Team project report - Airline Reservation System Database

Section 1 - Project Description

The Airline Reservation System Database is a fictitious database that models the operations of a modern airline reservation system for the purpose of managing the reservation process more efficiently. The database system includes entities including, airline brands, airports, flights, passenger, booking, seats, tickets, luggage, plane, and crew members. By keeping track of multiple aspects of the reservation process, we can manage the data flow of how the customer registers for flight and the resources being used respectively. The advantages that the database system provides are managing the customer reservation effectively, assembling the information related to each reservation seamlessly, and avoiding any potential disruption of overlapped seats or flights not in operation. Other process contexts that could benefit the similar data model of the reservation system database are any processes related to booking reservations which include hotel bookings, cinema tickets reservations, and restaurant appointments.

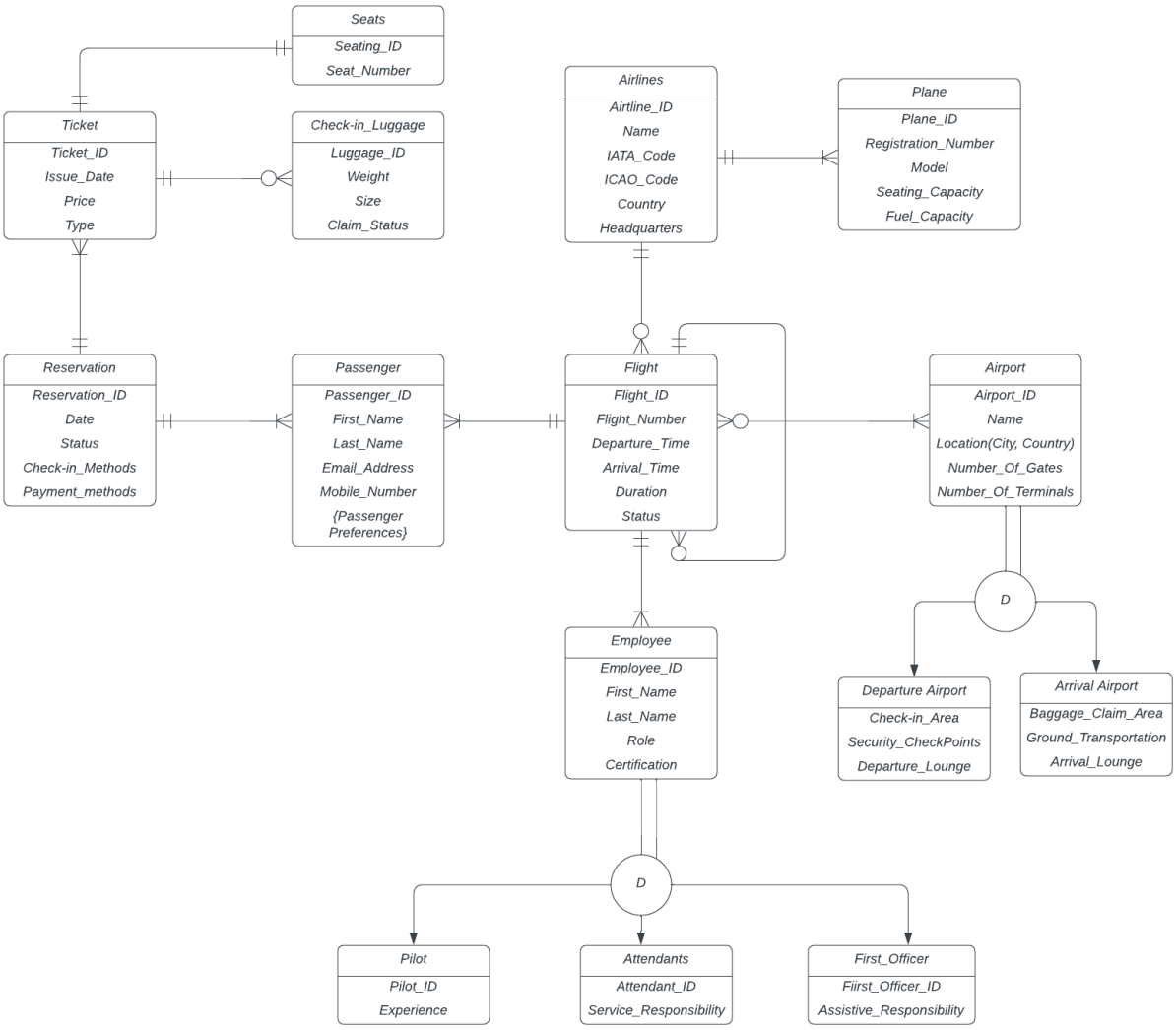
Section 2: Business Rules

1. A customer can make a reservation for multiple passengers
2. Each flight ticket can only have information on its respective seat and check-in luggage.
3. The reservation made has to have at least one passenger
4. There are two types of airports for a given flight, including departure and arrival
5. A flight can be associated with only one departure airport and one arrival airport at a given time.
6. Each flight is under only one airline brand
7. An airline can have none or many flights at a given time depending on the customer's needs.
8. An airline can have multiple planes as resources and keep track of the usability of each plane type.
9. A flight has its own crew members and each employee is only assigned to a specific flight at a given time
10. The crew members have to include at least one pilot, one first officer, and a number of flight attendants that is based on the number of passengers on the flight with each having its own respective ID for the purpose of tracking performance.

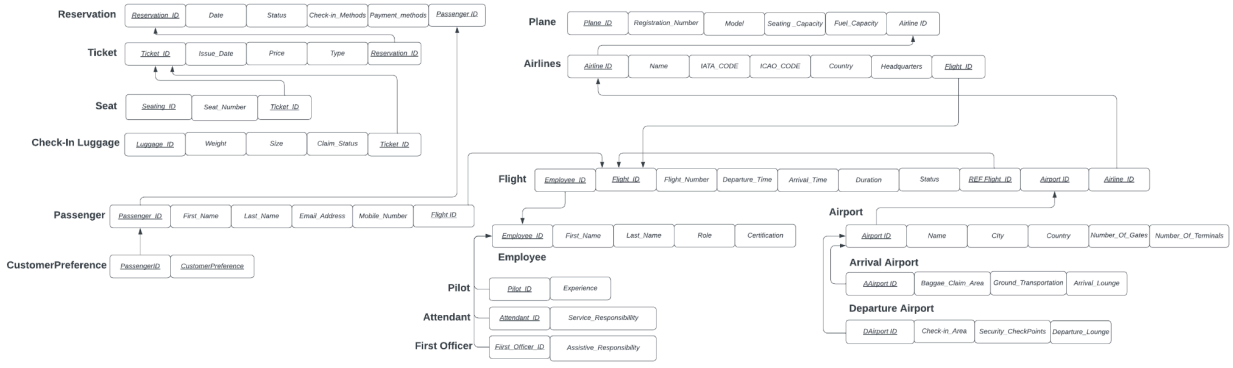
11. Passenger Preferences (Multivalued), the passenger can decide if he/she wants aisle seat, window seat, middle seat, emergency aisle, or wheelchair assistance.

Section 3: Entities Description

1. **Airline:** Captures information about the airline companies, including their name, unique ID. IATA code, ICAO code, country of origin, and headquarters location.
2. **Airport:** Represents airports with attributes like name, unique ID, location (city and country), number of gates, and number of terminals.
3. **Flight:** Records detailed flight information like Flight ID, flight number, departure time, arrival time, flight duration, and status (scheduled, delayed, arrived, canceled)
4. **Passenger:** Capturees personal information of passengers including unique ID, first name, last name, date of birth, email address, and mobile number.
5. **Reservation:** Stores reservation details like reservation ID, reservation date, status (confirmed, pending, or canceled), check-in methods, and payment methods.
6. **Seat:** Represents individual seats with attributes like seat ID, seat number, and also what class of seat it is (First class, business, or coach)
7. **Ticket:** Records ticket information such as ticket ID, ticket number, issue date, ticket price, and type (electronic or paper)
8. **Luggage:** captures luggage details including luggage ID, luggage type (checked, carry-on, special item), weight, size, and claim status
9. **Plane:** describes the aircraft used for flights with attributes like plane ID, registration number, model, seating capacity, and fuel capacity.
10. **Employee:** Represents employees working for the airline, with attributes like employee ID, first name, last name, role, and certifications(Flight license certification, CPR certification , Flight-attendant training license)



Section 4: Logical DB Design



Section 5: Database Implementation – DDL & DML

```
CREATE TABLE Airlines (
Airline_ID INT NOT NULL ,
Name VARCHAR(100) NOT NULL,
IATA_CODE VARCHAR(3),
ICAO_CODE VARCHAR(4) NOT NULL,
Country VARCHAR(100) NOT NULL,
Headquarters VARCHAR(100) DEFAULT 'Unknown',
Flight_ID INT,
CONSTRAINT PK_Airlines PRIMARY KEY (Airline_ID)
CONSTRAINT FK_FliAirID FOREIGN KEY (Flight_ID) REFERENCES Flight(Flight_ID)
);
CREATE TABLE Plane (
Plane_ID INT NOT NULL,
Registration_Number INT NOT NULL,
Model VARCHAR(50) DEFAULT 'Unknown',
Seating_Capacity INT NOT NULL,
Fuel_Capacity INT NOT NULL,
Airline_ID INT,
CONSTRAINT PK_Plane PRIMARY KEY (Plane_ID),
CONSTRAINT FK_PlaAirID FOREIGN KEY (Airline_ID) REFERENCES
Airlines(Airline_ID)
);
CREATE TABLE Airport (
Airport_ID INT PRIMARY KEY,
Name VARCHAR(100) NOT NULL,
City VARCHAR(100) NOT NULL,
Country VARCHAR(100) DEFAULT 'Unknown',
Number_Of_Gates INT NOT NULL,
Number_Of_Terminals INT NOT NULL,
AAirport_ID INT,
DAirport_ID INT,
CONSTRAINT FK_AAAirID FOREIGN KEY (AAirport_ID) REFERENCES
ArrivalAirport(AAirport_ID)
CONSTRAINT FK_DAAirID FOREIGN KEY (DAirport_ID) REFERENCES
DepartureAirport(DAirport_ID)
);
CREATE TABLE ArrivalAirport(
AAirport_ID INT PRIMARY KEY,
Bagge_Claim_Area VARCHAR(100),
```

```
Ground_Transportation VARCHAR(50) DEFAULT ‘Unknown’,
Arrival_Lounge boolean NOT NULL --True: included/False: Not included
);
CREATE TABLE DepartureAirport(
DAirport_ID INT PRIMARY KEY,
CheckIn_Area VARCHAR(100) DEFAULT ‘Unknown’,
Security_CheckPoints VARCHAR(100) NOT NULL,
Departure_Lounge boolean
);
CREATE TABLE Employee(
Employee_ID INT NOT NULL,
First_Name VARCHAR(50) NOT NULL,
Last_Name VARCHAR(50) NOT NULL,
Role VARCHAR(50) DEFAULT ‘Unknown’,
Certification VARCHAR(100) NOT NULL,
Pilot_ID INT,
Attendant_ID INT,
FirstOfficer_ID INT,
CONSTRAINT PK_Employee PRIMARY KEY (Employee_ID)
CONSTRAINT FK_PE FOREIGN KEY (Pilot_ID) REFERENCES E_Pilot(Pilot_ID)
CONSTRAINT FK_AE FOREIGN KEY (Attendant_ID) REFERENCES
E_Attendant(Attendant_ID)
CONSTRAINT FK_FOE FOREIGN KEY (FirstOfficer_ID) REFERENCES
E_FirstOfficer(FirstOfficer_ID)
);
CREATE TABLE E_Pilot(
Pilot_ID INT NOT NULL,
Experience INT,
CONSTRAINT PK_E_Pilot PRIMARY KEY (Pilot_ID)
);
CREATE TABLE E_Attendant(
Attendant_ID INT NOT NULL,
Service_Responsibility varchar(50),
CONSTRAINT PK_E_Attendant PRIMARY KEY (Attendant_ID)
);
CREATE TABLE E_FirstOfficer (
FirstOfficer_ID INT NOT NULL,
Assistive_Responsibility varchar(50),
CONSTRAINT PK_E_FirstOfficer PRIMARY KEY (FirstOfficer_ID)
);
```

```
CREATE TABLE Flight (
Flight_ID INT NOT NULL,
Flight_Number INT NOT NULL,
Departure_Time TIME NOT NULL,
Arrival_Time TIME NOT NULL,
Duration NUMERIC(10, 2) NOT NULL,
Status VARCHAR(50) DEFAULT ‘Unknown’,
Ref_Flight_ID INT,
Airport_ID INT NOT NULL,
Airline_ID INT NOT NULL,
Employee_ID INT NOT NULL,
CONSTRAINT PK_Flight PRIMARY KEY (Flight_ID),
CONSTRAINT FK_FliRefFli FOREIGN KEY (Ref_Flight_ID) REFERENCES
Flight(Flight_ID),
CONSTRAINT FK_FliAirport FOREIGN KEY (Airport_ID) REFERENCES
Airport(Airport_ID),
CONSTRAINT FK_FliAirline FOREIGN KEY (Airline_ID) REFERENCES
Airlines(Airline_ID),
CONSTRAINT FK_FliEmp FOREIGN KEY (Employee_ID) REFERENCES
Employee(Employee_ID)
);
CREATE TABLE Passenger (
Passenger_ID INTEGER NOT NULL,
First_Name VARCHAR(50) NOT NULL,
Last_Name VARCHAR(50) NOT NULL,
Email_Address VARCHAR(100) DEFAULT ‘Unknown’,
Mobile_Number VARCHAR(20) NOT NULL,
Flight_ID INT,
CONSTRAINT PK_Passenger PRIMARY KEY (Passenger_ID),
CONSTRAINT FK_PassFli FOREIGN KEY (Flight_ID) REFERENCES Flight(Flight_ID)
);
CREATE TABLE CustomerPreference(
Customer_Preference VARCHAR(50) NOT NULL,
Passenger_ID INT NOT NULL,
PRIMARY KEY (Customer_Preference, Passenger_ID)
);
CREATE TABLE Reservation (
Reservation_ID INT NOT NULL,
Date DATE NOT NULL,
Status VARCHAR(20) DEFAULT ‘Unknown’,
```

```
Check_in_Methods VARCHAR(100) NOT NULL,
Payment_methods VARCHAR(100) NOT NULL,
Passenger_ID INT,
CONSTRAINT PK_Reservation PRIMARY KEY (Reservation_ID),
CONSTRAINT FK_ResPas FOREIGN KEY (Passenger_ID) REFERENCES
Passenger(Passenger_ID)
);
CREATE TABLE Ticket (
Ticket_ID INT NOT NULL,
Issue_Date DATE NOT NULL,
Price DECIMAL(10, 2) NOT NULL DEFAULT 0,
Type VARCHAR(50) NOT NULL,
Reservation_ID INT,
CONSTRAINT PK_Ticket PRIMARY KEY (Ticket_ID),
CONSTRAINT FK_TicRes FOREIGN KEY (Reservation_ID) REFERENCES
Reservation(Reservation_ID)
);
CREATE TABLE Seat(
Seating_ID INT NOT NULL,
Seat_Number INT DEFAULT 0,
Ticket_ID INT,
CONSTRAINT PK_Seat PRIMARY KEY (Seating_ID),
CONSTRAINT FK_SeaT_Ticket FOREIGN KEY (Ticket_ID) REFERENCES
Ticket(Ticket_ID)
);
CREATE TABLE Check_In_Luggage (
Luggage_ID INT NOT NULL,
Weight DECIMAL(10, 2) NOT NULL,
Size VARCHAR(20) NOT NULL,
Claim_Status VARCHAR(20) DEFAULT ‘Unknown’,
Ticket_ID INT,
CONSTRAINT PK_Check_In_Luggage PRIMARY KEY (Luggage_ID),
CONSTRAINT FK_CilTic FOREIGN KEY (Ticket_ID) REFERENCES Ticket(Ticket_ID)
);
```

Section 5.1: INSERTION

```
INSERT INTO Airlines (Airline_ID, Name, IATA_CODE, ICAO_CODE, Country,
Headquarters)
VALUES
(1, 'EVA Air', 'BR', 'EVA', 'Taiwan', 'Taipei'),
```

(2, 'Japan Airlines', 'JL', 'JAL', 'Japan', 'Tokyo'),
(3, 'China Airlines', 'CI', 'CAL', 'Taiwan', 'Taipei'),
(4, 'American Airlines', 'AA', 'AAL', 'United States', 'Fort Worth, Texas'),
(5, 'United Airlines', 'UA', 'UAL', 'United States', 'Chicago, Illinois'),
(6, 'Delta Air Lines', 'DL', 'DAL', 'United States', 'Atlanta, Georgia'),
(7, 'Air Canada', 'AC', 'ACA', 'Canada', 'Montreal, Quebec'),
(8, 'IndiGo', '6E', 'IGO', 'India', 'Gurugram'),
(9, 'Korean Air', 'KE', 'KAL', 'South Korea', 'Seoul'),
(10, 'Singapore Airlines', 'SQ', 'SIA', 'Singapore', 'Singapore');

INSERT INTO Flight(Flight_ID, Flight_Number, Departure_Time, Arrival_Time, Duration, Status, Ref_Flight_ID, Airport_ID, Airline_ID, Employee_ID)
VALUES
(1, 'BR001', '08:00:00', '10:00:00', 2, 'On Time', NULL, 101, 1,1),
(2, 'JL002', '09:00:00', '12:30:00', 3.5, 'Delayed', NULL, 102, 2,2),
(3, 'CI003', '10:00:00', '14:00:00', 4, 'On Time', NULL, 103, 3,3),
(4, 'AA004', '11:30:00', '15:00:00', 3.5, 'On Time', NULL, 104, 4,4),
(5, 'UA005', '12:00:00', '15:30:00', 3.5, 'On Time', NULL, 105, 5,5),
(6, 'DL006', '13:00:00', '16:00:00', 3, 'Canceled', NULL, 106, 6,6),
(7, 'AC007', '14:00:00', '18:00:00', 4, 'On Time', NULL, 107, 7,7),
(8, '6E008', '15:00:00', '18:30:00', 3.5, 'Delayed', NULL, 108, 8,8),
(9, 'KE009', '16:00:00', '20:00:00', 4, 'On Time', NULL, 109, 9,9),
(10, 'SQ010', '17:00:00', '21:00:00', 4, 'On Time', NULL, 110, 10,10);

-- Inserting into ArrivalAirport table
INSERT INTO ArrivalAirport (AAirport_ID, Bagge_Claim_Area, Ground_Transportation, Arrival_Lounge)
VALUES
(101, 'Area A', 'Shuttle, Taxi, Bus', TRUE), -- Taipei
(102, 'Area B', 'Taxi, Bus', TRUE), -- Tokyo
(103, 'Area C', 'Subway, Taxi, Bus', FALSE), -- Beijing

(104, 'Area D', 'Shuttle, Taxi, Bus', TRUE), -- Dallas/Fort Worth
(105, 'Area E', 'Shuttle, Subway', FALSE), -- Chicago O'Hare
(106, 'Area F', 'Taxi, Bus', TRUE), -- Atlanta
(107, 'Area G', 'Shuttle, Taxi, Bus', TRUE), -- Toronto Pearson
(108, 'Area H', 'Taxi, Auto Rickshaw, Bus', FALSE), -- Delhi
(109, 'Area I', 'Shuttle, Subway', TRUE), -- Incheon
(110, 'Area J', 'Taxi, Bus', TRUE); -- Singapore Changi

-- Inserting into DepartureAirport table
INSERT INTO DepartureAirport (DAirport_ID, CheckIn_Area, Security_CheckPoints, Departure_Lounge)
VALUES
(101, 'Check-in Zone A', 'Checkpoint 1', TRUE), -- Taipei
(102, 'Check-in Zone B', 'Checkpoint 2', FALSE), -- Tokyo
(103, 'Check-in Zone C', 'Checkpoint 3', TRUE), -- Beijing
(104, 'Check-in Zone D', 'Checkpoint 4', TRUE), -- Dallas/Fort Worth
(105, 'Check-in Zone E', 'Checkpoint 5', FALSE), -- Chicago O'Hare
(106, 'Check-in Zone F', 'Checkpoint 6', TRUE), -- Atlanta
(107, 'Check-in Zone G', 'Checkpoint 7', TRUE), -- Toronto Pearson
(108, 'Check-in Zone H', 'Checkpoint 8', TRUE), -- Delhi
(109, 'Check-in Zone I', 'Checkpoint 9', TRUE), -- Incheon
(110, 'Check-in Zone J', 'Checkpoint 10', TRUE); -- Singapore Changi

INSERT INTO Airport (Airport_ID, Name, City, Country, Number_Of_Gates, Number_Of_Terminals, AAirport_ID, DAirport_ID)
VALUES
(101, 'Taipei Taoyuan International Airport', 'Taipei', 'Taiwan', 60, 2, 101, 101),
(102, 'Tokyo Haneda Airport', 'Tokyo', 'Japan', 90, 3, 102, 102),
(103, 'Beijing Capital International Airport', 'Beijing', 'China', 120, 3, 103, 103),
(104, 'Dallas/Fort Worth International Airport', 'Dallas', 'United States', 175, 5, 104, 104),
(105, 'Chicago OHare International Airport', 'Chicago', 'United States', 191, 5, 105, 105),

(106, 'Hartsfield-Jackson Atlanta International Airport', 'Atlanta', 'United States', 207, 7, 106, 106),
(107, 'Toronto Pearson International Airport', 'Toronto', 'Canada', 97, 2, 107, 107),
(108, 'Indira Gandhi International Airport', 'Delhi', 'India', 78, 3, 108, 108),
(109, 'Incheon International Airport', 'Incheon', 'South Korea', 111, 4, 109, 109),
(110, 'Singapore Changi Airport', 'Singapore', 'Singapore', 80, 4, 110, 110);

INSERT INTO Plane (Plane_ID, Registration_Number, Model, Seating_Capacity, Fuel_Capacity, Airline_ID)
VALUES
(1, 12345, 'Boeing 737', 180, 26000, 1), -- EVA Air
(2, 12346, 'Airbus A320', 180, 24000, 2), -- Japan Airlines
(3, 12347, 'Boeing 777', 396, 32000, 3), -- China Airlines
(4, 12348, 'Airbus A380', 853, 32000, 4), -- American Airlines
(5, 12349, 'Boeing 787', 242, 23000, 5), -- United Airlines
(6, 12350, 'Airbus A330', 290, 24000, 6), -- Delta Air Lines
(7, 12351, 'Airbus A220', 130, 21000, 7), -- Air Canada
(8, 12352, 'ATR 72', 70, 9000, 8), -- IndiGo
(9, 12353, 'Boeing 747', 416, 32000, 9), -- Korean Air
(10, 12354, 'Boeing 787', 242, 24000, 10); -- Singapore Airlines

INSERT INTO E_Pilot (Pilot_ID, Experience)
VALUES
(1, 10), -- 10 years of experience
(2, 5),   -- 5 years of experience
(3, 8),   -- 8 years of experience
(4, 15); -- 15 years of experience

INSERT INTO E_Attendant (Attendant_ID,Service_Responsibility)
VALUES
(1,'Cabin Safety'), -- 3 years of experience, references Employee_ID 2

```
(2,'Customer Service'),  -- 2 years of experience, references Employee_ID 4
(3, 'In-flight Services');  -- 4 years of experience, references Employee_ID 6

INSERT INTO E_FirstOfficer (FirstOfficer_ID,Assistive_Responsibility)
VALUES
(1, 'Flight Operations'),  -- 7 years of experience, references Employee_ID 3
(2, 'Co-Pilot Duties');  -- 6 years of experience, references Employee_ID 7

-- Inserting into Employee table with roles for 10 flights
INSERT INTO Employee (Employee_ID, First_Name, Last_Name, Role, Certification, Pilot_ID, Attendant_ID, FirstOfficer_ID)
VALUES
-- Example insertion for unique and valid employee data
(1, 'John', 'Doe', 'Pilot', 'Commercial Pilot License', 1, NULL, NULL),  -- Valid "Pilot_ID"
(2, 'Jane', 'Smith', 'Flight Attendant', 'Flight Attendant Certificate', NULL, 1, NULL),  -- Valid "Attendant_ID"
(3, 'Alex', 'Johnson', 'First Officer', 'First Officer License', NULL, NULL, 1),  -- Valid "FirstOfficer_ID"
(4, 'Mary', 'Brown', 'Flight Attendant', 'Flight Attendant Certificate', NULL, 2, NULL),  -- Unique "Employee_ID"
(5, 'Chris', 'Evans', 'Pilot', 'Commercial Pilot License', 2, NULL, NULL),  -- Unique and consistent data
(6, 'Sophia', 'Williams', 'Flight Attendant', 'Flight Attendant Certificate', NULL, 3, NULL),  -- Example insertion
(7, 'Emily', 'Davis', 'Pilot', 'Airline Transport Pilot License', 3, NULL, NULL),  -- Unique `Employee_ID`, references `Pilot_ID` 3
(8, 'Michael', 'Jones', 'Flight Attendant', 'Advanced Flight Attendant Certificate', NULL, 2, NULL),  -- References `Attendant_ID` 2
(9, 'Olivia', 'Brown', 'First Officer', 'First Officer License', NULL, NULL, 2),  -- References `FirstOfficer_ID` 2
```

(10, 'David', 'Taylor', 'Pilot', 'Commercial Pilot License', 4, NULL, NULL); -- References `Pilot_ID` 4

INSERT INTO Passenger (Passenger_ID, First_Name, Last_Name, Email_Address, Mobile_Number, Flight_ID)
VALUES
(1, 'Alice', 'Johnson', 'alice.johnson@example.com', '123-456-7890', 1), -- Passenger for Flight 1 (BR001)
(2, 'Bob', 'Smith', 'bob.smith@example.com', '234-567-8901', 2), -- Passenger for Flight 2 (JL002)
(3, 'Charlie', 'Brown', 'charlie.brown@example.com', '345-678-9012', 3), -- Passenger for Flight 3 (CI003)
(4, 'Diana', 'Jones', 'diana.jones@example.com', '456-789-0123', 4), -- Passenger for Flight 4 (AA004)
(5, 'Edward', 'Williams', 'edward.williams@example.com', '567-890-1234', 5), -- Passenger for Flight 5 (UA005)
(6, 'Fiona', 'Davis', 'fiona.davis@example.com', '678-901-2345', 6), -- Passenger for Flight 6 (DL006)
(7, 'George', 'Garcia', 'george.garcia@example.com', '789-012-3456', 7), -- Passenger for Flight 7 (AC007)
(8, 'Helen', 'Martinez', 'helen.martinez@example.com', '890-123-4567', 8), -- Passenger for Flight 8 (6E008)
(9, 'Ivan', 'Rodriguez', 'ivan.rodriguez@example.com', '901-234-5678', 9), -- Passenger for Flight 9 (KE009)
(10, 'Julia', 'Taylor', 'julia.taylor@example.com', '012-345-6789', 10); -- Passenger for Flight 10 (SQ010)

-- Inserting into CustomerPreference
INSERT INTO CustomerPreference (Customer_Preference, Passenger_ID)
VALUES
('Aisle Seat', 1), -- Alice Johnson prefers an aisle seat (Passenger_ID 1)

('Vegetarian Meal', 2), -- Bob Smith prefers vegetarian meals (Passenger_ID 2)
('Window Seat', 3), -- Charlie Brown prefers a window seat (Passenger_ID 3)
('Extra Legroom', 4), -- Diana Jones prefers extra legroom (Passenger_ID 4)
('Low-Fat Meal', 5), -- Edward Williams prefers low-fat meals (Passenger_ID 5)
('Window Seat', 6), -- Fiona Davis prefers a window seat (Passenger_ID 6)
('Aisle Seat', 7), -- George Garcia prefers an aisle seat (Passenger_ID 7)
('No Nuts', 8), -- Helen Martinez has a nut allergy (Passenger_ID 8)
('Extra Legroom', 9), -- Ivan Rodriguez prefers extra legroom (Passenger_ID 9)
('Vegetarian Meal', 10); -- Julia Taylor prefers vegetarian meals (Passenger_ID 10)
INSERT INTO Reservation (Reservation_ID, Date, Status, Check_in_Methods, Payment_methods, Passenger_ID)
VALUES
(1, '2024-05-10', 'Confirmed', 'Online, Kiosk', 'Credit Card', 1), -- Reservation for Alice Johnson
(2, '2024-05-11', 'Confirmed', 'Mobile App', 'PayPal, Credit Card', 2), -- Reservation for Bob Smith
(3, '2024-05-12', 'Pending', 'Desk, Kiosk', 'Debit Card', 3), -- Reservation for Charlie Brown
(4, '2024-05-13', 'Canceled', 'Desk', 'Cash', 4), -- Reservation for Diana Jones
(5, '2024-05-14', 'Confirmed', 'Mobile App, Desk', 'Credit Card, Cash', 5), -- Reservation for Edward Williams
(6, '2024-05-15', 'Confirmed', 'Online, Mobile App', 'Credit Card', 6), -- Reservation for Fiona Davis
(7, '2024-05-16', 'Confirmed', 'Kiosk', 'Debit Card', 7), -- Reservation for George Garcia
(8, '2024-05-17', 'Pending', 'Desk', 'Credit Card', 8), -- Reservation for Helen Martinez
(9, '2024-05-18', 'Confirmed', 'Mobile App', 'Credit Card, Cash', 9), -- Reservation for Ivan Rodriguez
(10, '2024-05-19', 'Confirmed', 'Online', 'Credit Card, PayPal', 10); -- Reservation for Julia Taylor
INSERT INTO Ticket (Ticket_ID, Issue_Date, Price, Type, Reservation_ID)
VALUES
(1, '2024-05-10', 250.00, 'Economy', 1), -- Ticket for Reservation 1
(2, '2024-05-11', 350.00, 'Business', 2), -- Ticket for Reservation 2

```
(3, '2024-05-12', 150.00, 'Economy', 3),  -- Ticket for Reservation 3
(4, '2024-05-13', 400.00, 'First Class', 4),  -- Ticket for Reservation 4
(5, '2024-05-14', 200.00, 'Economy', 5),  -- Ticket for Reservation 5
(6, '2024-05-15', 300.00, 'Business', 6),  -- Ticket for Reservation 6
(7, '2024-05-16', 180.00, 'Economy', 7),  -- Ticket for Reservation 7
(8, '2024-05-17', 250.00, 'Business', 8),  -- Ticket for Reservation 8
(9, '2024-05-18', 275.00, 'Economy', 9),  -- Ticket for Reservation 9
(10, '2024-05-19', 425.00, 'First Class', 10);  -- Ticket for Reservation 10
INSERT INTO Seat (Seating_ID, Seat_Number, Ticket_ID)
VALUES
(1, 12, 1),  -- Seat for Ticket_ID 1
(2, 25, 2),  -- Seat for Ticket_ID 2
(3, 3, 3),  -- Seat for Ticket_ID 3
(4, 7, 4),  -- Seat for Ticket_ID 4
(5, 42, 5),  -- Seat for Ticket_ID 5
(6, 18, 6),  -- Seat for Ticket_ID 6
(7, 29, 7),  -- Seat for Ticket_ID 7
(8, 33, 8),  -- Seat for Ticket_ID 8
(9, 15, 9),  -- Seat for Ticket_ID 9
(10, 48, 10);  -- Seat for Ticket_ID 10
INSERT INTO Check_In_Luggage (Luggage_ID, Weight, Size, Claim_Status, Ticket_ID)
VALUES
(1, 23.5, 'Medium', 'Not Claimed', 1),  -- Luggage for Ticket 1
(2, 18.0, 'Small', 'Claimed', 2),  -- Luggage for Ticket 2
(3, 25.0, 'Large', 'Not Claimed', 3),  -- Luggage for Ticket 3
(4, 19.5, 'Medium', 'Claimed', 4),  -- Luggage for Ticket 4
(5, 22.0, 'Medium', 'Not Claimed', 5),  -- Luggage for Ticket 5
(6, 26.5, 'Large', 'Not Claimed', 6),  -- Luggage for Ticket 6
(7, 20.0, 'Medium', 'Claimed', 7),  -- Luggage for Ticket 7
(8, 24.0, 'Medium', 'Not Claimed', 8),  -- Luggage for Ticket 8
(9, 17.5, 'Small', 'Claimed', 9),  -- Luggage for Ticket 9
```

(10, 21.0, 'Medium', 'Claimed', 10); -- Luggage for Ticket 10

Section 5.2: UPDATING

```
-- Change an employee's role
UPDATE Employee
SET Role = 'Captain'
WHERE Employee_ID = 1;
-- Change the number of gates
UPDATE Airport
SET Number_Of_Gates = 65
WHERE Airport_ID = 101;
-- Update flight status
UPDATE Flight
SET Status = 'Delayed'
WHERE Flight_ID = 4;
-- Change the ticket price
UPDATE Ticket
SET Price = 280.00
WHERE Ticket_ID = 2;
-- Correct a passenger's mobile number
UPDATE Passenger
SET Mobile_Number = '345-678-9012'
WHERE Passenger_ID = 3;
-- Change the claim status
UPDATE Check_In_Luggage
SET Claim_Status = 'Claimed'
WHERE Luggage_ID = 1;
-- Change the ground transportation options
UPDATE ArrivalAirport
SET Ground_Transportation = 'Shuttle, Taxi'
WHERE AAirport_ID = 101;
-- Change check-in area details
```

```
UPDATE DepartureAirport
SET CheckIn_Area = 'Check-in Zone B'
WHERE DAirport_ID = 102;
-- Change the number of terminals
UPDATE Airport
SET Number_Of_Terminals = 3
WHERE Airport_ID = 105;
-- Update certification for a flight attendant
UPDATE Employee
SET Certification = 'Advanced Flight Attendant Certificate'
WHERE Employee_ID = 6;
-- Change the departure time
UPDATE Flight
SET Departure_Time = '08:30:00'
WHERE Flight_ID = 1;
-- Change ticket type
UPDATE Ticket
SET Type = 'Premium Economy'
WHERE Ticket_ID = 7;
-- Change email address
UPDATE Passenger
SET Email_Address = 'charlie.brown@newdomain.com'
WHERE Passenger_ID = 3;
-- Update luggage size
UPDATE Check_In_Luggage
SET Size = 'Extra Large'
WHERE Luggage_ID = 6;
-- Add arrival lounge information
UPDATE ArrivalAirport
SET Arrival_Lounge = TRUE
WHERE AAirport_ID = 102;
```

```
-- Change security checkpoints
UPDATE DepartureAirport
SET Security_CheckPoints = 'Checkpoint 3, Checkpoint 4'
WHERE DAirport_ID = 105;
-- Correct city information
UPDATE Airport
SET City = 'New York'
WHERE Airport_ID = 104;
-- Correct last name
UPDATE Employee
SET Last_Name = 'Doe'
WHERE Employee_ID = 1;
-- Update the airline
UPDATE Flight
SET Airline_ID = 3
WHERE Flight_ID = 10;
-- Change the issue date
UPDATE Ticket
SET Issue_Date = '2024-05-20'
WHERE Ticket_ID = 4;
-- Change first name
UPDATE Passenger
SET First_Name = 'Christopher'
WHERE Passenger_ID = 5;
-- Change weight
UPDATE Check_In_Luggage
SET Weight = 21.50
WHERE Luggage_ID = 2;
-- Modify baggage claim area
UPDATE ArrivalAirport
SET Bagge_Claim_Area = 'Area B'
```

```
WHERE AAirport_ID = 101;
-- Change departure lounge status
UPDATE DepartureAirport
SET Departure_Lounge = FALSE
WHERE DAirport_ID = 106;
-- Change the airport name
UPDATE Airport
SET Name = 'JFK International Airport'
WHERE Airport_ID = 104;
```

Section 6- Reports:

Report 1: Report airports with flights departing.

```sql
SELECT
  a.Airport_ID,
  a.Name,
  a.City,
  a.Country
FROM
  Airport a
WHERE
  EXISTS (
    SELECT 1
    FROM Flight f
    WHERE f.Airport_ID = a.Airport_ID  -- Subquery to check for departing flights
  );
```

Grid view | Form view

Total rows loaded: 10

	Airport ID	Name	City	Country
1	101	Taipei Taoyuan International Airport	Taipei	Taiwan
2	102	Tokyo Haneda Airport	Tokyo	Japan
3	103	Beijing Capital International Airport	Beijing	China
4	104	JFK International Airport	New York	United States
5	105	Chicago OHare International Airport	Chicago	United States
6	106	Hartsfield-Jackson Atlanta International Airport	Atlanta	United States
7	107	Toronto Pearson International Airport	Toronto	Canada
8	108	Indira Gandhi International Airport	Delhi	India
9	109	Incheon International Airport	Incheon	South Korea
10	110	Singapore Changi Airport	Singapore	Singapore

Report 2: Report all flights with or without checked-in luggage

```sql
SELECT
  f.Flight_ID,
  f.Flight_Number,
  l.Luggage_ID,
  l.Weight
FROM
  Flight f
  LEFT OUTER JOIN Check_In_Luggage l ON f.Flight_ID = l.Ticket_ID;

```

Grid view | Form view

Total rows loaded: 10

	Flight ID	Flight Number	Luggage ID	Weight
1	1	BR001	1	23.5
2	2	JL002	2	21.5
3	3	CI003	3	25
4	4	AA004	4	19.5
5	5	UA005	5	22
6	6	DL006	6	26.5
7	7	AC007	7	20
8	8	600000000	8	24
9	9	KE009	9	17.5
10	10	SQ010	10	21

Report 3: Report flight number with its respective airline name, and check-in area

```sql
SELECT
  f.Flight_Number,
  a.Name AS Airline_Name,
  d.CheckIn_Area
FROM
  Flight f
  INNER JOIN Airlines a ON f.Airline_ID = a.Airline_ID  -- Inner join
  LEFT OUTER JOIN DepartureAirport d ON f.Airport_ID = d.DAirport_ID;

```

Grid view | Form view

Total rows loaded: 10

	Flight_Number	Airline_Name	CheckIn_Area
1	BR001	EVA Air	Check-in Zone A
2	JL002	Japan Airlines	Check-in Zone B
3	CI003	China Airlines	Check-in Zone C
4	AA004	American Airlines	Check-in Zone D
5	UA005	United Airlines	Check-in Zone E
6	DL006	Delta Air Lines	Check-in Zone F
7	AC007	Air Canada	Check-in Zone G
8	600000000	IndiGo	Check-in Zone H
9	KE009	Korean Air	Check-in Zone I
10	SQ010	China Airlines	Check-in Zone J

Report 4: Report flights that are not delayed

Query History

```sql
SELECT
  Flight_ID,
  Flight_Number,
  Departure_Time,
  Arrival_Time
FROM
  Flight
WHERE
  Flight_ID NOT IN (
    SELECT Flight_ID
    FROM Flight
    WHERE Status = 'Delayed'  -- Excluding delayed flights
  );
```

Grid view | Form view

Total rows loaded: 7

	Flight ID	Flight Number	Departure Time	Arrival Time
1	1	BR001	08:30:00	10:00:00
2	3	CI003	10:00:00	14:00:00
3	5	UA005	12:00:00	15:30:00
4	6	DL006	13:00:00	16:00:00
5	7	AC007	14:00:00	18:00:00
6	9	KE009	16:00:00	20:00:00
7	10	SQ010	17:00:00	21:00:00

Report 5: Report a ticket's details for "AA004" flight

```sql
SELECT t.Ticket_ID, t.Issue_Date, t.Price, t.Type, f.Flight_Number
FROM Ticket t
JOIN Flight f ON t.Ticket_ID = f.Flight_ID
WHERE f.Flight_Number = 'AA004';
```

Grid view | Form view

Total rows loaded: 1

	Ticket ID	Issue Date	Price	Type	Flight Number
1	4	2024-05-20	400	First Class	AA004

Report 6: Report the pilots' first and last name along with their experience

```
1 SELECT e.First_Name, e.Last_Name, p.Experience
2 FROM Employee e
3 JOIN E_Pilot p ON e.Pilot_ID = p.Pilot_ID
4 WHERE e.Role = 'Pilot';
5
```

Grid view | Form view

Total rows loaded: 3

	First Name	Last Name	Experience
1	Chris	Evans	5
2	Emily	Davis	8
3	David	Taylor	15

Report 7: Report the number of passenger on each flight

```
1 SELECT f.Flight_Number, COUNT(p.Passenger_ID) AS Passenger_Count
2 FROM Flight f
3 JOIN Passenger p ON f.Flight_ID = p.Flight_ID
4 GROUP BY f.Flight_Number
5 ORDER BY Passenger_Count DESC;
6
```

Grid view | Form view

Total rows loaded: 10

	Flight Number	Passenger Count
1	UA005	1
2	SQ010	1
3	KE009	1
4	JL002	1
5	DL006	1
6	CI003	1
7	BR001	1
8	AC007	1
9	AA004	1
10	600000000	1

Report 8: Report flights with employees as attendant

```sql
SELECT
  f.Flight_ID,
  f.Flight_Number,
  f.Departure_Time,
  f.Arrival_Time
FROM
  Flight f
WHERE
  f.Employee_ID IN (
    SELECT e.Employee_ID
    FROM Employee e
    WHERE e.Role = 'Flight Attendant'  -- Find flights with flight attendants
  );
```

Grid view | Form view

Total rows loaded: 4

	Flight ID	Flight Number	Departure Time	Arrival Time
1	2	JL002	09:00:00	12:30:00
2	4	AA004	11:30:00	15:00:00
3	6	DL006	13:00:00	16:00:00
4	8	600000000	15:00:00	18:30:00

Report 9: Report a union of departing and arrival flights

Query History

```sql
-- Query for departing flights
SELECT
  f.Flight_ID,
  f.Flight_Number,
  'Departure' AS Flight_Type,
  da.CheckIn_Area AS CheckIn_Area
FROM
  Flight f
  LEFT OUTER JOIN DepartureAirport da ON f.Airport_ID = da.DAirport_ID

UNION ALL  -- Use UNION ALL to retain duplicates if needed

-- Query for arriving flights
SELECT
  f.Flight_ID,
  f.Flight_Number,
  'Arrival' AS Flight_Type,
  aa.Bagge_Claim_Area AS CheckIn_Area
FROM
  Flight f
  LEFT OUTER JOIN ArrivalAirport aa ON f.Airport_ID = aa.AAirport_ID;
```

Grid view | Form view

Total rows loaded: 20

	Flight ID	Flight Number	Flight Type	CheckIn Area
1	1	BR001	Departure	Check-in Zone A
2	2	JL002	Departure	Check-in Zone B
3	3	CI003	Departure	Check-in Zone C
4	4	AA004	Departure	Check-in Zone D
5	5	UA005	Departure	Check-in Zone E
6	6	DL006	Departure	Check-in Zone F
7	7	AC007	Departure	Check-in Zone G
8	8	600000000	Departure	Check-in Zone H
9	9	KE009	Departure	Check-in Zone I
10	10	SQ010	Departure	Check-in Zone J
11	1	BR001	Arrival	Area B
12	2	JL002	Arrival	Area B
13	3	CI003	Arrival	Area C
14	4	AA004	Arrival	Area D

Report 10: Report average luggage weight for specific flights

```sql
SELECT
  f.Flight_Number,
  AVG(l.Weight) AS Average_Weight
FROM
  Flight f
  JOIN Check_In_Luggage l ON f.Flight_ID = l.Ticket_ID
GROUP BY
  f.Flight_Number
HAVING
  f.Flight_Number IN ('BR001', 'JL002');  -- Only specific flight numbers

```

Grid view | Form view

Total rows loaded: 2

	Flight Number	Average Weight
1	BR001	23.5
2	JL002	21.5

Report 11: Report each customer with their customer preferences.

```sql
SELECT p.First_Name, p.Last_Name, cp.Customer_Preference
FROM Passenger p
JOIN CustomerPreference cp ON p.Passenger_ID = cp.Passenger_ID;


```

Grid view | Form view

Total rows loaded: 10

	First Name	Last Name	Customer Preference
1	Alice	Johnson	Aisle Seat
2	Bob	Smith	Vegetarian Meal
3	Charlie	Brown	Window Seat
4	Diana	Jones	Extra Legroom
5	Christopher	Williams	Low-Fat Meal
6	Fiona	Davis	Window Seat
7	George	Garcia	Aisle Seat
8	Helen	Martinez	No Nuts
9	Ivan	Rodriguez	Extra Legroom
10	Julia	Taylor	Vegetarian Meal

Report 12: Report flight that has status “On Time’ and Duration that is larger than or equal to 2

```sql
SELECT
  Flight_ID,
  Flight_Number,
  Status,
  Duration
FROM
  Flight
WHERE
  Status = 'On Time'  -- Must be on time
  AND Duration >= 2;  -- Must have a minimum duration of 2 hours

```

Grid view | Form view

Total rows loaded: 6

	Flight ID	Flight Number	Status	Duration
1	1	BR001	On Time	2
2	3	CI003	On Time	4
3	5	UA005	On Time	3.5
4	7	AC007	On Time	4
5	9	KE009	On Time	4
6	10	SQ010	On Time	4

Report 13: Report the numbers of each customer preference

Query History

```
1 SELECT cp.Customer_Preference, COUNT(cp.Passenger_ID) AS Preference_Count
2 FROM CustomerPreference cp
3 GROUP BY cp.Customer_Preference
4 ORDER BY Preference_Count DESC;
5
```

Grid view Form view

Total rows loaded: 6

	Customer Preference	Preference Count
1	Aisle Seat	2
2	Extra Legroom	2
3	Vegetarian Meal	2
4	Window Seat	2
5	Low-Fat Meal	1
6	No Nuts	1

Report 14: Report each flight by its airline and departure time

```
1 SELECT a.Name AS Airline, f.Flight_Number, f.Departure_Time
2 FROM Flight f
3 JOIN Airlines a ON f.Airline_ID = a.Airline_ID;
4
5
```

Grid view Form view

Total rows loaded: 10

	Airline	Flight Number	Departure Time
1	EVA Air	BR001	08:30:00
2	Japan Airlines	JL002	09:00:00
3	China Airlines	CI003	10:00:00
4	American Airlines	AA004	11:30:00
5	United Airlines	UA005	12:00:00
6	Delta Air Lines	DL006	13:00:00
7	Air Canada	AC007	14:00:00
8	IndiGo	600000000	15:00:00
9	Korean Air	KE009	16:00:00
10	China Airlines	SQ010	17:00:00

Report 15: Report flight details in a specified flight number range

```
Query  History
1 SELECT Flight_ID,Flight_Number, Departure_Time,Arrival_Time,Duration,Status FROM Flight
2 WHERE Flight_Number IN ('BR001', 'JL002', 'CI003');  -- Select flights with specific flight numbers
3
```

Grid view | Form view

Total rows loaded: 3

	Flight ID	Flight Nun	Departure	Arrival Tim	Duration	Status
1	1	BR001	08:30:00	10:00:00	2	On Time
2	3	CI003	10:00:00	14:00:00	4	On Time
3	2	JL002	09:00:00	12:30:00	3.5	Delayed

Report 16: Report all flights with their airlines and departure airports information

```
1 SELECT
2   f.Flight_ID,
3   f.Flight_Number,
4   a.Name AS Airline_Name,
5   d.CheckIn_Area AS Departure_CheckIn_Area,
6   d.Security_CheckPoints AS Security_Checkpoints,
7   f.Departure_Time,
8   f.Arrival_Time
9 FROM
0   Flight f  -- Alias for "Flight" table
1   JOIN Airlines a ON f.Airline_ID = a.Airline_ID  -- Alias for "Airlines" tal
2   LEFT JOIN DepartureAirport d ON f.Airport_ID = d.DAirport_ID;  -- Alias for
3
```

Grid view | Form view

Total rows loaded: 10

	Flight ID	Flight Nui	Airline Name	Departure Check	Security Checkpoints	Departure	Arrival Tir
	1	BR001	EVA Air	Check-in Zone A	Checkpoint 1	08:30:00	10:00:00
	2	JL002	Japan Airlines	Check-in Zone B	Checkpoint 2	09:00:00	12:30:00
	3	CI003	China Airlines	Check-in Zone C	Checkpoint 3	10:00:00	14:00:00
	4	AA004	American Airlines	Check-in Zone D	Checkpoint 4	11:30:00	15:00:00
	5	UA005	United Airlines	Check-in Zone E	Checkpoint 3, Checkpoint 4	12:00:00	15:30:00
	6	DL006	Delta Air Lines	Check-in Zone F	Checkpoint 6	13:00:00	16:00:00
	7	AC007	Air Canada	Check-in Zone G	Checkpoint 7	14:00:00	18:00:00
	8	600000000	IndiGo	Check-in Zone H	Checkpoint 8	15:00:00	18:30:00
	9	KE009	Korean Air	Check-in Zone I	Checkpoint 9	16:00:00	20:00:00
0	10	SQ010	China Airlines	Check-in Zone J	Checkpoint 10	17:00:00	21:00:00

Report 17: Report all the tickets in a specified range

```
Query  History
1 SELECT t.Ticket_ID, t.Issue_Date, t.Type
2 FROM Ticket t
3 WHERE t.Issue_Date BETWEEN '2024-05-10' AND '2024-05-15';
4
```

Grid view | Form view

Total rows loaded: 5

	Ticket ID	Issue Date	Type
1	1	2024-05-10	Economy
2	2	2024-05-11	Business
3	3	2024-05-12	Economy
4	5	2024-05-14	Economy
5	6	2024-05-15	Business

Report 18: Report all employees who are attendants.

```
Query  History
SELECT Employee_ID,First_Name, Last_Name,Role,  Certification FROM Employee
WHERE
  Role = 'Flight Attendant';
```

Grid view | Form view

Total rows loaded: 4

	Employee ID	First Name	Last Name	Role	Certification
1	2	Jane	Smith	Flight Attendant	Flight Attendant Certificate
2	4	Mary	Brown	Flight Attendant	Flight Attendant Certificate
3	6	Sophia	Williams	Flight Attendant	Advanced Flight Attendant Certificate
4	8	Michael	Jones	Flight Attendant	Advanced Flight Attendant Certificate

Report 19: Report passenger whose first name is Alice

```
1 SELECT Passenger_ID, First_Name,Last_NameFROM Passenger
2 WHERE First_Name LIKE '%Alice%';  -- Find passengers with "John" in their first name
3
```

Grid view | Form view

Total rows loaded: 1

	Passenger ID	First Name	Last Name
1	1	Alice	Johnson

Report 20: Report flights details with the highest durations

Query | History

```
1 SELECT Flight_ID,Flight_Number,Departure_Time, Arrival_Time,Duration, Status FROM Flight
2 WHERE Duration = (SELECT MAX(Duration) FROM Flight);
3
```

Grid view | Form view

Total rows loaded: 4

	Flight ID	Flight Nun	Departure	Arrival Tim	Duration	Status
1	3	CI003	10:00:00	14:00:00	4	On Time
2	7	AC007	14:00:00	18:00:00	4	On Time
3	9	KE009	16:00:00	20:00:00	4	On Time
4	10	SQ010	17:00:00	21:00:00	4	On Time

Section 7:

1. **CREATE INDEX idx_passenger_email_address ON Passenger (Email_Address);**

An index on the Email_Address column in the Passenger table, which optimizes queries that retrieve passenger information based on their email addresses.

2. **CREATE INDEX idx_ticket_ticket_price ON Ticket (Price);**

An index on the Price column in the Ticket table optimizes, which queries that retrieve ticket sales information based on the price.

3. **CREATE INDEX idx_employee_role ON Employee (Role);**

An index on the Role column in the Employee table, which optimizes queries that retrieve roles of employees based on the role.

4. **CREATE INDEX idx_departure_time ON Flight(Departure_Time);**

An index on the Departure Time column in the Flight table, which optimizes queries that retrieve time when departing information based on their time.

5.**CREATE INDEX idx_ground_transportation ON ArrivalAirport(Ground_Transportation);**

An index on the Ground Transportation column in the ArrivalAirport table, which optimizes queries that retrieve transportation information based on their way to get to the airport.

6. **CREATE INDEX idx_reservation_payment_methods ON Reservation(Payment_methods);**

This index is created on the Payment_methods column of the Reservation table, which optimizes queries that involve retrieving reservations based on the payment methods used.

7. **CREATE INDEX idx_ticket_issue_date ON Ticket(Issue_Date);**

This index is created on the Issue_Date column of the Ticket table, which optimizes queries that involve retrieving tickets based on their issue dates.

8. **CREATE INDEX idx_flight_flight_number_duration ON Flight(Flight_Number, Duration);**

This index is created on the Flight_Number and Duration columns of the Flight table, which optimizes queries that involve retrieving flights based on both their flight numbers and durations.

9. **CREATE INDEX idx_arrival_airport_baggage_claim ON ArrivalAirport(AAirport_ID, Bagge_Claim_Area);**

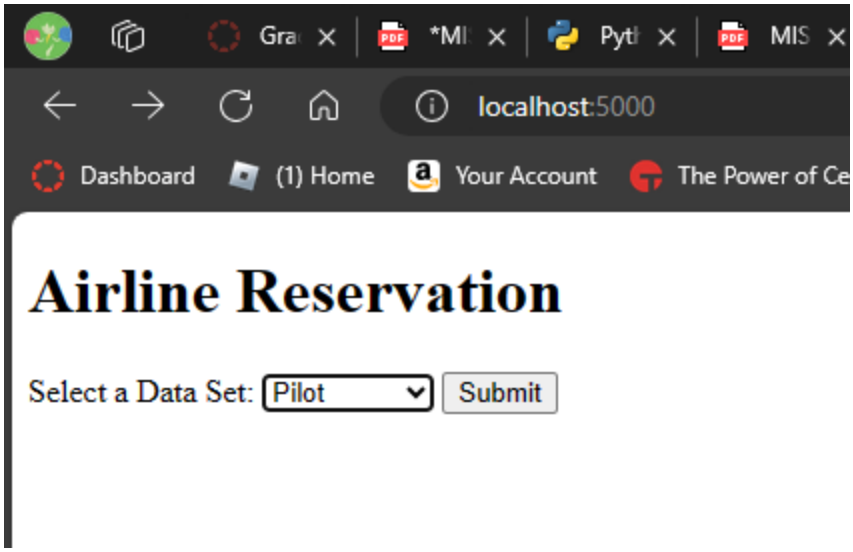
This index is created on the AAirport_ID and Bagge_Claim_Area columns of the ArrivalAirport table, which optimizes queries that involve retrieving baggage claim area information at arrival airports for specific airports.

10. **CREATE INDEX idx_departure_time ON Flight(Departure_Time);**

Section 8:

In section number 8 we created a dashboard to display the airline reservation system. This gives an insight into flights, passengers, check-in details, airports, and planes. These are important values to manage airlines and monitor efficient operations for airports. You can navigate between sections into specific details for in-depth analysis. These analyses allow you to improve operation efficiency and decision-making to optimize flight schedules and customer service.

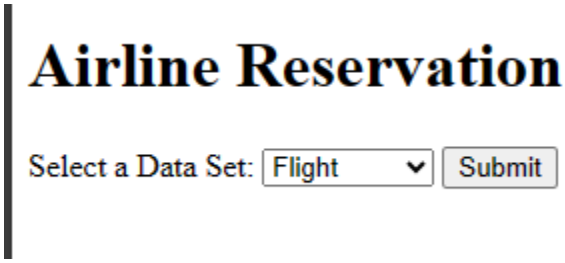
Report 1: Shows all the pilots' first and last names, along with their years of experience



Query Result

First Name	Last Name	Experience
Chris	Evans	5
Emily	Davis	8
David	Taylor	15

Report 2: Shows all flights that have a status “On Time” and a duration of at least two hours.



Query Result

Flight ID	Flight Number	Status	Duration
1	BR001	On Time	2
3	CI003	On Time	4
5	UA005	On Time	3.5
7	AC007	On Time	4
9	KE009	On Time	4
10	SQ010	On Time	4

Report 3: Shows all tickets issued between May 10, 2024, and May 15, 2024.

Airline Reservation

Select a Data Set: Ticket Submit

Query Result

TicketID	Issue Date	Type
1	2024-05-10	Economy
2	2024-05-11	Business
3	2024-05-12	Economy
5	2024-05-14	Economy
6	2024-05-15	Business

Report 4: Shows all the employees who are attendants

Airline Reservation

Select a Data Set: Attendant Submit

Query Result

EmployeeID	First Name	Last Name	Role	Certification
2	Jane	Smith	Flight Attendant	Flight Attendant Certificate
4	Mary	Brown	Flight Attendant	Flight Attendant Certificate
6	Sophia	Williams	Flight Attendant	Advanced Flight Attendant Certificate
8	Michael	Jones	Flight Attendant	Advanced Flight Attendant Certificate

Report 5: Shows each flight by its airline and departure time

Airline Reservation

Select a Data Set: Departure Submit

Query Result

Airline	Flight Number	Departure Time		
EVA Air	BR001	08:30:00		/td>
Japan Airlines	JL002	09:00:00		/td>
China Airlines	CI003	10:00:00		/td>
American Airlines	AA004	11:30:00		/td>
United Airlines	UA005	12:00:00		/td>
Delta Air Lines	DL006	13:00:00		/td>
Air Canada	AC007	14:00:00		/td>
IndiGo	600000000	15:00:00		/td>
Korean Air	KE009	16:00:00		/td>
China Airlines	SQ010	17:00:00		/td>

Report 6: Report flight details in a specified flight number range

Airline Reservation

Select a Data Set: Flight_Number Submit

Query Result

FlightID	Flight Number	Departure Time	Arrival Time	Duration	Status
1	BR001	08:30:00	10:00:00	2	On Time
2	JL002	09:00:00	12:30:00	3.5	Delayed
3	CI003	10:00:00	14:00:00	4	On Time

Report 7: Report each customer with their preferences

Airline Reservation

Select a Data Set: Preference Submit

Query Result

First Name	Last Name	Customer Preference
Alice	Johnson	Aisle Seat
Bob	Smith	Vegetarian Meal
Charlie	Brown	Window Seat
Diana	Jones	Extra Legroom
Christopher	Williams	Low-Fat Meal
Fiona	Davis	Window Seat
George	Garcia	Aisle Seat
Helen	Martinez	No Nuts
Ivan	Rodriguez	Extra Legroom
Julia	Taylor	Vegetarian Meal

Report 8: Report all flights that are delayed

Airline Reservation

Select a Data Set: Delay Submit

Query Result

FlightID	FlightNumber	DepartureTime	ArrivalTime
1	BR001	08:30:00	10:00:00
3	CI003	10:00:00	14:00:00
5	UA005	12:00:00	15:30:00
6	DL006	13:00:00	16:00:00
7	AC007	14:00:00	18:00:00
9	KE009	16:00:00	20:00:00
10	SQ010	17:00:00	21:00:00

Report 9:Report a ticket's details of a flight 'AA004'

Airline Reservation

Select a Data Set: AA004 Submit

Query Result

TicketID	IssueDate	Price	Type	FlightNumber
4	2024-05-20	400	First Class	AA004

Report 10:Report a schedule of all flights

Airline Reservation

Select a Data Set: Schedule Submit

Query Result

Airline	FlightNumber	DepartureTime
EVA Air	BR001	08:30:00
Japan Airlines	JL002	09:00:00
China Airlines	CI003	10:00:00
American Airlines	AA004	11:30:00
United Airlines	UA005	12:00:00
Delta Air Lines	DL006	13:00:00
Air Canada	AC007	14:00:00
IndiGo	600000000	15:00:00
Korean Air	KE009	16:00:00
China Airlines	SQ010	17:00:00