 | 1168.98 | 1200.00 | online | T523
125.00 | 56.12 | 1681.12 | 1750.00 | cash | T222
175.00 | 69.25 | 2194.25 | 2300.00 | card | T437
125.00 | 57.13 | 1732.13 | 1820.00 | card | T325
(11 rows)

abs=> update fare
abs-> set fare_type='online'
abs-> where trip_id='T123';
UPDATE 1
abs=> select * from fare;
discount | tax | final_amount | price | fare_type | trip_id
-----+-----+-----+-----+-----+-----
150.00 | 53.22 | 1903.22 | 2000.00 | online | T261
90.00 | 26.49 | 1336.49 | 1400.00 | online | T433
125.00 | 57.03 | 1732.03 | 1800.00 | card | T728
110.00 | 49.77 | 2039.77 | 2100.00 | card | T153
200.00 | 91.04 | 2391.04 | 2500.00 | online | T192
80.00 | 32.16 | 1552.16 | 1600.00 | cash | T839
75.00 | 23.98 | 1168.98 | 1200.00 | online | T523
125.00 | 56.12 | 1681.12 | 1750.00 | cash | T222
175.00 | 69.25 | 2194.25 | 2300.00 | card | T437
125.00 | 57.13 | 1732.13 | 1820.00 | card | T325
100.00 | 45.53 | 1645.53 | 1700.00 | online | T123
(11 rows)
```

Member Contributions

Name SRN	Distribution of work
Sahana G PES1UG19CS412	Multiple users and access privileges , Report
Sathi Sreyahsri PES1UG19CS434	Simple and complex queries
Sanjana PES1UG19CS431	Simple and complex queries
Pavana PES1UG20CS822	