**AIRPORT** – is an entity that has 4 attributes which include Airport\_code a key attribute, City, State, and Name. An airport may or may not land many airplane types. Airplane Type is an entity that has 3 attributes: Company, Max\_seats, and a key attribute Type\_name. Airplane\_type may or may not have many types of airplanes. The AIRPORT may or may not have 1 too many leg departs on a particular date while the leg\_instance may or may not have one leg on a particular date at the airport. The airport may or man not have 1 to many arrivals on a flight\_leg. In addition the flight\_leg must have arrival time at one airport. The flight\_leg must have 1 departure time at a airport, and the airport may or many not have multiple departure times on a flight\_leg.

**Airplane** is an entity that has two attibutes: Total\_no\_of\_seats and a key attribute Airplane\_id. An airplane must be associated to one type of airplane. An airplane may or may not be assigned to a Leg\_Instance, and a Leg\_instace must have 1 airplane assigned to it.

A **Leg\_Instance** is a weak entity that has two attributes. The attributes are No\_of\_available\_seats – seats available on the airplane and Date, which is a derived attribute, is the date of the flight. Leg\_instance may or may not have 1 to many seat reservations. On the other hand **SEAT** must have 1 reservation on a particular date of a LEG. The leg\_instance may or may not have but one arrive date on a particular leg at the airport and the airport has one to many arrival dates on a particular leg. The leg instance must have 1 instance of the flight leg, while the flight leg may or may not have 1 to many instances of legs on a particular date. The leg instance is tied to the flight\_leg weak entity.

The **flight\_leg** is a weak entity and only has a derived attribute called LEG\_no which is the leg number of the flight leg. The flight\_leg must have legs on one flight, while the flight may or may not have 1 to many legs on a flight\_leg. The flight\_leg weak entity is tied to the flight entity by the LEGS relationship.

The **Flight** entity has 3 attributes. Weekdays – week of the flight, Airline- the airline which will hose the flight and the Number key attribute is the number of the flight. The flight may or many not have 1 to many fares and the Fare weak entity must have 1 fare on the flight.

The **Fare** weak entity has 3 attributes. Code: a derived attribute that stands for the code of the fare, Amount of the fare, and Restrictions that are in place for the fare. The fare entity must rely on the flight entity through the fares relationship.

The departs relationship has a department time attribute and the arrives relationship has an arrive time attribute.

A **Seat** is a weak entity that has only one attribute: Seat\_no which is a derived attribute it stands for the seat number of the customer that has the reservation. The seat entity is tied to the leg\_instance entity by the reservation relationship. The Reservation relationship has two attributes: customer\_name – the name of the customer that is tied to the reservation and cphone – the cell phone of the customer that has the reservation.