

-- PROJECT PART III (list of all use cases and queries)  
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----- Public -----

--search for flights based on departure\_airport\_name/city, arrival\_airport\_name/city, and departure\_date

```
SELECT  DISTINCT  airline_name,    flight_number,    departure_airport_name,
departure_time, arrival_airport_name, arrival_time, base_price, status
FROM flight, airport as S, airport as T
WHERE departure_airport_name = %s
      AND arrival_airport_name = %s
      AND departure_date BETWEEN %s AND %s;
```

--search for flights based on departure\_airport\_name, arrival\_city, and departure\_date

```
SELECT  DISTINCT  airline_name,    flight_number,    departure_airport_name,
departure_time, arrival_airport_name, arrival_time, base_price, status
FROM flight, airport as S, airport as T
WHERE departure_airport_name = %s
      AND arrival_airport_name in (SELECT name FROM airport WHERE city=%s)
      AND departure_date BETWEEN %s AND %s;
```

--search for flights based on departure\_city, arrival\_airport\_name, and departure\_date

```
SELECT  DISTINCT  airline_name,    flight_number,    departure_airport_name,
departure_time, arrival_airport_name, arrival_time, base_price, status
FROM flight, airport as S, airport as T
WHERE arrival_airport_name = %s
      AND departure_airport_name in (SELECT name FROM airport WHERE city=%s)
      AND departure_date BETWEEN %s AND %s;
```

--search for flights based on departure\_city, arrival\_city, and departure\_date

```
SELECT  DISTINCT  airline_name,    flight_number,    departure_airport_name,
departure_time, arrival_airport_name, arrival_time, base_price, status
FROM flight, airport as S, airport as T
WHERE arrival_airport_name in (SELECT name FROM airport WHERE city=%s)
      AND departure_airport_name in (SELECT name FROM airport WHERE city=%s)
      AND departure_date BETWEEN %s AND %s;
```

--search for flights based on departure\_airport\_name, arrival\_airport\_name, flight\_number and departure\_date

```
SELECT  DISTINCT  airline_name,    flight_number,    departure_airport_name,
departure_time, arrival_airport_name, arrival_time, base_price, status
FROM flight, airport as S, airport as T
WHERE departure_airport_name = S.name
      AND arrival_airport_name = T.name
      AND flight_number = %s
      AND departure_date BETWEEN %s AND %s;
```

--search for flights based on airline\_name, flight\_number and departure\_date

```
SELECT  DISTINCT  airline_name,    flight_number,    departure_airport_name,
```

```

departure_time, arrival_airport_name, arrival_time, base_price, status
FROM flight
WHERE airline_name=%s
      AND flight_number = %s
      AND departure_date = %s;

```

-----Customer-----

--view purchased future flights

```

SELECT DISTINCT flight.airline_name, flight.flight_number, departure_airport_name,
departure_date, arrival_airport_name, arrival_date, sold_price, status
FROM flight NATURAL JOIN ticket NATURAL JOIN purchases
WHERE customer_email = %s
      AND CONCAT(departure_date, ' ', departure_time) > SYSDATE();

```

--view purchased flights between a specific range of time, specifying arrival\_airport\_name

```

SELECT DISTINCT flight.airline_name, flight.flight_number, departure_airport_name,
departure_date, arrival_airport_name, arrival_date, sold_price, status
FROM flight NATURAL JOIN ticket NATURAL JOIN purchases
WHERE customer_email = %s
      AND arrival_airport_name = %s
      AND departure_date BETWEEN %s AND %s;

```

--view purchased flights between a specific range of time, specifying departure\_airport\_name

```

SELECT DISTINCT flight.airline_name, flight.flight_number, departure_airport_name,
departure_date, arrival_airport_name, arrival_date, sold_price, status
FROM flight NATURAL JOIN ticket NATURAL JOIN purchases
WHERE customer_email = %s
      AND departure_airport_name = %s
      AND departure_date BETWEEN %s AND %s;

```

--view purchased flights between a specific range of time, specifying arrival\_airport\_name and departure\_airport\_name

```

SELECT DISTINCT flight.airline_name, flight.flight_number, departure_airport_name,
departure_date, arrival_airport_name, arrival_date, sold_price, status
FROM flight NATURAL JOIN ticket NATURAL JOIN purchases
WHERE customer_email = %s
      AND departure_airport_name = %s
      AND arrival_airport_name = %s
      AND departure_date BETWEEN %s AND %s;

```

--search for future flights on a specific day

```

SELECT DISTINCT flight.airline_name, flight.flight_number, departure_airport_name,
departure_date, arrival_airport_name, arrival_date, sold_price, status
FROM flight, airport as S, airport as T

```

```

WHERE departure_airport_name = S.name
    AND arrival_airport_name = T.name
    AND S.city = %s
    AND T.city = %s
    AND CONCAT(departure_date, " ", departure_time) > SYSDATE()
    AND departure_date = %s;

```

--search for all future flights

```

SELECT DISTINCT flight.airline_name, flight.flight_number, departure_airport_name,
departure_date, arrival_airport_name, arrival_date, sold_price, status
FROM flight, airport as S, airport as T
WHERE departure_airport_name = S.name
    AND arrival_airport_name = T.name
    AND S.city = %s
    AND T.city = %s
    AND flight_number = %s
    AND CONCAT(departure_date, " ", departure_time) > SYSDATE();

```

--search for the amount of remaining tickets

```

SELECT (seat_amount - COUNT(ticket_id)) AS remain
FROM airplane , ticket natural right outer join flight
WHERE airplane.ID = airplane_id
    AND flight.flight_number = %s
GROUP BY flight.flight_number;

```

--search for remaining tickets

```

SELECT ticket_id
FROM ticket NATURAL JOIN flight
WHERE departure_date = %s
    AND flight_number=%s
    AND avail = "1";

```

--purchase tickets

```

INSERT INTO Purchases VALUES(%s, %s, %s, %s, %s, %s, %s, %s)
SELECT ticket_id
FROM Ticket
WHERE airline_name = '%s'
    AND flight_number = '%s'
    AND departure_date = '%s'
    AND departure_time = '%s'
AND ticket_id not in (SELECT ticket_id FROM Purchases)
LIMIT 1;

```

```

UPDATE ticket
SET avail = "0"
WHERE ticket_id = %s;

```

--search for flight info about a specific ticket

```

SELECT airline_name,flight_number,departure_airport_name,departure_time,
arrival_airport_name,arrival_time,base_price,status

```

```
FROM Flight
WHERE airline_name = '%s'
      AND flight_number = '%s'
      AND departure_date = '%s'
      AND departure_time = '%s';
```

--Track spending in the past year

```
SELECT SUM(sold_price) AS yeartot
FROM ticket NATURAL JOIN purchases
WHERE customer_email = %s
      AND YEAR(purchased_date) = %s;
```

--Track spending in the past month

```
SELECT SUM(sold_price) AS tot_price
FROM ticket NATURAL JOIN purchases
WHERE customer_email = %s
      AND YEAR(purchased_date) = %s
      AND MONTH(purchased_date) = %s;
```

--Track spending within a specified range

```
SELECT SUM(sold_price) AS total_spending
FROM ticket NATURAL JOIN purchases
WHERE customer_email = %s
      AND purchased_date BETWEEN %s AND %s;
```

--Rate and Comment

```
INSERT INTO comments VALUES (%s,%s,%s,%s,%s);
```

-----Airline Staff-----

--view flight based on airline\_name and departure\_date

```
SELECT      DISTINCT      flight_number,      departure_airport_name,
arrival_airport_name,departure_date, departure_time, arrival_date, arrival_time, status
FROM flight
WHERE airline_name = %s
      AND departure_date BETWEEN %s AND %s;
```

--view flight based on airline\_name, departure\_date, and arrival\_airport\_name

```
SELECT DISTINCT flight_number, departure_airport_name, arrival_airport_name,
departure_date, departure_time, arrival_date, arrival_time, status
FROM flight
WHERE airline_name = %s
      AND departure_date BETWEEN %s AND %s
      AND arrival_airport_name=%s;
```

--view flight based on airline\_name, departure\_date, arrival\_airport\_name, and departure\_airport\_name

```

SELECT DISTINCT flight_number, departure_airport_name, arrival_airport_name,
departure_date, departure_time, arrival_date, arrival_time, status
FROM flight
WHERE airline_name = %s
      AND departure_date BETWEEN %s AND %s
      AND arrival_airport_name=%s
      AND departure_airport_name=%s;

```

--search for flights on a specific day

```

SELECT flight.airline_name, flight.flight_number, departure_airport_name,
departure_date, arrival_airport_name, arrival_date, sold_price, status
FROM flight, airport as S, airport as T
WHERE departure_airport_name = S.name
      AND arrival_airport_name = T.name
      AND S.city = %s
      AND T.city = %s
      AND departure_date = %s;

```

--search for future flights

```

SELECT flight.airline_name, flight.flight_number, departure_airport_name,
departure_date, arrival_airport_name, arrival_date, sold_price, status
FROM flight, airport as S, airport as T
WHERE departure_airport_name = S.name
      AND arrival_airport_name = T.name
      AND S.city = %s
      AND T.city = %s
      AND flight_number = %s
      AND CONCAT(departure_date, " ", departure_time) > SYSDATE();

```

--create new flights

```

INSERT INTO Flight VALUES(%s,%s,%s,%s,%s,%s,%s,%s,%s,%s);

```

--change flight status

```

UPDATE Flight
SET status = %s
WHERE airline_name = %s
      AND flight_number = %s
      AND departure_date = %s;

```

--add airplane

```

INSERT INTO Airplane VALUES(%s,%s,%s);

```

--add airport

```

INSERT INTO Airport VALUES(%s,%s);

```

--view the most frequent customer

```

SELECT customer.name, customer.email, %s ,date_of_birth, city, state,
passport_country, COUNT(DISTINCT purchases.ticket_id) AS counter
FROM customer, purchases, ticket

```

```
WHERE customer.email = customer_email
      AND purchases.ticket_id = ticket.ticket_id
      AND airline_name = %s
GROUP BY customer.name, customer.email, date_of_birth, city, state, passport_country,
%s
ORDER BY counter
DESC LIMIT 1;
```

--view month\_wise tickets sold

```
SELECT COUNT(t.ticket_id) total_ticket_num
FROM ticket t, purchases p
WHERE airline_name = %s
      AND t.ticket_id = p.ticket_id
      AND YEAR(p.purchased_date) = %s
      AND MONTH(p.purchased_date) = %s;
```

--view annually revenue earned

```
SELECT SUM(t.sold_price) annual
FROM purchases p , ticket t, flight f
WHERE p.ticket_id = t.ticket_id
      AND (t.airline_name,t.flight_number) = (f.airline_name,f.flight_number)
      AND f.airline_name = %s
      AND YEAR(p.purchased_date) = %s;
```

--view month\_wise revenue earned

```
SELECT COUNT(t.ticket_id) total_ticket_num
FROM ticket t, purchases p
WHERE airline_name = %s
      AND t.ticket_id = p.ticket_id
      AND YEAR(p.purchased_date) = %s
      AND MONTH(p.purchased_date) = %s;
```

--view top3 destinations for last year

```
SELECT Airport.city, COUNT(ticket_id) as traffic_num
FROM Airport as a, Flight as f, Ticket as t
WHERE a.name = f.arrival_airport_name
      AND (f.airline_name, f.flight_number) = (t.airline_name,t.flight_number)
      AND f.status != "Cancelled"
      AND f.airline_name = '%s'
      AND year(f.arrival_date) = %s
      AND year(f.arrival_time) = %s
      AND t.ticket_id in (SELECT ticket_id FROM Purchases)
GROUP BY Airport.city
ORDER BY traffic_num DESC
LIMIT 3;
```

--view top3 destinations of past three months

```
SELECT a.city airport_city, COUNT(*) traffic_num
FROM airport a, flight f, ticket t
```

```

WHERE a.name = f.arrival_airport_name
      AND (f.airline_name, f.flight_number) = (t.airline_name, t.flight_number)
      AND f.status != "Cancelled"
      AND f.airline_name = %s
      AND f.arrival_date <= %s
      AND f.arrival_date >= %s
      AND t.ticket_id in (SELECT ticket_id FROM purchases)
GROUP BY airport_city
ORDER BY traffic_num DESC
LIMIT 3;

```

--view average rate

```

SELECT flight_num, AVG(rating) as avr
FROM comments
WHERE airline_name = %s
GROUP BY flight_num;

```

--view all the rates and comments

```

SELECT *
FROM comments
WHERE airline_name = %s
GROUP BY flight_num;

```

--view a customer's flight info in one specific airline

```

SELECT DISTINCT flight.flight_number, departure_airport_name, arrival_airport_name,
departure_date, arrival_date
FROM purchases NATURAL JOIN ticket NATURAL JOIN flight
WHERE customer_email = %s
      AND flight.airline_name = %s;

```

--view customer info

```

SELECT DISTINCT name, email, flight.flight_number, date_of_birth, city, state,
passport_country, %s
FROM customer, purchases NATURAL JOIN ticket, flight
WHERE customer.email = purchases.customer_email
      AND flight.flight_number = ticket.flight_number
      AND flight.airline_name = %s
      AND flight.flight_number = %s
      AND flight.departure_date = %s;

```