

CS4400 Phase II Schema

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Schema:

location = (locID)

route = (routeID)

flight = (flightID, cost, follow [fk1])

fk1: follow → route.routeID, follows is non-null

airport = (airportID, name, city, state, country, locationID [fk2])

fk2: locationID → location.locID

leg = (legID, distance, departs [fk3], arrives [fk4])

fk3: departs → airport.airportID, departs is non-null

fk4: arrives → airport.airportID, arrives is non-null

contain = (routeID [fk5], legID [fk6], sequence)

fk5: routeID → route.routeID

fk6: legID → leg.legID

airline = (airlineID, revenue)

airplane = (airlineID [fk7], tail_num, speed, seat_cap, locationID [fk8])

fk7: airlineID → airline.airlineID

fk8: locationID → location.locID

prop = (airlineID, tail_num [fk9], props, skids)

fk9: (airlineID, tail_num) → (airplane.airlineID, airplane.tail_num)

jet = (airlineID, tail_num [fk10], engines)

fk10: (airlineID, tail_num) → (airplane.airlineID, airplane.tail_num)

supports = (airlineID, plane_tail_num [fk11], flightID [fk12], progress, status, next_time)

fk11: (airlineID, plane_tail_num) → (airplane.airlineID, airplane.tail_num)

fk12: flightID → flight.flightID, flightID is non-null

person = (personID, fname, lname, occupies [fk13])

fk13: occupies → location.locID, occupies is non-null

pilot = (personID [fk14], taxID, experience, commands [fk15])

fk14: personID → person.personID

fk15: commands → flight.flightID

passenger = (personID [fk16], funds, miles)

fk16: personID → person.personID

licenseMV = (personID [fk17], license)

fk17: personID → pilot.personID

vacationMV = (personID [fk18], destination, sequence)

fk18: personID → passenger.personID

Unhandled Constraints List

1. Ensure that a person is either a pilot or a passenger (total participation and disjoint constraint).
2. Ensure the location is either at the airport or on the airplane.
3. Ensure that the airplane is either propeller-driven, jet-driven, or experimental.
4. Ensure that flights supported by propeller-driven airplanes must have at least one assigned pilot before taking off, while jet-driven airplanes must have at least two pilots.
5. Ensure that there are fewer than a certain number of pilots on a flight.
6. Ensure that the number of persons on board is not greater than the capacity of the airplane.