

Relationships:

Contains: Many to many; This relation connects airlines and airports and implies that an airline can be present in many airports and an airport can have many airlines.

Airline review: Many to many; This relation connects airlines and reviews and implies that an airline can have many reviews written about it and a review can be about many different airlines.

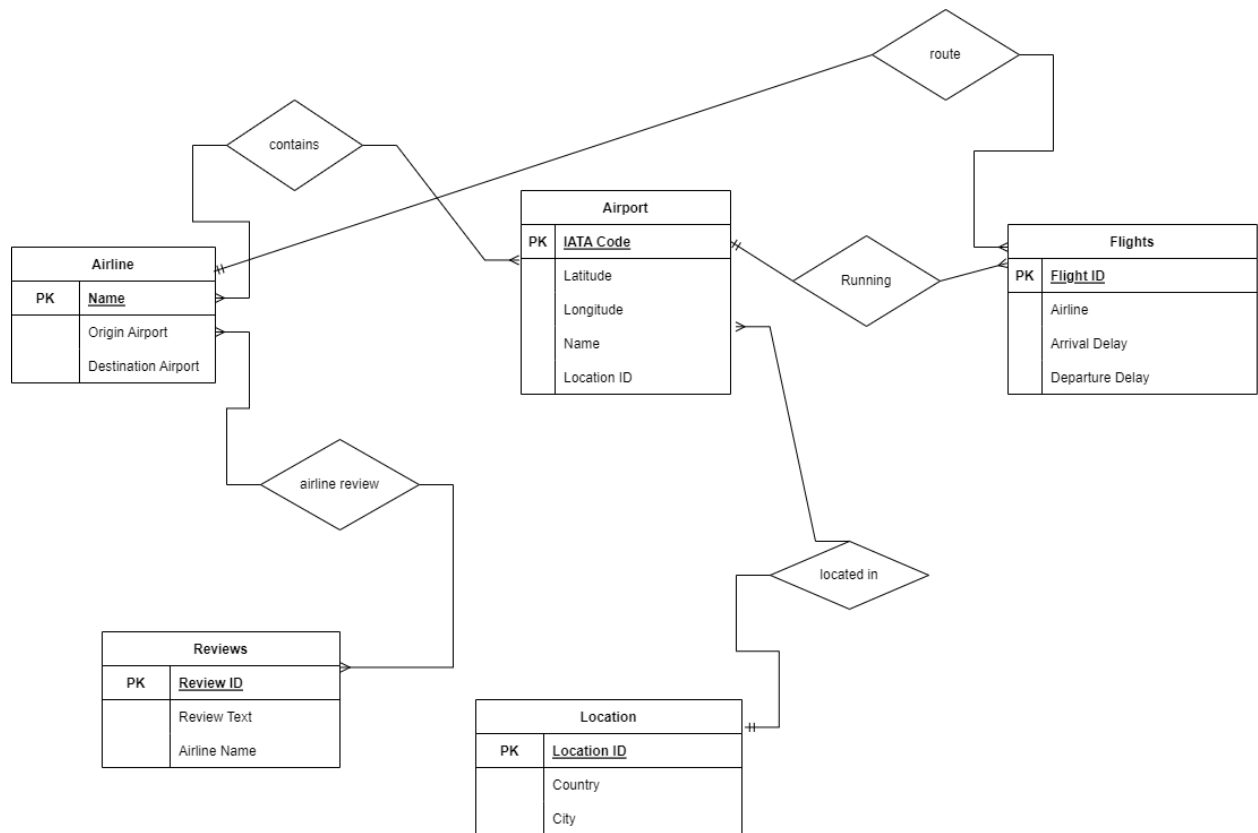
Route: Many to many, one to many, one to many; This relation connects airlines, airports, and flights and implies that many airlines can have a route from many airports for many different flights, an airport can have many flights and airlines, and a flight can be of only 1 airline and of one airport.

Located in: One to many; This relation connects airports and locations and implies that an airport can only be in one location but a location may have many airports.

Assumptions:

- 1) Airline: The airline entity will have the name of the airline as well as the airports that the airline is present in. An airline will be present in an airport and also will be present on a flight description.
- 2) Reviews: All reviews will have an airline that exists in the airline table. All reviews will also have text reviews that contain information about the airline and corresponding delays.
- 3) Location: All locations will be in the United States since our application only contains domestic flights and locations will have an airport in it. Every airport will have a location, but a location doesn't necessarily have an airport.
- 4) Airport: All airports will have airlines and flights that depart/arrive from/to it. All airports will also have a location.
- 5) Flights: All flights will be connected to an airline and an airport since each plane will depart from an airport, arrive at an airport, and also be owned by an airline.

ER Diagram



Relational Schema

Airport

(

IATA_code: VARCHAR(50) [PK],

Location_ID: INT [FK to Location(Location_ID)]

Name: VARCHAR(50),

Latitude: INT,

Longitude: INT,

)

Airline

(

Name: VARCHAR(50) [PK],

Origin_airport: VARCHAR(50) [FK to Airport(ICAO_code)],

Destination_airport: VARCHAR(50) [FK to Airport(ICAO_code)]

)

Flight

(

Flight_ID: INT[PK],

Airline: [FK to Airline(Name)],

Arrival_delay: INT,

Departure_delay: INT

)

Review

(

Review ID: INT [PK],

Airline_Name: [FK to Airline(Name)],

Review_Text: VARCHAR(50)

)

Location

(

Location_ID: INT [PK],

Country: VARCHAR(50),

City: VARCHAR(50)

)

Airline_review

(

Connect_ID: INT [PK],

Airline_name: VARCHAR(50) [FK reference to Airline(Name)],

Review_ID: INT [FK to Review(Review_ID)]

)

Contain

```
(  
Connect_ID: INT [PK],  
Airport: VARCHAR(50) [FK reference to Airport(ICAO_code)],  
Airline: VARCHAR(50) [FK reference to Airline(Name)]  
)
```