AIRLINE COMPANY - FLYHIGH

Storing and Retrieving Data – Final project

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Description of the fictitious business process:

FlyHigh is a high-end airline company which prides itself in providing safe and comfortable long duration flights all around the world. Founded and based in California since 2017, FlyHigh quickly emerged as one of the top-rated options in the luxury air ticket sales market.

Customer comfort is seen as their top priority during all phases of the travelling process, from the moment a client intends to acquire one of their tickets until the moment he or she arrives at their final destination.

All clients are required to fill a customer file with the company in order to travel for the first time (each of them needs one, even if, for instance, they are underage). After they are registered and the company has access to the necessary data, they are greenlighted to acquire a ticket when they so desire. A client can only buy one seat for each flight. They can buy their tickets online using an efficiently developed and user-friendly website. After the desired items are selected, clients can proceed with the payment. They have 30 minutes to complete the payment after the issuance of the invoice. The company allows the purchase to be completed with a credit card or using paypal. After the payment has been processed by their services, both the ticket(s) and the invoice are sent by email to the client. 48 hours before the flight the travellers are required to do a check-in and when they enter the plane a boarding is registered. FlyHigh keeps all these records in order to ensure that they know at all moments who has in fact travelled with them. FlyHigh keeps track of all key moments related to the flight such as the time of departure, arrival and on air so that it is assured that all predicted schedules have been met. At the end of their travel, clients are encouraged to provide optional feedback with both a number rating from 1-5 and a rating comment, so that they can keep improving our customer experience.

FlyHigh has successfully penetrated this highly competitive market and believe that one of the key factors lies on customer loyalty. A very personal experience is provided, and they have also implemented a system of promotions that reward clients for frequently travelling with the company or for sharing feedback. Clients who have not acquired flights for a considerable amount of time are also incentivized to travel with a discount code. Each code is sent directly to the client by email and can be used when completing an order.

FlyHigh currently operates with 10 distinct routes and 5 highly qualified pilots travelling to all corners of the world and intends to keep on expanding their travel offers. However, due to resource constraints, FlyHigh only has one flight happening at the same time. The customer base is quite diverse with clients from all around the world as would be expected with a higher-end service. They currently possess 7 unique aircrafts who have been adapted to provide a quality experience, with the maximum capacities ranging from 8 to 14 total passengers. During the course, the clients can enjoy chef meals and drinks that are included in all tickets as well as diverse entertainment options available on all seats through a touch screen such as videogames and movie streaming.

payment
- payment_id INT
- order_id INT
- total_price DECIMAL(10,2)
- tax_rate DECIMAL(2,2)
- type ENUM(...)
- paypal_email VARCHAR(256)
- card_number BIGINT
- card_name VARCHAR(30)
- card_cvv SMALLINT
- card_expiration DATE
- status BINARY(1)
- Indexes

order
- order_id INT
- cust_id INT
- date_time DATETIME
- discount_id SMALLINT
- Indexes

customer
- cust_id INT
- acc_email VARCHAR(256)
- id_type ENUM(...)
- id_number VARCHAR(20)
- id_expiration DATE
- full_name VARCHAR(100)
- phone_number VARCHAR(15)
- country VARCHAR(60)
- state VARCHAR(60)
- city VARCHAR(60)
- address VARCHAR(100)
- postal_code VARCHAR(10)
- birth_date DATE
- gender ENUM(...)
- Indexes

discount
- discount_id SMALLINT
- code VARCHAR(10)
- rate DECIMAL(2,2)
- start_time DATETIME
- end_time DATETIME
- Indexes

order_item
- order_item_id INT
- order_id INT
- flight_id MEDIUMINT
- seat_code TINYINT
- Indexes

boarding
- boarding_id INT
- check_in_id INT
- boarded BINARY(1)
- Indexes

aircraft
- aircraft_id SMALLINT
- aircraft_registration VARCHAR(20)
- total_flight_time TIME
- capacity SMALLINT
- model VARCHAR(20)
- manufacturer VARCHAR(20)
- date_manufacture DATE
- Indexes
- Triggers

rating
- rating_id INT
- rating_number TINYINT
- rating_comment TEXT
- flight_id MEDIUMINT
- cust_id INT
- Indexes

flight
- flight_id MEDIUMINT
- flight_number VARCHAR(6)
- aircraft_id SMALLINT
- route_id SMALLINT
- pilot_id SMALLINT
- predicted_departure_time DATETIME
- predicted_arrival_time DATETIME
- departure_time DATETIME
- arrival_time DATETIME
- air_time TIME
- price DECIMAL(7,2)
- tickets_sold_rate DECIMAL(2,2)
- Indexes
- Triggers

check_in
- check_in_id INT
- flight_id MEDIUMINT
- cust_id INT
- checked_in BINARY(1)
- Indexes
- Triggers

aircraft_log
- log_id TINYINT
- user VARCHAR(100)
- aircraft_id SMALLINT
- datetime_change DATETIME
- description TEXT
- old_aircraft_registration VARCHAR(20)
- old_total_flight_time TIME
- old_capacity SMALLINT
- old_model VARCHAR(20)
- old_manufacturer VARCHAR(20)
- old_date_manufacture DATE
- new_aircraft_registration VARCHAR(20)
- new_total_flight_time TIME
- new_capacity SMALLINT
- new_model VARCHAR(20)
- new_manufacturer VARCHAR(20)
- new_date_manufacture DATE
- Indexes

route
- route_id SMALLINT
- origin_id SMALLINT
- destination_id SMALLINT
- distance SMALLINT
- Indexes

pilot
- pilot_id SMALLINT
- full_name VARCHAR(100)
- birth_date DATE
- gender ENUM(...)
- Indexes

airport
- airport_id SMALLINT
- airport_code CHAR(3)
- city VARCHAR(60)
- country VARCHAR(60)
- airport_name VARCHAR(60)
- Indexes