# Name

**CS 425 – Database Organization HW 3**

**Submission:** Individual effort and submit

**Instructions** This homework is based on handout 3. Please refer to handout for the ER diagram .Try to answer all the questions using what you have learned in class. Please make your query general not data related. To simplify it, one can assumes that each Airline can only uses one same flight number per day .

**Schema**

flight ( flightNumber, airlinecode,date price, seat, IATA, IATALands, timeDep, timeArr)

customer ( name, phone, agentName)

agent (agentName, fee, phone)

airport (IATA , city, type)

booking ( name, flightNumber, airlinecode, date seat,agentName)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Customer** | | | | | | **Booking** | | | | |  |
| |  |  |  | | --- | --- | --- | | **Phone** | **Name** | **agentName** | | 8899452552 | Tom | Aline | | 7814449884 | Bill | Sean | | 7753698887 | Sarah | John | | | | | | | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **Phone** | **flightNber** | **airlineCode** | **Date** | **seat** | **price** | **agentName** | | 8899452552 | 207 | AA | 3.4.21 | A1 | 140 | Aline | | 7814449884 | 146 | UA | 3.4.21 | A3 | 345 | Sean | | 7753698887 | 205 | MEA | 3.4.21 | 4 | 560 | John | | | | | |  |
| **Agent** | | | | | | **Airport** | | | | | |  |
| |  |  |  | | --- | --- | --- | | **agentName** | **Price** | **phone** | | Aline | 150 | 7785667860 | | Sean | 460 | 7834438765 | | John | 150 | 9873434444 |   **Flight** | | | | | | |  |  |  | | --- | --- | --- | | **IATA** | **City** | **Type** | | ORD | Chicago | International | | MDW | Chicago | International | | BOS | Boston | International | | | | | | |  |
| **airlinecode** | | **flightNumber** | **Price** | **Seat** | **IATA** | | | **IATALands** | **timeDep** | **TimeArr** | date |
| AA | | 207 | 200 | 5 | BOS | | | EWR | 12:00 | 13:05 | 3.4.21 |
| UA | | 146 | 400 | 11 | ERW | | | MCO | 14:00 | 18:05 | 3.4.21 |
| MEA | | 205 | 250 | 4 | FRA | | | BEY | 12:00 | 13:05 | 3.4.21 |

# I. SQL DDL (6 Points)

Question I. 1 (6 Points)

Write an SQL statement that creates a new table *user* that stores the userName, password, phone, email. The primary key being the userName. The phone must be filled, If the agent or customer is deleted it is removed from the user table. The email address must contain @.

# II. SQL Query (32 points)

Question I. 1 (2.5 Points) Write the SQL statement that returns the name of the customer that flew to Boston.

Question II. 2 (3.5 Points) Write the SQL statement that returns the total amount of money spent by each customer for ticket booking.

Question II.3 (3.5 Points) Write the SQL statement that returns the name of the customer that booked tickets via the agent ‘Aline’. The query shall return the booking of the customer even if that particular booking was made by other agents, as long as the customer once booked with agent ‘Aline’.

Question II.4 (4 Points)

Write the SQL statement that returns the airlinecode that never flies via Boston city.

Question II.5 (4.5 Points)

Write the SQL statement that returns customer names that spent more than 500 on average for ticket purchase.

Question II.6 (4.5 Points)

Write the SQL statement that returns the flightNumber from BOS to EWR whose price is less than 400 booked via the agent Aline. The price shall include agent booking fee + flight cost.

Question II.7 (4.5 Points)

Write the SQL statement that returns the customer names that have spent less than 500 on individual ticket booking.

Question II.8 (5 Points)

Write the SQL expression that returns the average price of items bought by each customer from each agent.

# III SQL updates (12 points)

Question III.1 (4 Points) Write the SQL statement that inserts UA flights with a similar schedule to AA flights.

Question III.2 (4 Points) Write the SQL statement that deletes the flights which agent ‘John ‘ did not book.

Question III.3 (4 Points) Write the SQL statement (only one statement) that increases the price of the AA flight going to Boston by 10% and reduces the price of the AA flight going to Florida by 5%