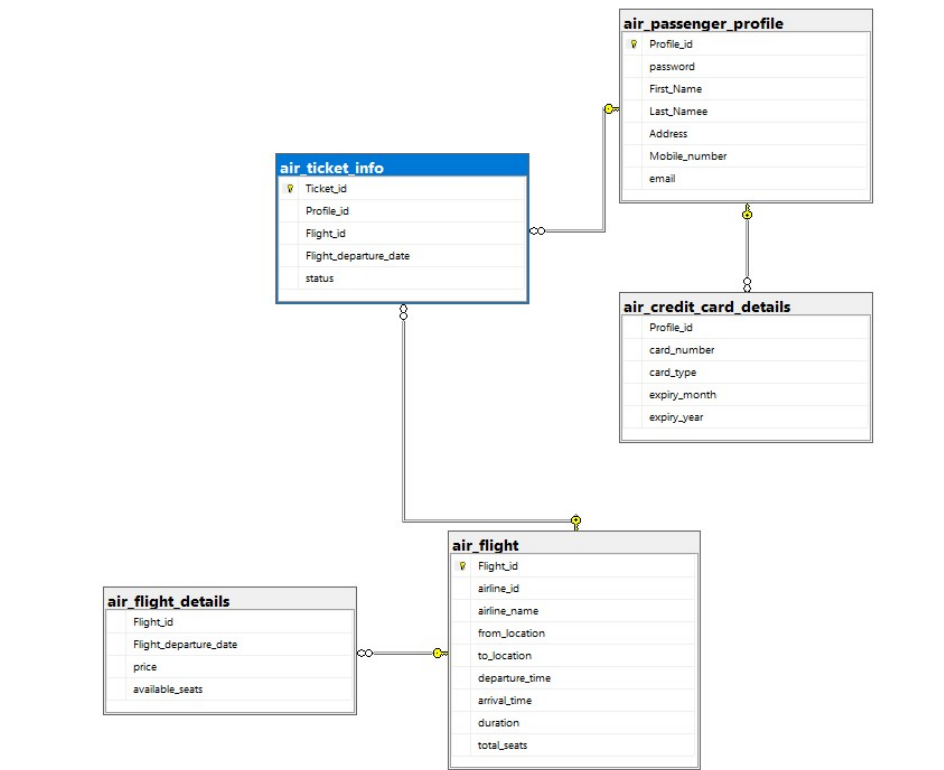# Day 3 Assignment

1.Database creation

Create dabababase Airlinedb;

ER DIAGRAM

2. Tables Creation

air_passenger_profile

create table air_passenger_profile(Profile_id int primary key identity(1,1),
password varchar(10),
First_Name varchar(10),
Last_Namee varchar(10),
Address varchar(10),
Mobile_number varchar(10) not null,
email varchar(30) not null);

air_flight_details

create table air_flight_details(Flight_id int,
Flight_departure_date date,

price decimal(8,2),
available_seats int,
constraint fk_flight_id Foreign key (Flight_id) references air_flight(Flight_id));

air_ticket_info

create table air_ticket_info (Ticket_id int Primary key identity(1,1),Profile_id int,Flight_id int,
Flight_departure_date date,status varchar(10),
constraint fk_profile_id Foreign key (Profile_id) references air_passenger_profile(Profile_id),
constraint fk_ticket_flight_id Foreign key (Flight_id) references air_flight(Flight_id));

air_credit_card_details

create table air_credit_card_details(Profile_id int,card_number varchar(20) not null,card_type
varchar(20),expiry_month int,expiry_year int,
constraint fk_credit_profile_id Foreign key (Profile_id) references air_passenger_profile(Profile_id));

air_flight

create table air_flight(Flight_id int primary key identity(1,1),
airline_id varchar(10),
airline_name varchar(20),
from_location varchar(20),
to_location varchar(20),
departure_time time not null,
arrival_time time not null,
duration time not null,
total_seats int not null);

3.Insert Commands
air_passenger_profile

INSERT INTO air_passenger_profile

(password, First_Name, Last_Namee, Address, Mobile_number, email)

VALUES

('pass123', 'Ravi', 'Kumar', 'Hyderabad', '9876543210', 'ravi@gmail.com'),

('pass234', 'Anita', 'Sharma', 'Delhi', '9876543211', 'anita@gmail.com'),

('pass345', 'Vijay', 'Patel', 'Ahmedabad', '9876543212', 'vijay@gmail.com'),

('pass456', 'Neha', 'Singh', 'Mumbai', '9876543213', 'neha@gmail.com'),

('pass567', 'Arjun', 'Reddy', 'Chennai', '9876543214', 'arjun@gmail.com');

	Profile_id	password	First_Name	Last_Namee	Address	Mobile_number	email
1	1	pass123	Ravi	Kumar	Hyderabad	9876543210	ravi@gmail.com
2	2	pass234	Anita	Sharma	Delhi	9876543211	anita@gmail.com
3	3	pass345	Vijay	Patel	Ahmedabad	9876543212	vijay@gmail.com
4	4	pass456	Neha	Singh	Mumbai	9876543213	neha@gmail.com
5	5	pass567	Arjun	Reddy	Chennai	9876543214	arjun@gmail.com

air_flight_details

INSERT INTO air_flight_details

(Flight_id, Flight_departure_date, price, available_seats)

VALUES

(1, '2025-01-10', 4500.00, 120),

(2, '2025-01-11', 3800.00, 100),

(3, '2025-01-12', 5200.00, 90),

(4, '2025-01-13', 4700.00, 110),

(5, '2025-01-14', 3600.00, 80);

INSERT INTO air_flight_details (Flight_ID, Flight_Departure_Date, Price, Available_Seats) VALUES

(2, '2025-02-03', 5000.00, 110),

(1, '2025-02-14', 5300.00, 90),

(3, '2025-02-25', 4700.00, 85),

(4, '2025-03-02', 4900.00, 130),

(1, '2025-03-18', 5500.00, 100),

(3, '2025-04-04', 4600.00, 140),

(5, '2025-04-16', 5800.00, 85);

	Flight_id	Flight_departure_date	price	available_seats
1	1	2025-01-10	4500.00	120
2	2	2025-01-11	3800.00	100
3	3	2025-01-12	5200.00	90
4	4	2025-01-13	4700.00	110
5	5	2025-01-14	3600.00	80
6	2	2025-02-03	5000.00	110
7	1	2025-02-14	5300.00	90
8	3	2025-02-25	4700.00	85
9	4	2025-03-02	4900.00	130
10	1	2025-03-18	5500.00	100
11	3	2025-04-04	4600.00	140
12	5	2025-04-16	5800.00	85

air_ticket_info

INSERT INTO air_ticket_info

(Profile_id, Flight_id, Flight_departure_date, status)

VALUES

(1, 1, '2025-01-10', 'Booked'),

(2, 2, '2025-01-11', 'Booked'),

(3, 3, '2025-01-12', 'Cancelled'),

(4, 4, '2025-01-13', 'Booked'),

(5, 5, '2025-01-14', 'Booked'),

INSERT INTO air_ticket_info

(Profile_id, Flight_id, Flight_departure_date, status)

VALUES

(1, 1, '2025-01-10', 'Booked'),

(2, 1, '2025-01-11', 'Booked'),

(2, 1, '2025-01-12', 'Cancelled'),

(2, 1, '2025-01-13', 'Booked'),

(1, 1, '2025-01-14', 'Booked');

	Ticket_id	Profile_id	Flight_id	Flight_departure_date	status
1	1	1	1	2025-01-10	Booked
2	2	2	2	2025-01-11	Booked
3	3	3	3	2025-01-12	Cancelled
4	4	4	4	2025-01-13	Booked
5	5	5	5	2025-01-14	Booked
6	6	1	1	2025-01-10	Booked
7	7	2	1	2025-01-11	Booked
8	8	2	1	2025-01-12	Cancelled
9	9	2	1	2025-01-13	Booked
10	10	1	1	2025-01-14	Booked

air_credit_card_details

INSERT INTO air_credit_card_details

(Profile_id, card_number, card_type, expiry_month, expiry_year)

VALUES

(1, '4111222233334444', 'Visa', 10, 2027),

(2, '5222333344445555', 'MasterCard', 8, 2026),

(3, '6333444455556666', 'Rupay', 5, 2028),

(4, '7444555566667777', 'Visa', 12, 2025),

(5, '8555666677778888', 'MasterCard', 7, 2027);

	Profile_id	card_number	card_type	expiry_month	expiry_year
1	1	4111222233334444	Visa	10	2027
2	2	5222333344445555	MasterCard	8	2026
3	3	6333444455556666	Rupay	5	2028
4	4	7444555566667777	Visa	12	2025
5	5	8555666677778888	MasterCard	7	2027

air_flight
INSERT INTO air_flight
(airline_id, airline_name, from_location, to_location, departure_time, arrival_time, duration, total_seats)
VALUES
('AI101', 'AirIndia', 'Hyderabad', 'Delhi', '08:00', '10:00', '02:00', 180),
('AI102', 'Indigo', 'Mumbai', 'Bangalore', '09:30', '11:00', '01:30', 150),
('AI103', 'SpiceJet', 'Chennai', 'Kolkata', '12:00', '14:30', '02:30', 160),
('AI104', 'Vistara', 'Delhi', 'Pune', '15:00', '17:00', '02:00', 170),
('AI105', 'GoAir', 'Bangalore', 'Hyderabad', '18:00', '19:30', '01:30', 140);
INSERT INTO air_flight

(airline_id, airline_name, from_location, to_location, departure_time, arrival_time, duration, total_seats)
VALUES
('AI105', 'GoAir', 'Chennai', 'Hyderabad', '08:00', '10:00', '02:00', 180),
('AI104', 'Vistara', 'Mumbai', 'Bangalore', '09:30', '11:00', '01:30', 150),
('AI103', 'SpiceJet', 'Chennai', 'Hyderabad', '12:00', '14:30', '02:30', 160),
('AI104', 'Vistara', 'Delhi', 'Pune', '15:00', '17:00', '02:00', 170),
('AI101', 'AirIndia', 'Chennai', 'Hyderabad', '18:00', '19:30', '01:30', 140);

	Flight_id	airline_id	airline_name	from_location	to_location	departure_time	arrival_time	duration	total_seats
1	1	AI101	AirIndia	Hyderabad	Delhi	08:00:00.0000000	10:00:00.0000000	02:00:00.0000000	180
2	2	AI102	Indigo	Mumbai	Bangalore	09:30:00.0000000	11:00:00.0000000	01:30:00.0000000	150
3	3	AI103	SpiceJet	Chennai	Kolkata	12:00:00.0000000	14:30:00.0000000	02:30:00.0000000	160
4	4	AI104	Vistara	Delhi	Pune	15:00:00.0000000	17:00:00.0000000	02:00:00.0000000	170
5	5	AI105	GoAir	Bangalore	Hyderabad	18:00:00.0000000	19:30:00.0000000	01:30:00.0000000	140
6	6	AI105	GoAir	Chennai	Hyderabad	08:00:00.0000000	10:00:00.0000000	02:00:00.0000000	180
7	7	AI104	Vistara	Mumbai	Bangalore	09:30:00.0000000	11:00:00.0000000	01:30:00.0000000	150
8	8	AI103	SpiceJet	Chennai	Hyderabad	12:00:00.0000000	14:30:00.0000000	02:30:00.0000000	160
9	9	AI104	Vistara	Delhi	Pune	15:00:00.0000000	17:00:00.0000000	02:00:00.0000000	170
10	10	AI101	AirIndia	Chennai	Hyderabad	18:00:00.0000000	19:30:00.0000000	01:30:00.0000000	140

1.Write a query to display the average monthly ticket cost for each flight in AirIndia Airlines. The query should display the Flight_Id, From_location, To_Location, Month Name as "Month_Name" and average price as "Average_Price". Display the records sorted in ascending order based on flight id and then by Month Name.

select air_flight.Flight_Id, air_flight.from_location, air_flight.to_location,
datename(month,air_flight_details.Flight_departure_date) as Month_Name,
avg(air_flight_details.price) as average_price
from air_flight join air_flight_details on air_flight.Flight_Id=air_flight_details.Flight_Id where air_flight.airline_name ='AirIndia'
group by air_flight.Flight_Id, air_flight.from_location, air_flight.to_location,
datename(month,air_flight_details.Flight_departure_date)
order by air_flight.Flight_Id,Month_Name;

	Flight_Id	from_location	to_location	Month_Name	average_price
1	1	Hyderabad	Delhi	February	5300.000000
2	1	Hyderabad	Delhi	January	4500.000000
3	1	Hyderabad	Delhi	March	5500.000000

2. Write a query to display the customer(s) who has/have booked least number of tickets in AirIndia Airlines. The Query should display profile_id, customer's first_name, Address and Number of tickets booked as "No_of_Tickets". Display the records sorted in ascending order based on customer's first name.

select
air_passenger_profile.Profile_id,air_passenger_profile.First_Name,air_passenger_profile.Address,
count(air_ticket_info.Ticket_id) as No_of_tickets
from air_passenger_profile join air_ticket_info on
air_passenger_profile.Profile_id=air_ticket_info.Profile_id
join air_flight on air_flight.Flight_id=air_ticket_info.Flight_id
where air_flight.airline_name='AirIndia' and air_ticket_info.status='Booked'
group by
air_passenger_profile.Profile_id,air_passenger_profile.First_Name,air_passenger_profile.Address
having count(air_ticket_info.Ticket_id)=(select top 1 count(air_ticket_info.Ticket_id) as No_of_tickets
from air_passenger_profile join air_ticket_info on
air_passenger_profile.Profile_id=air_ticket_info.Profile_id
join air_flight on air_flight.Flight_id=air_ticket_info.Flight_id
where air_flight.airline_name='AirIndia' and air_ticket_info.status='Booked'
group by
air_passenger_profile.Profile_id,air_passenger_profile.First_Name,air_passenger_profile.Address
order by No_of_tickets)
order by No_of_Tickets,air_passenger_profile.First_Name;

	Profile_id	First_Name	Address	No_of_tickets
1	2	Anita	Delhi	3

3.Write a query to display the number of flight services between locations in a month. The Query should display From_Location, To_Location, Month as "Month_Name" and number of flight services as "No_of_Services". Hint: The Number of Services can be calculated from the number of scheduled departure dates of a flight. The records should be displayed in ascending order based on From_Location and then by To_Location and then by month name.

select air_flight.from_location, air_flight.to_location,
datename(month,air_flight_details.Flight_departure_date) as Month_name,
count(air_flight.Flight_Id) as No_of_services
from air_flight join air_flight_details on air_flight.Flight_Id=air_flight_details.Flight_Id
group by air_flight.from_location, air_flight.to_location,
datename(month,air_flight_details.Flight_departure_date)

order by air_flight.from_location,air_flight.to_location,Month_name;

	from_location	to_location	month_name	No_of_services
1	Hyderabad	Delhi	February	1
2	Hyderabad	Delhi	January	1
3	Hyderabad	Delhi	March	1

4.Write a query to display the customer(s) who has/have booked maximum number of tickets in AirIndia Airlines. The Query should display profile_id, customer's first_name, Address and Number of tickets booked as "No_of_Tickets". Display the records in ascending order based on customer's first name.

select
air_passenger_profile.Profile_id,air_passenger_profile.First_Name,air_passenger_profile.Address,
count(air_ticket_info.Ticket_id) as No_of_tickets
from air_passenger_profile join air_ticket_info on
air_passenger_profile.Profile_id=air_ticket_info.Profile_id
join air_flight on air_flight.Flight_id=air_ticket_info.Flight_id
where air_flight.airline_name='AirIndia' and air_ticket_info.status='Booked'
group by
air_passenger_profile.Profile_id,air_passenger_profile.First_Name,air_passenger_profile.Address
having count(air_ticket_info.Ticket_id)=(select top 1 count(air_ticket_info.Ticket_id) as No_of_tickets
from air_passenger_profile join air_ticket_info on
air_passenger_profile.Profile_id=air_ticket_info.Profile_id
join air_flight on air_flight.Flight_id=air_ticket_info.Flight_id
where air_flight.airline_name='AirIndia' and air_ticket_info.status='Booked'
group by
air_passenger_profile.Profile_id,air_passenger_profile.First_Name,air_passenger_profile.Address
order by No_of_tickets desc)
order by No_of_Tickets,air_passenger_profile.First_Name;

	Profile_id	First_Name	Address	No_of_tickets
1	1	Ravi	Hyderabad	4

5. Write a query to display the number of tickets booked from Chennai to Hyderabad. The Query should display passenger profile_id,first_name,last_name, Flight_Id , Departure_Date and number of tickets booked as "No_of_Tickets". Display the records sorted in ascending order based on profile id and then by flight id and then by departure date.

select
air_passenger_profile.Profile_id,air_passenger_profile.First_Name,air_passenger_profile.Last_Name
e,air_flight.Flight_Id,air_ticket_info.Flight_departure_date,count(air_ticket_info.Ticket_id) as
No_of_tickets from air_passenger_profile join air_ticket_info on
air_passenger_profile.Profile_id=air_ticket_info.Profile_id

join air_flight on air_flight.Flight_id=air_ticket_info.Flight_id
where (air_flight.from_location='Chennai' and air_flight.to_location='Hyderabad') and
air_ticket_info.status='Booked'
group by
air_passenger_profile.Profile_id,air_passenger_profile.First_Name,air_passenger_profile.Last_Name
e,air_flight.Flight_Id,air_ticket_info.Flight_departure_date
order by air_passenger_profile.Profile_id,air_flight.Flight_Id,air_ticket_info.Flight_departure_date;

	Profile_id	First_Name	Last_Namee	Flight_Id	Flight_departure_date	No_of_tickets
1	1	Ravi	Kumar	6	2025-01-14	2
2	1	Ravi	Kumar	8	2025-01-13	1
3	2	Anita	Sharma	10	2025-01-11	1
4	3	Vijay	Patel	8	2025-01-10	1

6. Write a query to display flight id,from location, to location and ticket price of flights whose departure is in the month of april.

select air_flight.Flight_id,air_flight.from_location, air_flight.to_location, air_flight_details.price
from air_flight join air_flight_details on air_flight.Flight_Id=air_flight_details.Flight_Id
where datename(month,air_flight_details.Flight_departure_date)='April';

	Flight_id	from_location	to_location	price
1	3	Chennai	Kolkata	4600.00
2	5	Bangalore	Hyderabad	5800.00

7.Write a query to display the average cost of the tickets in each flight on all scheduled dates. The query should display flight_id, from_location, to_location and Average price as "Price". Display the records sorted in ascending order based on flight id and then by from_location and then by to_location.

select air_flight.Flight_Id, air_flight.from_location, air_flight.to_location,
avg(air_flight_details.price) as price
from air_flight join air_flight_details on air_flight.Flight_Id=air_flight_details.Flight_Id
group by air_flight.Flight_Id, air_flight.from_location, air_flight.to_location
order by air_flight.Flight_Id,air_flight.from_location, air_flight.to_location;

	Flight_Id	from_location	to_location	price
1	1	Hyderabad	Delhi	5100.000000
2	2	Mumbai	Bangalore	4400.000000
3	3	Chennai	Kolkata	4833.333333
4	4	Delhi	Pune	4800.000000
5	5	Bangalore	Hyderabad	4700.000000

8.Write a query to display the customers who have booked tickets from Chennai to Hyderabad. The query should display profile_id, customer_name (combine first_name & last_name with comma in b/w), address of the customer. Give an alias to the name as customer_name. Hint: Query should fetch unique customers irrespective of multiple tickets booked. Display the records sorted in ascending order based on profile id.

select air_passenger_profile.Profile_id,concat(air_passenger_profile.First_Name,' ',air_passenger_profile.Last_Namee) as customer_name, air_passenger_profile.Address
from air_passenger_profile join air_ticket_info on
air_passenger_profile.Profile_id=air_ticket_info.Profile_id
join air_flight on air_flight.Flight_id=air_ticket_info.Flight_id
where (air_flight.from_location='Chennai' and air_flight.to_location='Hyderabad') and air_ticket_info.status='Booked'
group by
air_passenger_profile.Profile_id,air_passenger_profile.First_Name,air_passenger_profile.Last_Namee,air_passenger_profile.Address
order by air_passenger_profile.Profile_id;

	Profile_id	customer_name	Address
1	1	Ravi Kumar	Hyderabad
2	2	Anita Sharma	Delhi
3	3	Vijay Patel	Ahmedabad

9. Write a query to display profile id of the passenger(s) who has/have booked maximum number of tickets. In case of multiple records, display the records sorted in ascending order based on profile id.

select air_passenger_profile.Profile_id from air_passenger_profile join air_ticket_info on
air_passenger_profile.Profile_id=air_ticket_info.Profile_id
join air_flight on air_flight.Flight_id=air_ticket_info.Flight_id
where air_ticket_info.status='Booked'
group by
air_passenger_profile.Profile_id,air_passenger_profile.First_Name,air_passenger_profile.Address
having count(air_ticket_info.Ticket_id)=(select top 1 count(air_ticket_info.Ticket_id) as No_of_tickets
from air_passenger_profile join air_ticket_info on
air_passenger_profile.Profile_id=air_ticket_info.Profile_id
join air_flight on air_flight.Flight_id=air_ticket_info.Flight_id
where air_ticket_info.status='Booked'
group by
air_passenger_profile.Profile_id,air_passenger_profile.First_Name,air_passenger_profile.Address
order by No_of_tickets desc)
order by air_passenger_profile.Profile_id;

	Profile_id
1	1

10. Write a query to display the total number of tickets as "No_of_Tickets" booked in each flight in AirIndia Airlines. The Query should display the flight_id, from_location, to_location and the number of tickets. Display only the flights in which atleast 1 ticket is booked. Display the records sorted in ascending order based on flight id.

select air_flight.Flight_id,air_flight.from_location,air_flight.to_location,
count(air_ticket_info.Ticket_id) as No_of_tickets
from air_flight join air_ticket_info on air_flight.Flight_id=air_ticket_info.Flight_id
where air_flight.airline_name='AirIndia' and air_ticket_info.status='Booked'
group by air_flight.Flight_id,air_flight.from_location,air_flight.to_location
having count(air_ticket_info.Ticket_id)>=1
order by air_flight.Flight_id;

	Flight_id	from_location	to_location	No_of_tickets
1	1	Hyderabad	Delhi	6
2	10	Chennai	Hyderabad	1