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Term Project – Class Definitions and Associations

Class Definitions

Airport- A landing area used for takeoff. landing, and maintenance of civil aircraft.

Airline - An organization providing a regular public service of air transportation.

crewMember- An employee who helps operate a vehicle such as a ship, aircraft, etc.

flightCrew - A group of people employed to a traveling aircraft.

plane - An aircraft that contains wings and one or more engines which is used for air transportation.

flight - The planned route for a commercial aircraft.

flightInstance - The actual travel of an aircraft.

incidentReport - The number or list of accidents that is associated with the specific aircraft.

Pilot - The crewMember with authority over the direction of the flight.

CoPilot - The second in command who can fly the plane.

Navigator - The crewMember who help inform the pilots about the flight path.

Attendant - The crewMember who assist the passengers on the flight.

Associations

Airline & Plane

1.   An airline owns one to many planes

2.   A plane is owned by one and only one airline.

Flight & Plane

1. A plane is assigned on one to many flights

2. A flight occupies one and only one plane

Airline & Flight

1. An airline assigns one to many flights

2. A flight is assigned by one and only one airline.

Airport & Flight (Recursion)

1. An airport has zero to many flights which are departing

2. A flight departs from one and only one airport

3. An airport has zero to many flights which are arriving

4. A flight arrives at one and only one airport

Flight Instance & Flight Crew

1. A flight crew works on one to many flightInstances

2. A flightInstance employs one and only one flightCrew

Flight Instance & Flight

1. A flightInstance consists of one and only one flight

2. A flight is applied by zero to many flightInstances

Flight Crew & Crew Member

1. A flight crew employs one to many crewMembers.

2.   A crewMember is part of zero to one flight crews

Crew Member & Incident Report

1. A crewMemeber is involved in zero to many incidentReports

2. An incident report is documented on one and only one crewMember

3. A crewmember reports zero to many incidentReports

4. An incidentReport is documented by one and only one crewmember

Crew Member Subclasses

1. A crewmember can be either a pilot, copilot, navigator, or attendant

2. A pilot, copilot, navigator, or attendant is a crewMember