Use Case Queries

Home page cases

- View Public Info
  - **Get all flights:** "`SELECT * FROM Flight`"
  - **Search for flight:** "`SELECT * FROM Flight WHERE departure_airport_code = ? AND arrival_airport_code = ? AND departure_date = ?`"
  - **Get flight status:** "`SELECT airline_name, flight_number, status FROM Flight WHERE airline_name = ? AND flight_number = ? AND departure_date = ? AND arrival_date = ?`"
- Register
  - **Register customer:** "`INSERT INTO CUSTOMER VALUES (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?)`"
  - **Register Staff:** "`INSERT INTO airline_staff VALUES (?, ?, ?, ?, ?)`"
- Login
  - **Login Customer:** "`SELECT * FROM Customer WHERE email_address=?`"
  - **Login Staff:** "`SELECT * FROM Airline_Staff WHERE username=?`"

Customer Use Cases

- View my flights
  - **Get all customer's future flights:** '`SELECT * FROM Ticket LEFT JOIN Flight ON Ticket.flight_number = Flight.flight_number WHERE email_address = ? AND ((Ticket.departure_date > (SELECT CURDATE())) OR (Ticket.departure_date = (SELECT CURDATE()) and Ticket.departure_time > (SELECT NOW())))`'
  - **Search specific customer's future flights:** '`SELECT * FROM Flight WHERE flight_number IN (SELECT flight_number FROM Ticket WHERE email_address = ?) AND departure_airport_code = ? AND arrival_airport_code = ? AND (departure_date BETWEEN ? AND ?)`'
- **Search Future Flights:** '`SELECT * FROM Ticket LEFT JOIN Flight ON Ticket.flight_number = Flight.flight_number WHERE email_address = ? AND ((Ticket.departure_date > (SELECT CURDATE())) OR (Ticket.departure_date = (SELECT CURDATE()) and Ticket.departure_time > (SELECT NOW())))`'
- **Purchase tickets:** '`INSERT INTO Ticket VALUES (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, (SELECT CURDATE()), (SELECT CURTIME()), ?)`'
- **Cancel Flight:** '`DELETE FROM Ticket WHERE ticket_id = ?`'
- Review Flights
  - **Get Customer's Previous Flights:** '`SELECT ticket_id, flight_number, departure_date, departure_time, travel_class, sold_price FROM Ticket WHERE email_address = ? AND ((departure_date < (SELECT`

`CURDATE()))` `OR (departure_date = (SELECT CURDATE()) and`
                    `departure_time > (SELECT NOW())))'`
        ○ **Submit a Review for the Flight:** `'INSERT INTO Reviews VALUES (?, ?, ?, ?)'`
- **View Customer Spending**
    ○ **Spending in the Past Year:** `'SELECT SUM(sold_price) as totalSpent FROM Ticket WHERE email_address = ? AND purchase_date BETWEEN DATE_ADD(CURRENT_DATE(), INTERVAL -1 YEAR) AND CURRENT_DATE()'`
    ○ **Spending in the Past Six Months:** `'SELECT MONTH(purchase_date) as Month, YEAR(purchase_date) as Year, SUM(sold_price) as MonthlyTotal FROM Ticket WHERE email_address = ? AND purchase_date BETWEEN DATE_ADD(CURRENT_DATE(), INTERVAL -6 MONTH) AND CURRENT_DATE() GROUP BY MONTH(purchase_date), YEAR(purchase_date)'`
    ○ **Spending within Specified Date Range:** `'SELECT MONTH(purchase_date) as Month, YEAR(purchase_date) as Year, SUM(sold_price) as MonthlyTotal FROM Ticket WHERE email_address = ? AND purchase_date BETWEEN ? AND ? GROUP BY MONTH(purchase_date), YEAR(purchase_date)'`

Staff Use Cases

- **View Flights**
    ○ **Future Flights Default:** `'SELECT * FROM Flight WHERE airline_name = ? AND departure_date BETWEEN CURRENT_DATE() AND DATE_ADD(CURRENT_DATE(), INTERVAL 30 DAY)'`
    ○ **Search Flights in Range:** `SELECT * FROM Flight WHERE airline_name = ? AND departure_airport_code = ? AND arrival_airport_code = ? AND (departure_date BETWEEN ? AND ?)`
    ○ **View Flight's customer:** `'SELECT email_address FROM ticket WHERE flight_number=? AND departure_date=? AND departure_time=?'`

- **Create New Flights:** `'INSERT INTO Flight VALUES (?, ?, ?, ?, ?, ? ,?, ?, ?, ?, ?)'`

- **Change status of flights:** `'UPDATE flight SET status=? WHERE airline_name=? AND flight_number=? AND departure_date=? AND departure_time=?'`

- **Add New Airplane:**
    ○ **View airplanes owned:** `'SELECT * FROM airplane WHERE airline_name=?'`
    ○ **Add airplane:** `'INSERT INTO Airplane VALUES (?, ?, ?, ?, ?)'`

- **Add New Airport:** `'INSERT INTO Airport VALUES (?, ?, ?, ?, ?)'`

- **View Flight Ratings:** `'SELECT flight_number, AVG(rating) as avg_rating, email_address, rating, comment FROM Ticket NATURAL JOIN Reviews WHERE airline_name = ? GROUP BY flight_number'`

- **View Frequent Customer**
  - **View Most frequent customer:** `SELECT name, email_address FROM ticket NATURAL JOIN customer WHERE airline_name=? AND purchase_date BETWEEN DATE_ADD(CURRENT_DATE(), INTERVAL -1 YEAR) AND CURRENT_DATE() GROUP BY email_address ORDER by COUNT(*) DESC LIMIT.`
  - **View customer's flights for airline:** `SELECT * FROM `ticket` WHERE airline_name = ? AND email_address=?'`

- **View Reports**
  - **Get Ticket Sales Past Year:** `'SELECT COUNT(*) as totalSold, SUM(sold_price) as totalRevenue FROM Ticket WHERE airline_name = ? AND purchase_date BETWEEN DATE_ADD(CURRENT_DATE(), INTERVAL -1 YEAR) AND CURRENT_DATE()'`
  - **Get Ticket Sales Past Month:** `'SELECT COUNT(*) as totalSold, SUM(sold_price) as totalRevenue, MONTH(purchase_date) as month, YEAR(purchase_date) as year FROM Ticket WHERE airline_name = ? AND purchase_date BETWEEN DATE_ADD(CURRENT_DATE(), INTERVAL -1 MONTH) AND CURRENT_DATE()'`
  - **Get Ticket Sales within a Range of Dates:** `'SELECT COUNT(*) as totalSold, SUM(sold_price) as totalRevenue, MONTH(purchase_date) as month, YEAR(purchase_date) as year FROM Ticket WHERE airline_name = ? AND purchase_date BETWEEN ? AND ? GROUP BY MONTH(purchase_date), YEAR(purchase_date)'`

- **View Earned Revenue**
  - **Get Ticket Revenue Past Year:** `'SELECT SUM(sold_price) FROM Ticket WHERE airline_name = ? AND purchase_date BETWEEN DATE_ADD(CURRENT_DATE(), INTERVAL -1 YEAR) AND CURRENT_DATE()'`
  - **Get Ticket Revenue Past Month:** `'SELECT SUM(sold_price) FROM Ticket WHERE airline_name = ? AND purchase_date BETWEEN DATE_ADD(CURRENT_DATE(), INTERVAL -1 MONTH) AND CURRENT_DATE()'`
  - **Get Ticket Revenue in Past Year Per Travel Class:** `'SELECT travel_class, SUM(sold_price) as classRev FROM Ticket WHERE airline_name = ? AND purchase_date BETWEEN DATE_ADD(CURRENT_DATE(), INTERVAL -1 YEAR) AND CURRENT_DATE() GROUP BY travel_class ORDER BY SUM(sold_price) DESC'`

- **View Earned Revenue by travel class:** `'SELECT travel_class, COUNT(*) FROM Ticket WHERE airline_name = ? AND purchase_date BETWEEN DATE_ADD(CURRENT_DATE(), INTERVAL -1 YEAR) AND CURRENT_DATE() GROUP BY travel_class'`

- **View Top Destinations:** `` `SELECT city FROM airport WHERE airport_code IN ( SELECT arrival_airport_code FROM ticket NATURAL JOIN flight WHERE airline_name=? ``

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GROUP BY arrival_airport_code
ORDER by COUNT(*) DESC) LIMIT 3`
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