

1a.

USAirports

<u>faa_id</u>	name	city_state	elevation
DFW	Dallas/Fort Worth International Airport	Dallas, TX	607
ATL	Atlanta Hartsfield–Jackson International Airport	Atlanta, GA	1050
MSP	Minneapolis Saint Paul International Airport	Minneapolis, MN	841

Primary Key: faa_id

1b.

AirlineInfo

<u>airline_code</u>	<u>airline_name</u>	hub_id	founding_year
SQ	Singapore Airlines	SIN	1972
DL	Delta Airlines	ATL	1928
NK	Spirit Airlines	MCO	1983

Primary Key: (airline_code, airline_name)

1c.

FlightInfo

<u>airline_code</u>	<u>flight_number</u>	departure_airport	arrival_airport	weekly_flights
SQ	21	EWR	SIN	7
DL	1615	GEG	MSP	7
SQ	22	SIN	EWR	7

Primary Key: (airline_code, flight_code)

1d.

FlightSegments

<u>airline_code</u>	<u>flight_number</u>	segment_start	segment_end
UA	1	SFO	SIN
DL	16	DFW	LHR
NK	422	SEA	LAS

Primary Key: (airline_code, flight_code)

Foreign Keys:

FlightSegments(airline_code, flight_code) **REFS** FlightInfo(airline_code, flight_code)

FlightInfo.departure_airport **REFS** USAirports.faa_id

FlightInfo.arrival_airport **REFS** USAirports.faa_id

FlightSegments.segment_start **REFS** USAirports.faa_id

FlightSegments.segment_end **REFS** USAirports.faa_id

2a.

Employees

<u>employee_id</u>	first_name	last_name	start_date	department
01	Bob	Jones	9/9/1987	Corporate
03	Brandon	Poblette	7/13/2023	N/A
06	Chuck	Cheese	5/6/2005	janitorial

Primary Key: employee_id

2b.

Projects

<u>proj_num</u>	sponsor_department	lead_employee	proj_start	annual_budget
23	Human Resources	05	5/8/2022	\$20,050.43
63	Corporate	01	9/10/2023	\$1.2bn
54	Janitorial	06	5/9/2023	\$13.57

Primary Key: proj_num

2c.

Manager

manager_id	managing	managing_start
01	03	7/13/2023
03	06	7/13/2023
03	05	7/13/2023

Primary Key: (manager_id, managing)

Foreign Keys:

Projects.lead_employee **REFS** Employees.employee_id

Projects.sponsor_department **REFS** Employees.department

Manager.manager_id **REFS** Employees.employee_id

Manager.managing **REFS** Employees.employee_id

3.

An iOS app that I frequently use would be Pokemon Go! This app definitely persists data and stores in it some sort of database.

Relations:

- Player location: stores the GPS coordinates of where the player is when closing the app so the game knows where you last where.
- Distance traveled every week is tallied and stored somewhere as there are weekly rewards for km covered.
- Pokemon: pokemon each player has available in their collection, also pokemon that a player has not yet encountered and caught. Stats for each unique pokemon a player has like HP, CP, attacks and type.
- Friends: each player has a friends list, and this relation would probably involve something like the player ID and username of each friend you have, if you have sent them a gift or not yet today, and their profile stats like level and buddy name.