**Airline Database Schema example**

AIRPORT(airport.code, name, city, state)

FLIGHT(number, airline, weekdays)

FLIGHT.LEG(flight.number, leg.number, departure.airport.code, scheduled.departure.time, arrival.airport.code, scheduled.arrival.time)

LEG.INSTANCE(flight.number, leg.number, date, number.of.available.seats, airplane.id, departure.airport.code, departure.time, arrival.airport.code, arrival.time)

FARES(flight.number, fare.code, amount, restrictions)

AIRPLANE.TYPE(type.name, max.seats, company)

CAN.LAND(airplane.type.name, airport.code)

AIRPLANE(airplane.id, total.number.of.seats, airplane.type)

SEAT.RESERVATION(flight.number, leg.number, date, seat.number, customer.name, customer.phone)

**textual definitions/explanations of the sort given in SQL Chapter for the multi-company database**

**Each row of the *airport* table will contain:**

* Airport. code: a code used to identify a particular airport in documents relating to passenger reservations and tickets.
* Name: the official name of every airport
* City: the official name of every city where airports are located
* State: the official name of the state where the airport is located

**Each row of the *flight* table will contain:**

* Number: number of a unique flight corresponding to the company and days operated
* Airline: name of the company that operates the flight
* Weekdays: days of the week that flight is operated

**Each row of the *flight. leg* table will contain**

* Flight. number: number of a flight corresponding to company and days operated
* Leg. number: number of identifying a specific leg route
* departure. airport.code: airport code that identifies from where the flight departs
* scheduled. departure. time: time at which the flight is planned to depart at
* arrival. airport.code: airport code that identifies from where the flight arrives
* scheduled. arrival.time: time at which the flight is planned to arrive at

**Each row of the *leg. instance* table will contain**

* flight. number: number of a flight corresponding to company and days operated
* leg. number: number of identifying a specific leg route
* date: date of flight operates
* number.of.available.seats: total number of seats available on a specific flight
* airplane.id: unique ID of a specific airplane
* departure. airport code: Airport code that identifies from which the given flight departs
* departure. time: time at which the flight is planned to depart at
* arrival. airport.code: Airport code that identifies where the given flight arrives
* arrival.time: time at which the flight is planned to arrive at

**Each row of the *fares* table will contain:**

* flight.number: flight for which the fare is for
* fare.code: unique code number for flight fares
* amount: the cost amount of reservation fee
* restrictions: luggage or other onboard restrictions

**Each row of the *airplane. type* table will contain**

* type. name: model type of every airplane
* max. seats: maximum of seats on every airplane
* company: company that operates flights

**Each row of the *can. land* table will contain**

* airplane. type.name: Model name of every airplane
* airport.code: Airport code that identifies of the airport where the given model of airplane can land

**Each row of the *airplane* table will contain:**

* airplane.id: unique ID for every airplane
* total.number.of.seats: number of seats on the airplane
* airplane.type: Model type of an airplane

**Each row of the *seat. reservation* table will contain**

* flight. number: flight for which the reservation is for
* leg. number: a number that identifies a specific leg route
* date: date of the flight operates
* seat.number: number of seats on the airplane that offer to customers
* customer. name: name of every customer
* customer. phone: phone number of every customer

**sample instance of all the tables**

| **AIRPORT** | **AIRPORT.CODE** | **NAME** | **CITY** | **STATE** |
| --- | --- | --- | --- | --- |
|  | LAX | Los Angeles International Airport | Los Angeles | LA |
|  | JFK | John F. Kennedy International Airport | New York | NY |
|  | BNA | Nashville International Airport | Nashville | TN |
|  | HOU | Houston Hobby International Airport | Houston | TX |
|  | ANC | Ted Stevens Anchorage International Airport | Anchorage | AK |

| **FLIGHT** | **NUMBER** | **AIRLINE** | **WEEKDAYS** |
| --- | --- | --- | --- |
|  | 1 | Spirit | M T |
|  | 2 | Air France | M T W F TR |
|  | 3 | Delta | M W TR |
|  | 4 | American | M F |
|  | 5 | Spirit | M W F |

| **FLIGHT\_LEG** | **FLIGHT.NUMBER** | **LEG.NUMBER** | **DEPARTURE.AIRPORT.CODE** | **SCHLD.DEPART.TIME** | **ARRIVAL.AIRPORT.CODE** | **SCHEDULE.ARRIVAL.TIME** |
| --- | --- | --- | --- | --- | --- | --- |
|  | 2 | 1 | LAX | 1400 | ANC | 1800 |
|  | 4 | 2 | LAX | 1100 | JFK | 1600 |
|  | 1 | 3 | HOU | 1000 | BNA | 1700 |
|  | 3 | 4 | BNA | 1500 | HOU | 2300 |
|  | 5 | 5 | ANC | 1300 | JFK | 2200 |

| **LEG.INSTANCE** | **FLIGHT.NUMBER** | **LEG.NUMBER** | **DATE** | **NUMBER.OF.AVAILABLE.SEATS** | **AIRPLANE.ID** | **DEPARTURE.AIRPORT.CODE** | **DEPARTURE.TIME** | **ARRIVAL.AIRPORT.CODE** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2 | 1 | 9/18 | 50 |  | LAX | 1800 | ANC |
|  | 4 | 2 | 9/22 | 76 |  | LAX | 1600 | JFK |
|  | 1 | 3 | 9/12 | 87 |  | HOU | 1700 | BNA |
|  | 3 | 4 | 9/3 | 58 |  | BNA | 2300 | HOU |
|  | 5 | 5 | 9/14 | 90 |  | ANC | 2200 | JFK |

| **FARES** | **FLIGHT.NUMBER** | **FARE.CODE** | **AMOUNT** | **RESTRICTIONS** |
| --- | --- | --- | --- | --- |
|  | 1 | 11 | 150 | 1 carry on |
|  | 3 | 12 | 200 | 1 carry on |
|  | 2 | 13 | 300 | 2 carry on |
|  | 2 | 14 | 40 | 2 carry on |
|  | 5 | 15 | 135 | 1 carry on |

| **AIRPLANE.TYPE** | **TYPE.NAME** | **MAX.SEATS** | **COMPANY** |
| --- | --- | --- | --- |
|  | Boeing 747 | 350 | AIRBUS |
|  | Boeing 747 | 229 | AIRBUS |
|  | Airbus A318 | 200 | BOEING |
|  | Boeing 747 | 130 | AIRBUS |
|  | Airbus A318 | 319 | BOEING |

| **CAN.LAND** | **AIRPLANE.TYPE.NAME** | **AIRPORT.CODE** |
| --- | --- | --- |
|  | Boeing 747 | HOU |
|  | Airbus A318 | JFK |
|  | Boeing 747 | BNA |
|  | Boeing 747 | ANC |
|  | Airbus A318 | LAX |

| **AIRPLANE** | **AIRPLANE.ID** | **TOTAL.NUMBER.OF.SEATS** | **AIRPLANE.TYPE** |
| --- | --- | --- | --- |
|  | 100 | 178 | Boeing 747 |
|  | 101 | 142 | Airbus A318 |
|  | 102 | 132 | Airbus A318 |
|  | 103 | 144 | Boeing 747 |
|  | 104 | 198 | Boeing 747 |

| **SEAT.RESERVATION** | **FLIGHT.NUMBER** | **LEG.NUMBER** | **DATE** | **SEAT.NUMBER** | **CUSTOMER.NAME** | **CUSTOMER.PHONE** |
| --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 1 | 9/13 | 13 | JACK | 551-243-2334 |
|  | 3 | 3 | 9/19 | 12 | JOHN | 551-423-3241 |
|  | 1 | 2 | 9/1 | 2 | AMY | 342-423-2441 |
|  | 2 | 4 | 9/5 | 4 | LISA | 244-412-1444 |
|  | 4 | 1 | 9/28 | 9 | LUKA | 224-143-1245 |

**table schema diagrams**

| **AIRPORT** |  |  |  |
| --- | --- | --- | --- |
| AIRPORT.CODE | NAME | CITY | STATE |



| **FLIGHT** |  |  |
| --- | --- | --- |
| NUMBER | AIRLINE | WEEKDAYS |



| **FLIGHT.LEG** |  |  |  |
| --- | --- | --- | --- |
| FLIGHT.NUMBER | LEG.NUMBER | DEPARTURE.AIRPORT.CODE | SCHEDULED. DEPARTURE.TIME |
| ARRIVAL.AIRPORT.CODE | SCHEDULED.ARRIVAL.TIME |  |  |



| **LEG.INSTANCE** |  |  |  |  |
| --- | --- | --- | --- | --- |
| FLIGHT.NUMBER | LEG.NUMBER | DATE | NUMBER.OF.AVAILABLE.SEAT | AIRPLANE.ID |
| DEPARTURE.AIRPORT.CODE | DEPARTURE.TIME | ARRIVAL.AIRPORT.CODE | ARRIVAL.TIME |  |

| **FARES** |  |  |  |
| --- | --- | --- | --- |
| FLIGHT. NUMBER | FARE.CODE | AMOUNT | RESTRICTIONS |



| **AIRPLANE.TYPE** |  |  |
| --- | --- | --- |
| TYPE. NAME | MAX. SEAT | COMPANY |

| **CAN.LAND** |  |
| --- | --- |
| AIRPLANE.TYPE.NAME | AIRPORT. CODE |

| **AIRPLANE** |  |  |
| --- | --- | --- |
| AIRPLANE.ID | TOTAL.NUMBER.OF.SEAT | AIRPLANE.TYPE |

| **SEAT.RESERVATION** |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| FLIGHT.NUMBER | LEG.NUMBER | DATE | SEAT.NUMBER | CUSTOMER. NAME | CUSTOMER. PHONE |