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/*===== Customer's Use Cases =====*/

/* 1. Customer Login/Registration */
/* Customer Login */
SELECT * FROM customer WHERE email = %s
/* Customer Registration */
INSERT INTO customer(email, name, password, building_number, street, city, state,
phone_number, passport_number, passport_expiration, passport_country, date_of_birth)
VALUES(%s, %s, %s, %s, %s, %s, %s, %s, %s, %s, %s, %s)

/* 2. Search Flights */
/* Get all airports belonging to a certain city */
SELECT airport.code FROM airport WHERE airport.city = %s
/* Search flight */
SELECT flight.flight_num, flight.arrival_airport_code,
flight.departure_airport_code, flight.airline_name, flight.departure_datetime,
flight.arrival_datetime, flight.status, flight.base_price, airplane.num_seats,
COUNT(Ticket.ID_num ) as Ticket_Count
FROM flight
inner join airplane on flight.airplane_ID = airplane.ID left outer join
ticket on flight.flight_num = ticket.flight_num
WHERE flight.departure_airport_code in %s and flight.arrival_airport_code in
%s and flight.departure_datetime between %s and %s
group by flight.flight_num, flight.airline_name, flight.departure_datetime,
flight.arrival_datetime, flight.status, flight.base_price, airplane.num_seats
/* 3. Purchase Flight */
INSERT INTO ticket(email, airplane_ID, airline_name, flight_num, departure_datetime,
sold_price, card_number, name_on_card, card_type, expiration_date,
purchase_datetime, travel_class) VALUES (%s, %s, %s, %s, %s, %s, %s, %s, %s, %s, %s, %s)

/* 4. Cancel Tickets */
DELETE from ticket WHERE email = %s AND flight_num = %s

/* 5. View My Flights */
SELECT * FROM ticket LEFT OUTER JOIN flight ON ticket.flight_num = flight.flight_num
WHERE ticket.email = %s

/* 6. Submit Rating */
INSERT INTO rate(flight_num, email, rating, comment) VALUES (%s, %s, %s, %s)

/* 7. Get purchased tickets within a date range */
SELECT * FROM ticket WHERE email = %s AND purchase_datetime > %s AND
purchase_datetime <= %s

/*===== Staff's Use Cases =====*/
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/* Staff's login search */
SELECT * FROM airline_staff WHERE username = %s
/* Staff's register search */
SELECT * from airline WHERE name = %s
SELECT * FROM airline_staff WHERE username = %s
/* Staff's register insert */
INSERT INTO airline_staff(username, airline_name, password, first_name, last_name,
date_of_birth)
VALUES (%s, %s, %s, %s, %s, %s)

/* Search phone number */
SELECT phone_number FROM staff_phone WHERE username = %s
/* Add phone number */
INSERT INTO staff_phone(username, phone_number) VALUES (%s, %s)

/* 1. View flights */
/* View all flights */
SELECT flight.flight_num, flight.airplane_ID, flight.airline_name,
flight.base_price, flight.status, flight.departure_datetime,
flight.departure_airport_code, flight.arrival_datetime, flight.arrival_airport_code
FROM flight
WHERE flight.airline_name = %s
/* View flights in the next 30 days */
SELECT flight.flight_num, flight.airplane_ID, flight.airline_name,
flight.base_price, flight.status, flight.departure_datetime,
flight.departure_airport_code, flight.arrival_datetime, flight.arrival_airport_code
FROM flight
WHERE flight.airline_name = %s AND (departure_datetime BETWEEN CURDATE() AND
DATE_ADD(CURDATE(),INTERVAL 30 DAY))
/* View flights based on range of dates */
SELECT *
FROM flight
WHERE flight.airline_name = %s AND (flight.departure_datetime BETWEEN %s AND %s)
/* View flights based on departure airport */
SELECT *
FROM flight
WHERE flight.airline_name = %s AND flight.departure_airport_code = %s
/* View flights based on arrival airport */
SELECT *
FROM flight
WHERE flight.airline_name = %s AND flight.arrival_airport_code = %s

/* 2. Create New Flights */
/* search query */
SELECT flight.airplane_ID, flight.airline_name, flight.flight_num,
flight.base_price, flight.status, flight.departure_datetime,
flight.arrival_datetime, flight.departure_airport_code, flight.arrival_airport_code
FROM flight
WHERE flight.airline_name = %s
/* insert query */

```

```
INSERT INTO flight(flight_num, airplane_ID, airline_name, base_price, status,
departure_datetime, departure_airport_code, arrival_datetime, arrival_airport_code)
VALUES (%s, %s, %s, %s, %s, %s, %s, %s, %s)
```

```
/* 3. Change Status of Flight */
```

```
/* search query */
```

```
SELECT *
```

```
FROM flight
```

```
WHERE flight.flight_num = %s AND flight.departure_datetime = %s AND
```

```
flight.airline_name = %s
```

```
/* update query */
```

```
UPDATE flight SET status = %s WHERE flight_num = %s AND departure_datetime = %s
```

```
/* 4. Add Airplane in the System */
```

```
/* search query */
```

```
SELECT airplane.ID, airplane.airline_name, airplane.num_seats,
```

```
airplane.manufacturer, airplane.age
```

```
FROM airplane
```

```
WHERE airplane.airline_name = %s
```

```
/* insert query */
```

```
INSERT INTO airplane(ID, airline_name, num_seats, manufacturer, age) VALUES (%s, %s,
%s, %s, %s)
```

```
/* 5. Add new airport in the system */
```

```
/* search query */
```

```
SELECT code, name, city, country, airport_type FROM airport
```

```
/* insert query */
```

```
INSERT INTO airport(code, name, city, country, airport_type) VALUES (%s, %s, %s, %s,
%s)
```

```
/* 6. View Flight Ratings */
```

```
SELECT rate.flight_num, rate.email, rate.rating, rate.comment
```

```
FROM flight, rate
```

```
WHERE flight.airline_name = % AND flight.flight_num = rate.flight_num
```

```
ORDER BY rate.flight_num
```

```
/* 7. View Frequent Customers */
```

```
/* View Frequent Customers */
```

```
SELECT customer.name, customer.email
```

```
FROM ticket, customer
```

```
WHERE ticket.airline_name = %s AND ticket.email = customer.email
```

```
AND ticket.departure_datetime BETWEEN DATE_ADD(CURDATE(), INTERVAL -1 year)
AND CURDATE()
```

```
GROUP BY customer.email
```

```
ORDER BY (count(customer.name)) DESC
```

```
/* View Customers' flights within the airline */
```

```
SELECT flight.airplane_ID, flight.airline_name, flight.flight_num,
```

```
flight.base_price, flight.status, flight.departure_datetime,
```

```
flight.arrival_datetime, flight.departure_airport_code, flight.arrival_airport_code
```

```
FROM flight, ticket
```

```
WHERE flight.airline_name = %s AND flight.airline_name = ticket.airline_name AND
flight.flight_num = ticket.flight_num AND flight.departure_datetime =
ticket.departure_datetime AND ticket.email = %s
```

```
/* 8. View Reports */
```

```
SELECT MONTHNAME(purchase_datetime) AS month, YEAR(purchase_datetime) AS year,
COUNT(ticket_ID) AS ticket_number
FROM ticket
WHERE airline_name = %s AND purchase_datetime BETWEEN %s AND %s
GROUP BY YEAR(purchase_datetime), MONTH(purchase_datetime)
```

```
/* 9. View Earned Revenue */
```

```
/* by year */
```

```
SELECT sum(ticket.sold_price)
FROM ticket, airline_staff
WHERE ticket.airline_name = %s
      AND ticket.purchase_datetime BETWEEN DATE_ADD(CURDATE(),INTERVAL -1 year)
AND CURDATE()
GROUP BY airline_staff.airline_name
```

```
/* by month */
```

```
SELECT sum(ticket.sold_price)
FROM ticket
WHERE ticket.airline_name = %s
      AND ticket.purchase_datetime BETWEEN DATE_ADD(CURDATE(),INTERVAL -1 month)
AND CURDATE()
GROUP BY airline_staff.airline_name
```

```
/* 10. View Earned Revenue By Travel Class */
```

```
/* first class */
```

```
SELECT sum(ticket.sold_price)
FROM ticket
WHERE ticket.airline_name = %s AND ticket.travel_class = 'first'
GROUP BY ticket.airline_name
```

```
/* business class */
```

```
SELECT sum(ticket.sold_price)
FROM ticket
WHERE ticket.airline_name = %s AND ticket.travel_class = 'business'
GROUP BY ticket.airline_name
```

```
/* economy class */
```

```
SELECT sum(ticket.sold_price)
FROM ticket
WHERE ticket.airline_name = %s AND ticket.travel_class = 'economy'
GROUP BY ticket.airline_name
```

```
/* 11. View Top Destination */
```

```
/* by year */
```

```
SELECT airport.city
FROM ticket, flight, airport
WHERE ticket.airline_name = %s AND flight.flight_num = ticket.flight_num AND
flight.arrival_airport_code = airport.code
```

```
        AND (flight.arrival_datetime BETWEEN DATE_ADD(CURDATE(),INTERVAL -1 year)
AND CURDATE())
GROUP BY airport.city
ORDER BY (count(airport.city)) DESC LIMIT 3
/* by month */
SELECT airport.city
FROM ticket, flight, airport
WHERE ticket.airline_name = %s AND flight.flight_num = ticket.flight_num AND
flight.arrival_airport_code = airport.code
        AND (flight.arrival_datetime BETWEEN DATE_ADD(CURDATE(),INTERVAL -3 month)
AND CURDATE())
GROUP BY airport.city
ORDER BY (count(airport.city)) DESC LIMIT 3
```