Bandr AlSwyan
Dr. Mohammad Mehdi Owrang
CSC-634-001 (Summer 2020)
06 July 2020

HW 1: AU Air Reservation System.

1. In detail, Identify all the appropriate entities (with keys), attributes, relationships, and constraints:

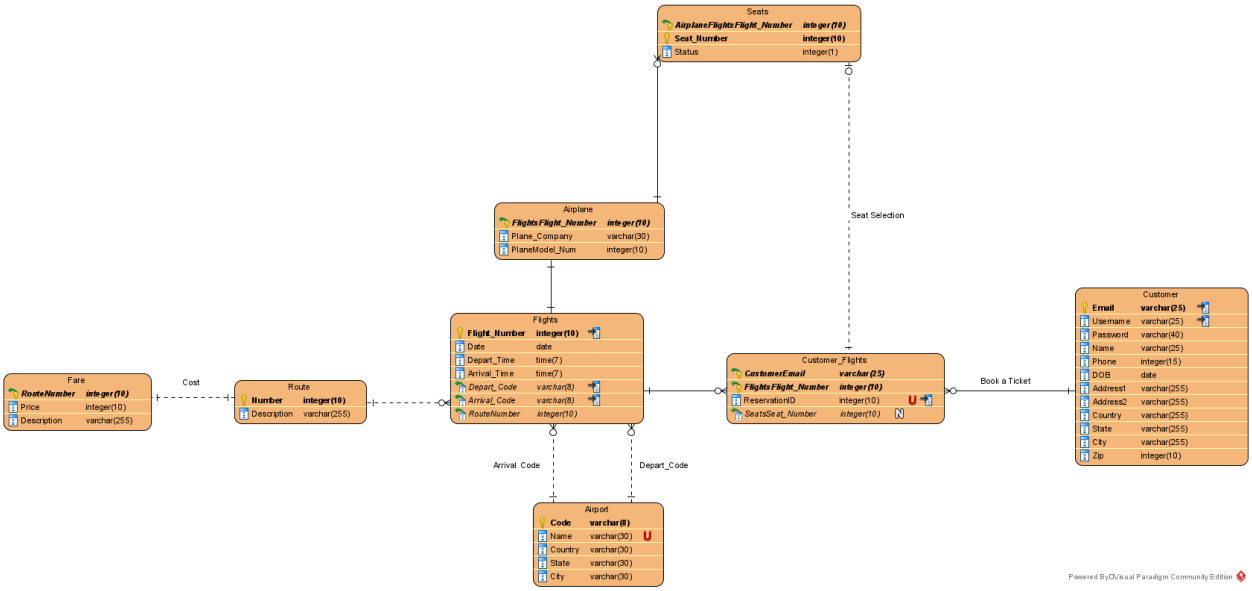
Entities (**Primary Key**, *Foreign Key*):

- Customer:
  - **Email**
  - Username
  - Password
  - Name
  - Phone
  - DOB (Date Of Birth)
  - Address1
  - Address2
  - Country
  - State
  - City
  - Zip
- Flights:
  - **Flight_Number**
  - Date
  - Depart_Time
  - Arrival_Time
  - *Depart_Code*
  - *Arrival_Code*
  - *RouteNumber*
- Customer_Flights:
  - ***CustomerEmail***
  - ***FlightsFlight_Number***
  - ReservationID
  - *SeatsSeat_Number*
- Airplane:
  - ***FlightsFlight_Number***
  - Plane_Company
  - PlaneModel_Num
- Seats:
  - ***AirplaneFlightsFlight_Number***
  - **Seat_Number**
  - Status

Bandr AlSwyan
Dr. Mohammad Mehdi Owrang
CSC-634-001 (Summer 2020)
06 July 2020

- Airport:
  - **Code**
  - Name
  - Country
  - State
  - City
- Route:
  - **Number**
  - Description
- Fare:
  - ***RouteNumber***
  - Price
  - Description

2. Provide a complete ER diagram for the database (Visual Paradigm):



3. Make any assumptions that are relevant to the system. Clearly define your assumption:

- Customer to Customer_Flights: 1-to-many relationship:
  - 1 customer can belong to many flights booked and therefore its 1 record to many records.
  - The identifying relationship Customer_Flights does not exist without the customer.
- Flights to Customer_Flights: many-to-1 identifying relationship:
  - Many Customer_Flights will connect to 1 Flight_Number in Flights.

    - The identifying relationship Customer_Flights does not exsist without the Flights.
- Airplane to Seats: 1-to-many identifying relationship:
    - Many Seats will connect to 1 FlightsFlight_Number from Airplane.
    - Seat does not exist without Airplane.
- Seats to Customer_Flights: 1-to-1 relationship.
- Flights to Airplane: 1-to-1 identifying relationship.