

## DATABASE SCHEMA USED IN EXAM

Seeing an opportunity in the aftermath of COVID-19, the Johns Hopkins Alumni Association has formed a new airline called HopAir, with a very simple pricing model. Fares never change and the cost of a multi-flight trip is simply the addition of the cost of each flight on the trip (the way airlines used to work!).

The database schema below (with sample values) show the airline's operations database.

**Assume that:**

- All flights fly every day with no change in schedule.
- All flights arrive on the same day as they depart.
- Passengers are not allowed to connect to flights on a different day, so you must check that the arrival time of one flight is before the departure time of the next flight (but don't worry about connection times).
- All times are on a 24 hour clock (e.g. 0800 or 2135), and that times are local times.
- prices can be different on different flight numbers between the same city pair.
- HopAir flies to at least 2 cities in every state (this shouldn't effect your calculations). No other airline has data listed here.
- When asked to list a city, give its airport code, city and state. Assume no more than 1 airport per city.

FLIGHTS	<u>FLNO</u>	FromCode	ToCode	DepTime	ArrTime	Price	Distance
	1276	BWI	DEN	800	1025	159	1560
	1280	DEN	SFO	1125	1426	200	1289

CODE_NAMES	<u>Code</u>	CityName	StateName
	BWI	Baltimore	Maryland
	DEN	Denver	Colorado
	SFO	San Francisco	California

EMPLOYEES	<u>EID</u>	EName	Age	WeeklySalary
	E3221	Philipp Koehn	49	3000
	E4191	Jason Eisner	48	1500

AIRCRAFT	<u>AID</u>	AName	CruisingRange
	A1134	Boeing 737-300	1200
	A2140	Embraer 135	890

CERTIFIED_TO_FLY	<u>EID</u>	<u>AID</u>
	E3221	A1134
	E3221	A2140

FLIGHTDETAILS	<u>FNO</u>	<u>M</u>	<u>D</u>	<u>Y</u>	PilotEID	PlaneAID
	1276	11	05	2020	E3221	A1134
	1276	11	05	2020	E4426	A1134
	1280	11	06	2020	E4191	A1249

MAINTENANCE_ISSUE	<u>FNO</u>	<u>M</u>	<u>D</u>	<u>Y</u>	PlaneAID	<u>Issue</u>	Resolved
	1276	11	05	2020	A1134	Flaps	True
	1280	11	06	2020	A1219	Seat 42C	False