Step    1

Flight{          flightID, estDepartTime, actDepartTine, actArriveDateTime, avgSpeed, avgHeight, estDuration, estFuel        }

Aircraft{        aircraftID      }

Model{          modelID, economySeats, businessSeats, firstClassSeats, cargoCapacity, fuelCapacity, length, wingspan, serviceHours          }

Route{          routeID, description    }

Location{        airportCode, country,  address, phone              }

Ticket{          ticketNum, luggageLimit, seatNum, classCode, medicinalCondition, mealChoice     }

Customer{        customerID, name, address,
country,          email,  phone, birthdate,        passportNum  }

Staff{   staffID , name, address, email, phone, passportNum }

NEACC Member{      memberID, flightGoldPoints  }


Step 2, Weak entities

Service{        serviceDate, aircraftID, description, cost      }

Irregular Event{        eventNumber, flightID, eventDateTime, eventDescription   }


Step 3  1 to 1 relationships     (None)


Step 4 1 to N relationships

Flight {flightID, *aircraftID*}
Irregular event{eventNumber, *flightID*}
Service{serviceDate, *aircraftID*}
Aircraft {aircraftID, *modelID*}
Flight{flightID, *staffID*}
Flight{flightID, *staffID*}
Ticket{ticketNum, *flightID*}
Flight{flightID, *routeID*}
Route{routeID, *airportCode*}
Route{routeID, *airportCode*}
Ticket{ticketNum, *customerID*}

Step 5 M to N Relationships

ADDITIONAL PILOTS(flightID, staffID)
HOST(flightID, staffID)

STEP 6 multivalued attribute
Pilot(staffID,  qualifications, prevHrsPilotExp)
pQualifications(staffID, qualifications)


STEP 7, no >2 relationships

Step 8: Multi-relations/Superclasses

Flight: Long/Short haul (disjoint)

Flight{ flightID, estDepartDateTime, actDepartDateTime, actArriveDateTime, avgSpeed,
avgHeight, estDuratioon, estFuel      }

Short-Haul{     flightID          }

Long-Haul{     flightID          }

AirCraft: Long/Short haul (disjoint)

Aircrafts{      aircraftID        }

Short-Haul aircraft{   AircraftID,     mailCargoCapacity    }

Long-Haul Aircraft{   AircraftID,     numMedPacks,        numDefibrillators      }

Staff: Pilot/Flight Attendant (overlapping)
Staff{   staffID, name, address, email, phone, passPortNum  }

Pilot{   staffID, qualifications (multi-valued), prevsHrsPilotExpt     }

Flight  Attendant{     staffID }


Step 9 Unions
NEACC Member{     memberID (surrogate key), flightGoldPoints }

        Customer{   customerID, name, address, country, email, phone, birthday,
        passportNum  }

        Staff{   staffID, name, address, email, phone, passportNum  }