Airport(airport\_code, name, city,state)

Flight(number, airline, weekdays)

Fight\_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)

These schemes specify that instances of tables will hold following sorts of informations:

Airport(airport\_code, name, city,state)

● Each row of Airport table will hold:

●airport\_code: the code of an airport (i.e EWR JFK PHL)

●name: the name of the airport

●city: the city the airport located in

●state: the state the airport located in

Flight(number, airline, weekdays)

●Each row of Flight table will hold:

●number: the number of a flight

●airline: the name of the airline that the flight belongs to

●weekdays: operation time of the flight in a week

Fight\_leg(flight\_number, leg\_number, departure\_airport\_code, scheduled\_departure\_time, arrival\_airport\_code, scheduled\_arrival\_time )

●Each row of Flight\_leg table will hold:

●flight\_number: the number of a flight

●leg\_number: the number of a leg of the flight

●departure\_airport\_code: the code of the airport which the leg of flight will depart

●scheduled\_departure\_time: the time that the leg of flight will depart

●arrival\_airport\_code: the code of the airport which the flight will arrive

●scheduled\_arrival\_time : the time that the flight will arrive

Leg\_instance(flight\_number, leg\_number, date, number\_of\_available\_seats, airplane\_id, departure\_airport\_code, departure\_time, arrival\_airport\_code, arrival\_time)

**\*\*\*An instance\*\*\***

●Each row of Leg\_instance table will hold:

●flight\_number: the number of a flight

●leg\_number: the number of a leg of the flight

●date: the date that the leg of the flight will operate

●number\_of\_available\_seats: the number of available seats of the leg of flight

●airplane\_id: the identification number of the airplane that will be used on the leg of the flight

●departure\_airport\_code: the code of the airport which the leg of flight will depart

●departure\_time: the time that the leg of flight will depart

●arrival\_airport\_code: the code of the airport which the flight will arrive

●arrival\_time: the time that the flight will arrive

Fares(flight\_number, fare\_code, amount, restrictions)

●Each row of Fares table will hold:

●flight\_number: the number of a flight

●fare\_code: the code of a kind of fare which can be booked in the flight

●amount: the amount of the kind of fare which can be booked in the flight

●restrictions: restrictions of the kind of fare

Airplane\_type(type\_name, max\_seats, company)

●Each row of Airplane\_type table will hold:

●type\_name: the name of a type of airplane

●max\_seats: the max number of seats of this kind of airplane

●company: the company which made the plane

Can\_land(airplane\_type\_name, airport\_code)

●Each row of Can\_land table will hold:

●airplane\_type\_name: the type name of a kind of airplane

●airport\_code: the airport\_code of an airport that the type of airplane will land.

Airplane(airplane\_id, total\_number\_of\_seats, airplane\_type)

●Each row of Airplane table will hold:

●airplane\_id: the identification number of an airplane

●total\_number\_of\_seats: the total number of seats of the airplane

●airplane\_type: the type of the airplane

Seat\_reservation(flight\_number, leg\_number, date, seat\_number, customer\_name, customer\_phone)

●Each row of Seat\_reservation table will hold:

●flight\_number: the number of a flight

●leg\_number: the number of a leg of this flight

●date: the time that the leg of the flight will operate

●seat\_number: the number of a seat of this flight

●customer\_name: the name of the customer who reserved the seat

●customer\_phone: the phone number of the customer who reserved the seat

Instances Of All Tables

AIRPORT

|  |  |  |  |
| --- | --- | --- | --- |
| AIRPORT\_CODE | NAME | CITY | STATE |
| PHL | Philadelphia | Philadelphia | Pennsylvania |
| JFK | Kennedy | New York | New York |
| EWR | Newark | Newark | New Jersey |
| LGA | La Guardia | New York | New York |
| BOS | Boston | Boston | Massachusetts  [Massachusetts](https://www.massport.com/) |

FLIGHT

|  |  |  |
| --- | --- | --- |
| NUMBER | AIRLINE | WEEKDAYS |
| 123 | Delta Airlines | 1,2,3,4,5 |
| 23444 | Alaska Airlines | 2,4,5,6 |
| 345 | Southwest Airlines | 1,3,5,7 |
| 456 | Spirit Airlines | 2,3,7 |
| 567 | JetBlue Airlines | 1,4,6 |

FLIGHT\_LEG

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| FLIGHT\_  NUMBER | LEG\_  NUMBER | DEPARTURE\_  AIRPORT\_ CODE | SCHEDULED\_  DEPARTURE\_ TIME | ARRIVAL\_  AIRPORT  \_CODE | SCHEDULED\_  ARRIVAL  \_TIME |
| 123 | 1 | PHL | 08:00 | JFK | 10:00 |
| 123 | 2 | JFK | 11:00 | BOS | 12:30 |
| 45 | 1 | BOS | 11:30 | EWR | 13:30 |
| 4565 | 2 | EWR | 14:00 | LGA | 17:00 |
| 455 | 3 | LGA | 17:30 | PHL | 19:50 |

LEG\_INSTANCE

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| FLIGHT\_ NUMBER | LEG\_ NUMBER | DATE | NUMBER\_ OF\_AVAIL- ABLE\_SEATS | AIR- PLANE­ID | DEPARTURE\_ AIRPORT\_CODE | DEPART- URE\_  TIME | ARRIVAL  \_ AIRPORT  \_  CODE | ARRIVAL  \_TIME |
| 452 | 1 | 27/01/23 | 352 | 66666 | BOS | 11:30 | EWR | 13:30 |
| 45 | 2 | 27/01/23 | 43 | 66666 | EWR | 14:00 | LGA | 17:00 |
| 452 | 3 | 27/01/23 | 194 | 66666 | LGA | 17:30 | PHL | 17:30 |

FARES

|  |  |  |  |
| --- | --- | --- | --- |
| FLIGHT\_NUMBER | FARE\_CODE | AMOUNT | RESTRICTIONS |
| 45 | ECON | 200.00 | Non-refundable |
| 45 | BUSINESS | 700.00 | none |
| 45 | FIRST | 1200.00 | none |

AIRPLANE\_TYPE

|  |  |  |
| --- | --- | --- |
| TYPE\_NAME | MAX\_SEATS | COMPANY |
| A350 | 70 | Airbus |
| 747 | 200 | Boeing |
| A380 | 150 | Airbus |
| 737 | 100 | Boeing |

CAN\_LAND

|  |  |
| --- | --- |
| AIRPLANE\_TYPE\_NAME | AIRPORT\_CODE |
| A350 | PHL |
| 747 | JFK |
| A380 | BOS |
| 737 | EWR |
| 747 | LGA |
| A350 | PHL |

AIRPLANE

|  |  |  |
| --- | --- | --- |
| AIRPLANE\_ID | TOTAL\_NUMBER\_OF\_SEATS | AIRPLANE\_TYPE |
| 66666 | 100 | A350 |
| 77777 | 300 | 747 |

SEAT\_RESERVATION

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| FLIGHT\_  NUMBER | LEG\_  NUMBER | DATE | SEAT\_  NUMBER | CUSTOMER\_  NAME | CUSTOMER\_  PHONE |
| 123 | 1 | 27/01/23 | 1A | kane | 123 |
| 123 | 2 | 27/01/23 | 2B | kane | 123 |
| 45 | 1 | 27/01/23 | 3C | Rose | 456 |
| 45 | 1 | 27/01/23 | 23D | Chris | 789 |
| 45 | 1 | 27/01/23 | 7F | Lir | 235 |

table schema diagrams, with intended keys and foreign key references

**Airport(airport\_code, name, city,state)**

Fkr:none

**Flight(number, airline, weekdays)**

Fkr: none

**Fight\_leg(flight\_number, leg\_number, departure\_airport\_code, scheduled\_departure\_time, arrival\_airport\_code, scheduled\_arrival\_time )**

Fkr: Fight\_leg.flight\_number → Flight. number

Fight\_leg.departure\_airport\_code → Airport. airport\_code

Fight\_leg. arrival \_airport\_code → Airport. airport\_code

**Leg\_instance(flight\_number, leg\_number, date, number\_of\_available\_seats, airplane\_id, departure\_airport\_code, departure\_time, arrival\_airport\_code, arrival\_time)**

Fkr: Leg\_instance. flight\_number & Leg\_instance. leg\_number→flight\_leg.flight\_number & flight\_leg.leg\_number

**Fares(flight\_number, fare\_code, amount, restrictions)**

Fkr: Fares. flight\_number →Flight. number

**Airplane\_type(type\_name, max\_seats, company)**

Fkr:none

**Can\_land(airplane\_type\_name, airport\_code)**

Fkr: Can\_land. airplane\_type\_name→Airplane\_type. type\_name

Can\_land. airport\_code→ Airport. airport\_code

**Airplane(airplane\_id, total\_number\_of\_seats, airplane\_type)**

Fkr: Airplane. airplane\_type→Airplane\_type. type\_name

**Seat\_reservation(flight\_number, leg\_number, date, seat\_number, customer\_name, customer\_phone)**

Fkr:

Seat\_reservation.flight\_number& Seat\_reservation.leg\_number& Seat\_reservation. date→Leg\_instance.flight\_number& Leg\_instance.leg\_number& Leg\_instance.date