Project Title (Airline Reservation System)

Introduction:

Modes of travel from one place to another have changed and modernized over the course of history. Airplanes are right now the most advanced mediums to travel by air.

Commercial airlines are widely used nowadays to for travelling by airplanes. Our project manages a database of such an airline.

In this database we have multiple tables many of which are connected to each other through different relationships.

Initially we have a passenger with all of its details who can reserve a flight's seat in the airline. In the reservation table we have reservation's id, passenger's id, flight's id, seat's id and the class id. Talking about the flight's table, it stores all important flight information such as its id, departure and arrival airports, aircrafts as well as departure and arrival date time.
Then we have a table for our airline's crew which stores all of its information. We also have payment table keeping detail of each reservation's payment and a feedback table which keeps the feedback of various passengers. We also have city and country tables and an airport table which would tell us about airports in different cities and countries. We cannot ignore the baggage of various passengers and so to deal with that we have a baggage table which keeps every baggage's information.

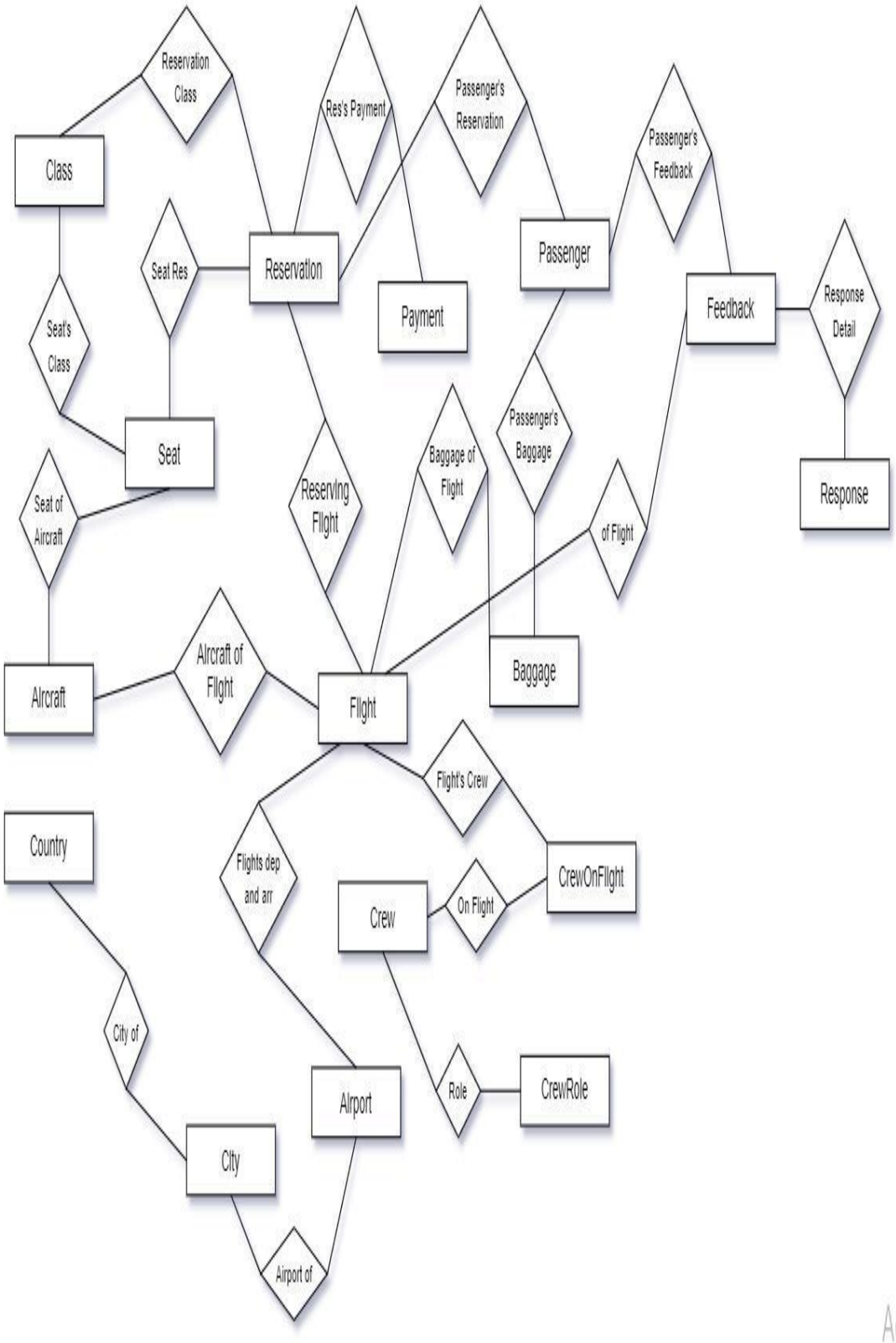
A passenger can reserve multiple flights and also an aircraft can also be used in multiple flights. So is the case of arrival and departure airports with different flights. Each reservation has its payment. In addition to a passenger can have multiple feedbacks and baggage.

Entity Identification:

We have following entities in our database

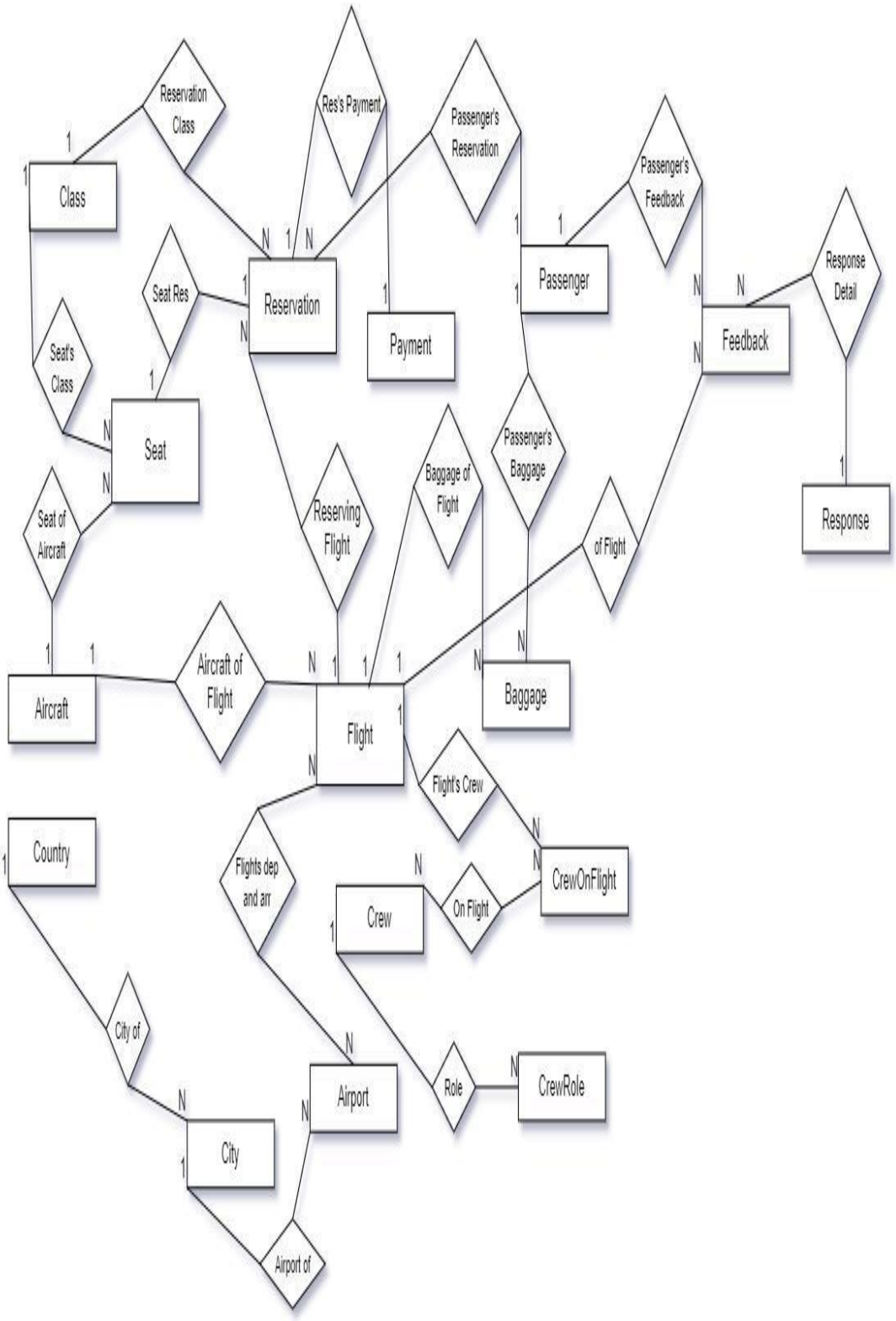
Relationship Identification:

Our entities will have following relationships among themselves



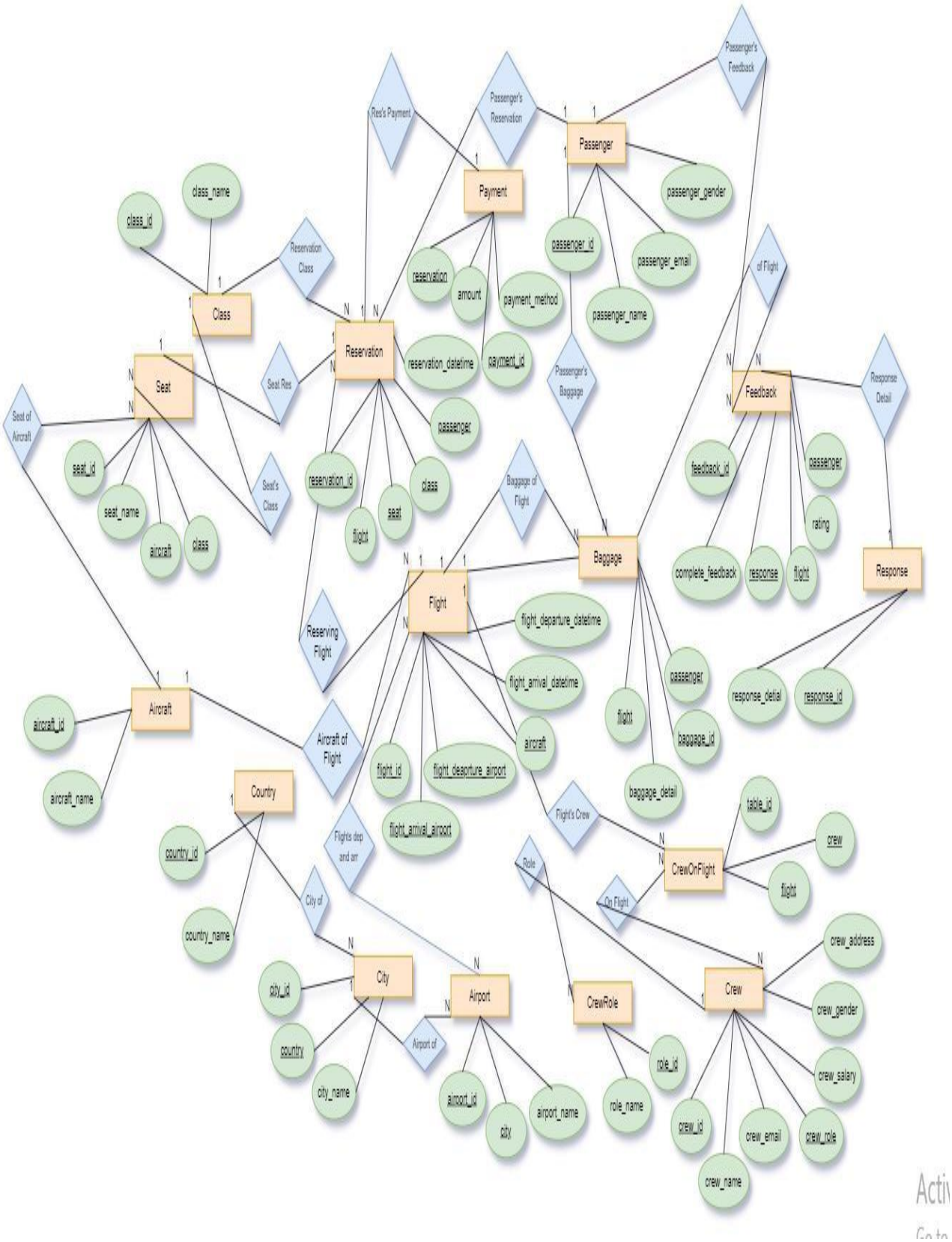
Cardinality Identification:

The cardinality ratios here are

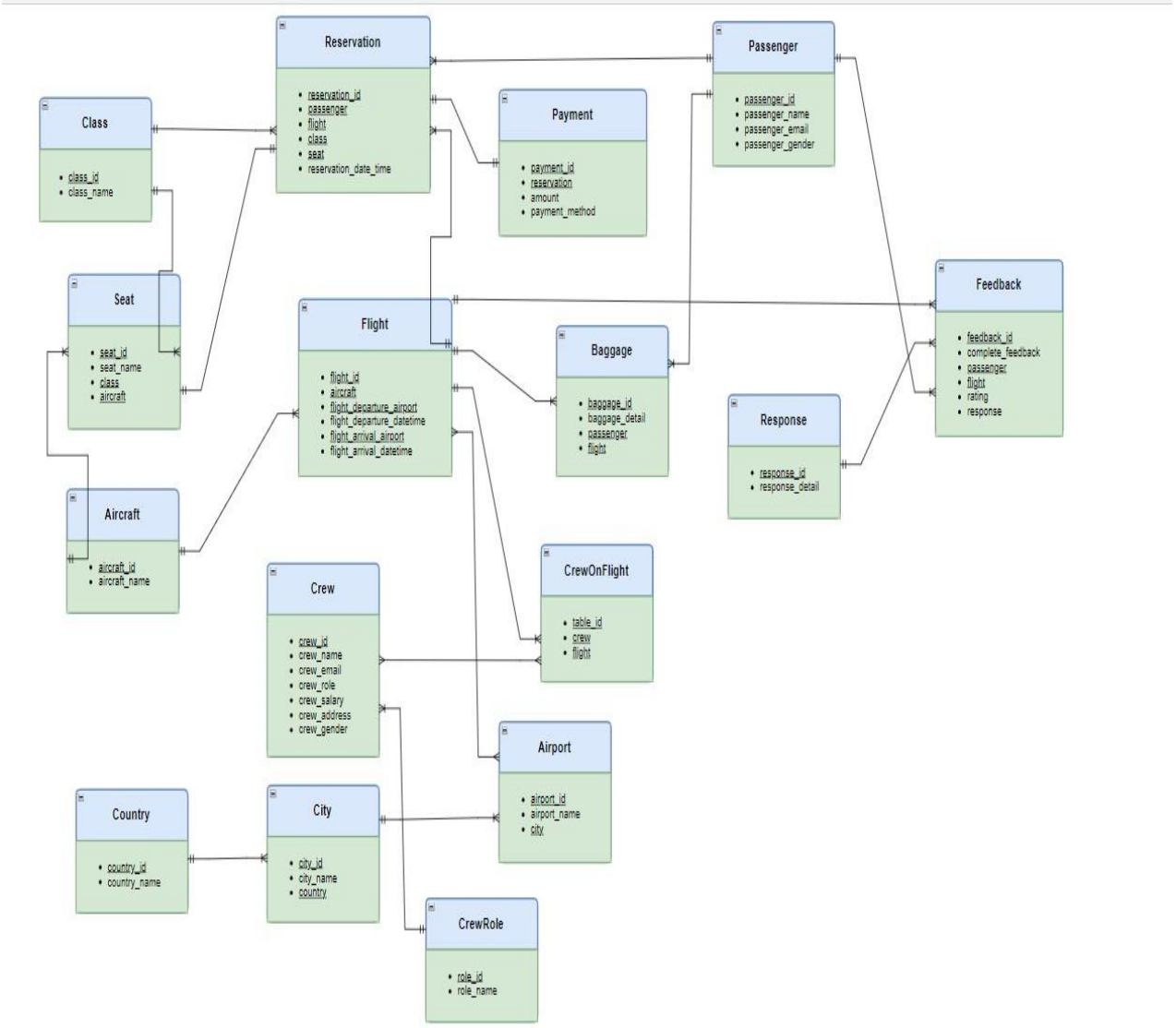


Attributes Identification:

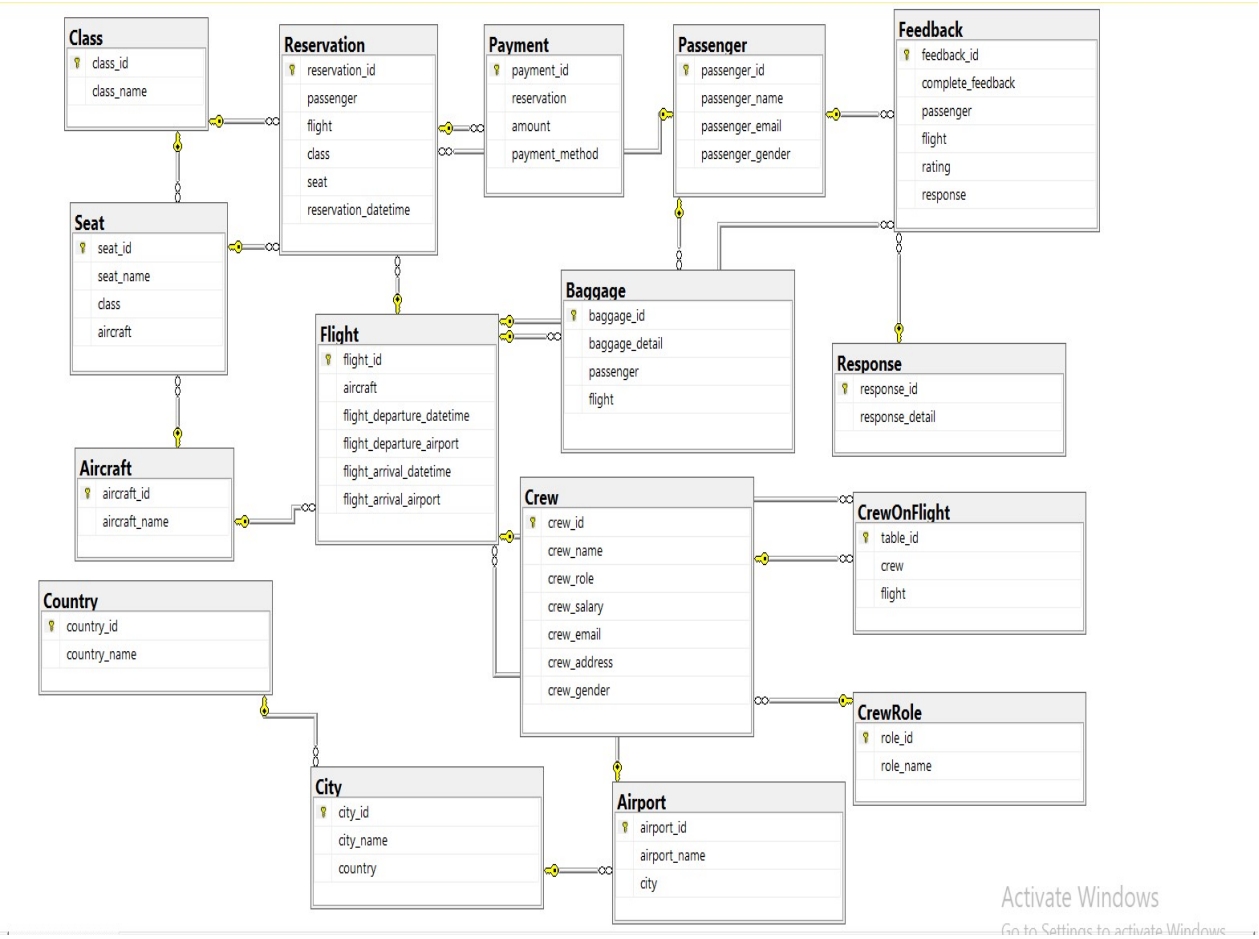
The attributes are


Passenger's Feedback
Res's Payment
Passenger's Reservation
Passenger
Payment
class_name
class_id
passenger_gender
passenger_id
passenger_email
Reservation Class
reservation
amount
payment_method
passenger_name
of Flight
Class
Reservation
reservation_datetime
payment_id
Passenger's Baggage
Feedback
Response Detail
Seat
Seat Res
Seat of Aircraft
passenger
feedback_id
passenger
seat_id
reservation_id
class
Seat's Class
seat
seat_name
flight
rating
aircraft
class
Baggage of Flight
Baggage
complete_feedback
resoonse
flight
Response
Flight
flight_departure_datetime
Reserving Flight
flight_arrival_datetime
passenger
response_detial
response_id
Aircraft
aircraft_id
flight
baggage_id
Aircraft of Flight
aircraft
flight_id
flight_departure_airport
baggage_detail
aircraft_name
Country
table_id
Flights dep and arr
flight_arrival_airport
Flight's Crew
crew
country_id
CrewOnFlight
Role
On Flight
flight
City of
country_name
crew_address
City
Airport
CrewRole
Crew
crew_gender
city_id
country
Airport of
role_id
crew_salary
city_name
airport_id
city
airport_name
role_name
crew_id
crew_email
crew_role
crew_name

ER Diagram



ERD Into Tables In DBMS



CREATE TABLE Statements - 10 Queries

1	Create Table Passengers	CREATE TABLE Passenger(passenger_id INT PRIMARY KEY IDENTITY(1,1), passenger_name VARCHAR(100), passenger_email VARCHAR(150), passenger_gender VARCHAR(1))
2	Create Table Aircraft	CREATE TABLE Aircraft(aircraft_id INT PRIMARY KEY IDENTITY(1,1), aircraft_name VARCHAR(50),)
3	Create Table Country	CREATE TABLE Country(country_id INT PRIMARY KEY IDENTITY(1,1), country_name VARCHAR(100))
4	Create Table City	CREATE TABLE City(city_id INT PRIMARY KEY IDENTITY(1,1), city_name VARCHAR(100), country INT FOREIGN KEY REFERENCES Country(country_id))
5	Create Table Airport	CREATE TABLE Airport(airport_id INT PRIMARY KEY IDENTITY(1,1), airport_name VARCHAR(300), city INT FOREIGN KEY REFERENCES City(city_id))
6	Create Table Flight	CREATE TABLE Flight(flight_id INT PRIMARY KEY IDENTITY(1,1), aircraft INT FOREIGN KEY REFERENCES Aircraft(aircraft_id), flight_departure_datetime DATETIME, flight_departure_airport INT FOREIGN KEY REFERENCES Airport(airport_id), flight_arrival_datetime DATETIME, flight_arrival_airport INT FOREIGN KEY REFERENCES Airport(airport_id))
7	Create Table Class	CREATE TABLE Class(class_id INT PRIMARY KEY IDENTITY(1,1), class_name VARCHAR(20))
8	Create Table Seat	CREATE TABLE Seat(seat_id INT PRIMARY KEY IDENTITY(1,1), seat_name VARCHAR(10), class INT FOREIGN KEY REFERENCES Class(class_id), aircraft INT FOREIGN KEY REFERENCES Aircraft(aircraft_id))
9	Create Table Baggage	CREATE TABLE Baggage(baggage_id INT PRIMARY KEY IDENTITY(1,1), baggage_detail VARCHAR(500), passenger INT FOREIGN KEY REFERENCES Passenger(passenger_id), flight INT FOREIGN KEY REFERENCES Flight(flight_id))
10	Create Table Reservation	CREATE TABLE Reservation(reservation_id INT PRIMARY KEY IDENTITY(1,1), passenger INT FOREIGN KEY REFERENCES Passenger(passenger_id), flight INT FOREIGN KEY REFERENCES Flight(flight_id), class INT FOREIGN KEY REFERENCES Class(class_id), seat INT FOREIGN KEY REFERENCES Seat(seat_id), reservation_datetime DATETIME,)

Primary & Foreign Key - 10 Queries

1	Primary Key passenger_id	passenger_id INT PRIMARY KEY IDENTITY(1,1)
2	Primary Key aircraft_id	aircraft_id INT PRIMARY KEY IDENTITY(1,1)
3	Primary Key country_id	country_id INT PRIMARY KEY IDENTITY(1,1)
4	Primary Key city_id	city_id INT PRIMARY KEY IDENTITY(1,1)
5	Primary Key airport_id	airport_id INT PRIMARY KEY IDENTITY(1,1)
6	Foreign Key country	country INT FOREIGN KEY REFERENCES Country(country_id)
7	Foreign Key city	city INT FOREIGN KEY REFERENCES City(city_id)
8	Foreign Key aircraft	aircraft INT FOREIGN KEY REFERENCES Aircraft(aircraft_id)
9	Foreign Key flight_departure_airport	flight_departure_airport INT FOREIGN KEY REFERENCES Airport(airport_id)
10	Foreign Key flight_arrival_airport	flight_arrival_airport INT FOREIGN KEY REFERENCES Airport(airport_id)

Auto Increment – 10 Queries

1	Auto Increment flight_id	flight_id INT PRIMARY KEY IDENTITY(1,1)
2	Auto Increment class_id	class_id INT PRIMARY KEY IDENTITY(1,1)
3	Auto Increment seat_id	seat_id INT PRIMARY KEY IDENTITY(1,1)
4	Auto Increment baggage_id	baggage_id INT PRIMARY KEY IDENTITY(1,1)
5	Auto Increment reservation_id	reservation_id INT PRIMARY KEY IDENTITY(1,1)
6	Auto Increment payment_id	payment_id INT PRIMARY KEY IDENTITY(1,1)
7	Auto Increment role_id	role_id INT PRIMARY KEY IDENTITY(1,1)
8	Auto Increment crew_id	crew_id INT PRIMARY KEY IDENTITY(1,1)
9	Auto Increment response_id	response_id INT PRIMARY KEY IDENTITY(1,1)
10	Auto Increment feedback_id	feedback_id INT PRIMARY KEY IDENTITY(1,1)

ALTER TABLE Statement (ADD Column, MODIFY DATATYPE, RENAME COLUMN, DROP COLUMN) – 50 Queries

1	ADD COLUMN manufacturing_year to Aircraft Table	ALTER TABLE Aircraft ADD manufacturing_year INT DEFAULT NULL
2	ADD COLUMN area to Aiport Table	ALTER TABLE Airport ADD area INT DEFAULT NULL
3	ADD COLUMN checked_by in Baggage Table	ALTER TABLE Baggage ADD checked_status varchar(1)
4	ADD COLUMN city_code	ALTER TABLE City ADD city_code varchar(3) DEFAULT NULL
5	ADD COLUMN class_code to Class Table	ALTER TABLE Class ADD class_code varchar(1) DEFAULT NULL
6	ADD COLUMN country_code to Country table	ALTER TABLE Country ADD country_code varchar(3) DEFAULT NULL

7	ADD COLUMN phone to Crew Table	`ALTER TABLE Crew ADD phone varchar(20) DEFAULT NULL`
8	ADD COLUMN time_taken to Flight Table	`ALTER TABLE Flight ADD time_taken INT DEFAULT NULL`
9	ADD COLUMN response_code to Response Table	`ALTER TABLE Response ADD response_code varchar(1) DEFAULT NULL`
10	ADD COLUMN comfort_level	`ALTER TABLE Seat ADD comfort_level varchar(10) DEFAULT NULL`

11	MODIFY data type of manufacturing_year	`ALTER TABLE Aircraft ALTER COLUMN manufacturing_year INT`
12	MODIFY data type of area	`ALTER TABLE Airport ALTER COLUMN area varchar(10)`
13	MODIFY data type of checked_by	`ALTER TABLE Baggage ALTER COLUMN checked_by BIGINT`
14	MODIFY data type of city_code	`ALTER TABLE City ALTER COLUMN city_code INT`
15	MODIFY data type of class_code	`ALTER TABLE Class ALTER COLUMN class_code INT`
16	MODIFY data type of country_code	`ALTER TABLE Country ADD country_code INT`
17	MODIFY data type of phone	`ALTER TABLE Crew ALTER COLUMN phone BIGINT`
18	MODIFY data type of time_taken	`ALTER TABLE Flight ALTER COLUMN time_taken TIME`
19	MODIFY data type of response_code	`ALTER TABLE Response ALTER COLUMN response_code INT`
20	MODIFY data type of comfort_level	`ALTER TABLE Seat ALTER COLUMN comfort_level INT`
21	RENAMING Column aircraft_name	`EXEC sp_rename 'dbo.Aircraft.aircraft_name','aircraft','COLUMN'`
22	RENAMING Column airport_name	`EXEC sp_rename 'dbo.Airport.airport_name','airport','COLUMN'`
23	RENAMING Column baggage_detail	`EXEC sp_rename 'dbo.Baggage.baggage_detail','comments','COLUMN'`
24	RENAMING Column country	`EXEC sp_rename 'dbo.City.country','country_code','COLUMN'`
25	RENAMING Column response_id	`EXEC sp_rename 'dbo.Response.response_id','response_code','COLUMN'`
26	RENAMING Column aircraft_id	`EXEC sp_rename 'dbo.Aircraft.aircraft_id','aircraft_code','COLUMN'`
27	RENAMING Column flight_id	`EXEC sp_rename 'dbo.Flight.flight_id','f_id','COLUMN'`
28	RENAMING Column reservation_id	`EXEC sp_rename 'dbo.Reservation.reservation_id','r_id','COLUMN'`
29	RENAMING Column city_id	`EXEC sp_rename 'dbo.City.city_id','c_id','COLUMN'`
30	RENAMING Column seat_id	`EXEC sp_rename 'dbo.Seat.seat_id','s_id','COLUMN'`
31	RENAMING Column baggage_id	`EXEC sp_rename 'dbo.Baggage.baggage_id','b_id','COLUMN'`
32	RENAMING Column flight	`EXEC sp_rename 'dbo.Baggage.flight','f_id','COLUMN'`
33	RENAMING Column flight_departure_time	`EXEC sp_rename 'dbo.Flight.flight_departure_time','f_dep_time','COLUMN'`
34	RENAMING Column flight_departure_date	`EXEC sp_rename`

		'dbo.Flight.flight_departure_date','f_dep_date','COLUMN'
35	RENAMING Column flight_arrival_time	EXEC sp_rename 'dbo.Flight.flight_arrival_time','f_arr_time','COLUMN'
36	RENAMING Column flight_arrival_date	EXEC sp_rename 'dbo.Flight.flight_arrival_date','f_arr_date','COLUMN'
37	RENAMING Column city_name	EXEC sp_rename 'dbo.City.city_name','c_name','COLUMN'
38	RENAMING Column class	EXEC sp_rename 'dbo.Seat.class','class_id','COLUMN'
39	RENAMING Column flight	EXEC sp_rename 'dbo.Feedback.flight','flight_id','COLUMN'
40	RENAMING Column response	EXEC sp_rename 'dbo.Feedback.response','response_id','COLUMN'
41	DROPING COLUMN manufacturing_year	ALTER TABLE Aircraft DROP COLUMN manufacturing_year
42	DROPPING COLUMN area	ALTER TABLE Airport DROP COLUMN area
43	DROPPING COLUMN checked_status	ALTER TABLE Baggage DROP COLUMN checked_status
44	DROPPING COLUMN city_code	ALTER TABLE City DROP COLUMN city_code
45	DROPPING COLUMN class_code	ALTER TABLE Class DROP COLUMN class_code
46	DROPPING COLUMN country_code	ALTER TABLE Country DROP COLUMN country_code
47	DROPPING COLUMN phone	ALTER TABLE Crew DROP COLUMN phone
48	DROPPING COLUMN time_taken	ALTER TABLE Flight DROP COLUMN time_taken
49	DROPPING COLUMN response_code	ALTER TABLE Response DROP COLUMN response_code
50	DROPPING COLUMN comfort_level	ALTER TABLE Seat DROP COLUMN comfort_level

INSERT INTO Statement – 10 Queries

1	Insert data into Class table	INSERT INTO Class VALUES('Economy'),('Business'),('First')
2	Insert data into Country table	INSERT INTO Country VALUES('United States'), ('United Kingdom'), ('Canada'), ('Australia'), ('Germany'), ('France'), ('Japan'), ('Pakistan'), ('India'), ('China'), ('Nepal')
3	Insert data into Response table	INSERT INTO Response VALUES('Yet to be cosidered'),('Under consideration'),('Considered')
4	Insert data into City table	INSERT INTO City VALUES('New York', 1),('London', 2),('Toronto', 3),('Sydney', 4),('Berlin', 5),('Paris', 6),('Tokyo', 7),('Islamabad', 8),('Mumbai', 9),('Beijing', 10),('Los Angeles', 1),('Manchester', 2),('Vancouver', 3),('Melbourne', 4),('Hamburg', 5),('Nice', 6),('Osaka', 7),('Lahore', 8),('Delhi', 9),('Shanghai', 10),('Chicago', 1),('Birmingham', 2),('Calgary', 3),('Brisbane', 4),('Munich', 5),('Lyon', 6),('Kyoto', 7),('Karachi', 8),('Kolkata', 9),('Guangzhou', 10),('Rawalpindi', 8)

5	Insert data into Airport table	INSERT INTO Airport VALUES('NY Airport', 1),('London Airport', 2),('Toronto Airport',3),('Sydney Airport',4),('Berlin Airport',5),('Paris Airport',6),('Tokyo Airport',7),('Benazir Airport',8),('Mumbai Airport',9),('Beijing Airport',10),('LA Airport',11),('Manchester Airport',12),('Vancouver Airport',13),('Melbourne Airport',14),('Hamburg Airport',15),('Nice Airport',16),('Osaka Airport',17),('Iqbal Airport',18),('Delhi Airport',19),('Shanghai Airport',20),('Chicago Airport',21),('Birmingham Airport',22),('Calgary Airport',23),('Brisbane Airport',24),('Munich Airport',25),('Lyon Airport',26),('Kyoto Airport',27),('Jinnah Airport',28),('Kolkata Airport',29),('Guangzhou Airport',30)
6	Insert data into CrewRole table	INSERT INTO CrewRole VALUES('Pilot'),('Air Host'),('Air Hostess'),('Flight Engineer'),('In Flight Chef'),('Medical Personnel'),('Load Master'),('Ground Crew')
7	Insert data into Aircraft Table	INSERT INTO Aircraft VALUES('Boeing 747'),('Airbus A320'),('Embraer E190'),('Bombardier CRJ900'),('Boeing 787'),('Airbus A380'),('Cessna 172');
8	Insert data into Flight Table	INSERT INTO Flight VALUES(2,'2022-4-5 10:00:00',18,'2022-4-5 11:30:00',19),(4,'2022-5-5 10:00:00',13,'2022-5-5
		14:00:00',17),(5,'2022-5-10 9:00:00',18,'2022-5-10 18:20:00',1),(1,'2022-6-19 11:00:00',5,'2022-6-19 14:30:00',20),(3,'2022-10-10 13:00:00',20,'2022-10-10 18:00:00',30),(2,'2022-12-30 10:30:00',1,'2022-12-30 17:30:00',25),(7,'2023-1-5 12:00:00',14,'2022-1-5 19:00:00',24),(2,'2023-2-17 9:00:00',18,'2022-2-17 20:30:00',25),(1,'2023-2-20 14:00:00',2,'2022-2-20 17:00:00',7),(5,'2023-3-15 11:30:00',10,'2022-3-15 20:40:00',14),(3,'2023-4-5 16:00:00',11,'2022-4-5 23:10:00',13)
9	Insert data into Baggage Table	INSERT INTO Baggage VALUES('A black breifcase',1,1),('DELL A10 laptop',6,1),('Golf clubs',20,2),('Cricket equipments bag',47,4),('Guitar',58,5)
10	Insert data into Feedback Table	INSERT INTO Feedback VALUES('Had one of the best experience with this airline.',6,1,10,3),('Food needs improvement.',19,2,7,1),('Lights quality was not good in economy class as compared to other airlines.',54,5,6,1)

SELECT and DISTINCT Statement – 20 Queries

1	Selecting all info about Aircraft table	SELECT * FROM Aircraft
2	Selecting all info about City table	SELECT * FROM City
3	Selecting all info about Response table	SELECT * FROM Response
4	Selecting all info about Country table	SELECT * FROM Country

5	Selecting all info about Seat table	SELECT * FROM Seat
6	Selecting all info about Baggage table	SELECT * FROM Baggage
7	Selecting all info about Airport table	SELECT * FROM Airport
8	Selecting crew id and crew name from Crew table	SELECT crew_id, crew_name FROM Crew
9	Selecting reservation id and datetime from Reservation table	SELECT reservation_id, reservation_datetime FROM Reservation
10	Selecting all info about Flight table	SELECT * FROM Flight
11	Selecting distinct gender from Crew table	SELECT DISTINCT crew_gender FROM Crew
12	electing distinct gender from Passenger table	SELECT DISTINCT passenger_gender FROM Passenger
13	Selecting distinct arrival airport from Flight table	SELECT DISTINCT flight_arrival_airport FROM Flight
14	Selecting distinct departure airport from Flight table	SELECT DISTINCT flight_departure_airport FROM Flight
15	Selecting distinct arrival datetime from Flight table	SELECT DISTINCT flight_arrival_datetime FROM Flight
16	Selecting distinct departure datetime from Flight table	SELECT DISTINCT flight_departure_datetime FROM Flight
17	Selecting distinct passenger from Baggage table	SELECT DISTINCT passenger FROM Baggage
18	Selecting distinct crew salary from Crew table	SELECT DISTINCT crew_salary FROM Crew
19	Selecting distinct passenger from Feedback table	SELECT DISTINCT passenger FROM Feedback
20	Selecting distinct rating from Feedback table	SELECT DISTINCT rating FROM Feedback

WHERE Clause using AND, OR and NOT Operators – 50 Queries

1	Crew which is not male	SELECT * FROM Crew WHERE NOT crew_gender = 'M'
2	Crew which is not female	SELECT * FROM Crew WHERE NOT crew_gender = 'F'
3	Crew whose gender is either male or female	SELECT * FROM Crew WHERE NOT crew_gender = 'O'
4	Crew whose email is not gmail	SELECT * FROM Crew WHERE NOT crew_email LIKE '%gmail.com'
5	Crew whose email is not yahoo	SELECT * FROM Crew WHERE NOT crew_email LIKE '%yahoo.com'
6	Crew whose role id not is 1 or 3	SELECT * FROM Crew WHERE NOT crew_role = 1 OR crew_role = 3
7	Crew who don't live in Islamabad or Lahore	SELECT * FROM Crew WHERE NOT (crew_address LIKE '%Islamabad%' OR crew_address LIKE '%Lahore%')
8	Crew who don't live in Karachi or Peshawar	SELECT * FROM Crew WHERE NOT (crew_address LIKE '%Karachi%' OR crew_address LIKE '%Peshawar%')
9	Crew who don't have Khan in their name	SELECT * FROM Crew WHERE NOT crew_name LIKE '%Khan%'

10	Crew who don't have Ali in their name	SELECT * FROM Crew WHERE NOT crew_name LIKE '%Ali%'
11	Passenger with id not in range 10 and 20	SELECT * FROM Passenger WHERE passenger_id NOT BETWEEN 10 AND 20
12	Passenger with id not in range 40 and 50	SELECT * FROM Passenger WHERE passenger_id NOT BETWEEN 40 AND 50
13	Passengers whose genders are not M and O	SELECT * FROM Passenger WHERE passenger_gender NOT IN ('M', 'O')
14	Passengers whose genders are not F and M	SELECT * FROM Passenger WHERE passenger_gender NOT IN ('M', 'F')
15	Countries except India, Pakistan and China	SELECT * FROM Country WHERE country_name NOT IN ('India', 'Pakistan', 'China')
16	Countries whose name does not have United in it	SELECT * FROM Country WHERE country_name NOT LIKE ('%United%')
17	Countries whose name does not have States in it	SELECT * FROM Country WHERE country_name NOT LIKE ('%States%')
18	Cities whose country code is not 1, 3 and 5	SELECT * FROM City WHERE country NOT IN (1,3,5)
19	Cities except Lahore and Delhi	SELECT * FROM City WHERE city_name NOT IN ('Lahore', 'Delhi')
20	Payments which were not made by cash	SELECT * FROM Payment WHERE NOT payment_method = 'Cash'
21	Cash payments less than 50 thousand	SELECT * FROM Payment WHERE payment_method = 'Cash' AND amount < 50000
22	Card payments greater than 1 lakh	SELECT * FROM Payment WHERE payment_method = 'Card' AND amount > 100000
23	Online payments less than 90 thousand	SELECT * FROM Payment WHERE payment_method = 'Online' AND amount < 90000
24	Male crew with salary greater than 50 thousand	SELECT * FROM Crew WHERE crew_gender = 'M' AND crew_salary > 50000
25	Crew with salary greater than 50 thousand and less than 1 lakh	SELECT * FROM Crew WHERE crew_salary > 50000 and crew_salary < 100000

26	Male crew whose email is gmail	SELECT * FROM Crew WHERE crew_email LIKE '%gmail.com' AND crew_gender = 'M'
27	Female crew whose email is yahoo	SELECT * FROM Crew WHERE crew_email LIKE '%yahoo.com' AND crew_gender = 'F'
28	Crew with 'Other' gender whose email is gmail	SELECT * FROM Crew WHERE crew_email LIKE '%gmail.com' AND crew_gender = 'O'
29	Crew with 'Other' gender whose email is yahoo	SELECT * FROM Crew WHERE crew_email LIKE '%yahoo.com' AND crew_gender = 'O'
30	Crew from Lahore whose role id is 1	SELECT * FROM Crew WHERE crew_address LIKE '%Lahore%' AND crew_role = 1
31	Crew from Islamabad whose role id is 1	SELECT * FROM Crew WHERE crew_address LIKE '%Islamabad%' AND crew_role = 1
32	Crew from Karachi whose role id is 1	SELECT * FROM Crew WHERE crew_address LIKE '%Karachi%' AND crew_role = 1

33	Class id 2 reservations after 1st August 2022	SELECT * FROM Reservation WHERE reservation_datetime > '2022-8-1' AND class = 2
34	Class id 1 reservations after 1st August 2022	SELECT * FROM Reservation WHERE reservation_datetime > '2022-8-1' AND class = 1
35	Class id 3 reservations after 1st March 2022	SELECT * FROM Reservation WHERE reservation_datetime > '2022-3-1' AND class = 3
36	Class id 1 reservations of March	SELECT * FROM Reservation WHERE MONTH(reservation_datetime) = 3 AND class = 1
37	Class id 2 reservations of April	SELECT * FROM Reservation WHERE MONTH(reservation_datetime) = 4 AND class = 2
38	Class id 1 reservations of March	SELECT * FROM Reservation WHERE MONTH(reservation_datetime) = 3 AND class = 3
39	Seats of aircraft id 1 in class id 1	SELECT * FROM Seat WHERE class = 1 AND aircraft = 1
40	Seats of aircraft id 2 in class id 1	SELECT * FROM Seat WHERE class = 1 AND aircraft = 2
41	Cities with country id 2 or 3	SELECT * FROM City WHERE country = 2 OR country = 3
42	Cities with country id 4 or 5	SELECT * FROM City WHERE country = 4 OR country = 5
43	Cities with country id 6 or 7	SELECT * FROM City WHERE country = 6 OR country = 7
44	Crew from Lahore or Islamabad	SELECT * FROM Crew WHERE crew_address LIKE '%Lahore%' OR crew_address LIKE '%Islamabad%'
45	Crew from Sui or Kala Shah Kaku	SELECT * FROM Crew WHERE crew_address LIKE '%Sui%' OR crew_address LIKE '%Kala Shah Kaku%'
46	Crew whose role id is 1 or salary greater than 1 lakh	SELECT * FROM Crew WHERE crew_role = 1 OR crew_salary > 100000
47	Female crew or crew with salary greater than 1 lakh	SELECT * FROM Crew WHERE crew_gender = 'F' OR crew_salary > 100000
48	Payments with payment method card or amount greater than 1 lakh	SELECT * FROM Payment WHERE payment_method = 'Card' OR amount > 100000
49	Payments with payment method cash or amount less than 50 thousand	SELECT * FROM Payment WHERE payment_method = 'Cash' OR amount < 50000
50	Payments with payment method online or amount greater than 1 lakh	SELECT * FROM Payment WHERE payment_method = 'Online' OR amount > 100000

ORDER BY Statement – 25 Queries

1	Sorting by amount	SELECT * FROM Payment ORDER BY amount
2	Sorting by reservation id in descending order	SELECT * FROM Payment ORDER BY reservation DESC
3	Sorting by payment id in descending order	SELECT * FROM Payment ORDER BY payment_id DESC
4	Sorting by crew salary	SELECT * FROM Crew ORDER BY crew_salary

5	Sorting by crew salary in descending order	SELECT * FROM Crew ORDER BY crew_salary DESC
6	Sorting by crew role id	SELECT * FROM Crew ORDER BY crew_role
7	Sorting by crew name in alphabetical order	SELECT * FROM Crew ORDER BY crew_name
8	Sorting by crew name in reverse alphabetical order	SELECT * FROM Crew ORDER BY crew_name DESC
9	Sorting by passenger id	SELECT * FROM Feedback ORDER BY passenger
10	Sorting by rating	SELECT * FROM Feedback ORDER BY rating
11	Sorting by country id	SELECT * FROM City ORDER BY country
12	Sorting by city name in alphabetical order	SELECT * FROM City ORDER BY city_name
13	Sorting by class id	SELECT * FROM Seat ORDER BY class
14	Sorting by aircraft id in reverse order	SELECT * FROM Seat ORDER BY aircraft DESC
15	Sorting by aircraft name in reverse alphabetical order	SELECT * FROM Aircraft ORDER BY aircraft_name DESC
16	Sorting by passenger id in descending order	SELECT * FROM Passenger ORDER BY passenger_id DESC
17	Sorting by passenger gender	SELECT * FROM Passenger ORDER BY passenger_gender
18	Sorting by passenger name	SELECT * FROM Passenger ORDER BY passenger_name
19	Sorting by passenger name in reverse alphabetical order	SELECT * FROM Passenger ORDER BY passenger_name DESC
20	Sorting first by passenger name and then by gender	SELECT * FROM Passenger ORDER BY passenger_name, passenger_gender
21	Sorting by response detail alphabetically	SELECT * FROM Response ORDER BY response_detail
22	Sorting by crew salary	SELECT * FROM Crew ORDER BY crew_gender
23	Sorting by passenger id	SELECT * FROM Baggage ORDER BY passenger
24	Sorting by flight id in reverse order	SELECT * FROM Baggage ORDER BY flight DESC
25	Sorting by baggage id in reverse order	SELECT * FROM Baggage ORDER BY baggage_id DESC

ORDER BY using AND, OR and NOT Operators – 25 Queries

1	Sorting by amount which is between 1 and 1.5 lakh	SELECT * FROM Payment WHERE amount > 100000 AND amount < 150000 ORDER BY amount
2	Sorting by reservation id from 10 to 20 in descending order	SELECT * FROM Payment WHERE reservation >= 10 AND reservation <= 20 ORDER BY reservation DESC

3	Sorting by payment id from 30 to 50 in descending order	SELECT * FROM Payment WHERE payment_id >= 30 AND payment_id <= 50 ORDER BY payment_id DESC
4	Sorting by crew salary which is greater than 50 thousand and less than 1 lakh	SELECT * FROM Crew WHERE crew_salary > 50000 AND crew_salary < 100000 ORDER BY crew_salary
5	Sorting by crew salary of males greater than 1 lakh in descending order	SELECT * FROM Crew WHERE crew_gender = 'M' AND crew_salary > 100000 ORDER BY crew_salary DESC
6	Sorting by crew role id of females from Islamabad	SELECT * FROM Crew WHERE crew_role = 'F' AND crew_address LIKE '%Islamabad%' ORDER BY crew_role
7	Sorting by crew name in alphabetical order of role id 1 and from Lahore	SELECT * FROM Crew WHERE crew_role = 1 AND crew_address LIKE '%Lahore%' ORDER BY crew_name
8	Sorting by crew name in reverse alphabetical order of role id 1 and from Lahore	SELECT * FROM Crew WHERE crew_role = 1 AND crew_address LIKE '%Lahore%' ORDER BY crew_name DESC
9	Sorting by passenger id where rating is less than 5	SELECT * FROM Feedback WHERE NOT rating > 5 ORDER BY passenger
10	Sorting by rating where passenger id is less than 50	SELECT * FROM Feedback WHERE NOT passenger > 50 ORDER BY rating
11	Sorting by country id excluding country id 1	SELECT * FROM City WHERE NOT country = 1 ORDER BY country
12	Sorting by city name in alphabetical order excluding Lahore and London	SELECT * FROM City WHERE NOT city_name IN ('Lahore', 'London') ORDER BY city_name
13	Sorting by class id excluding class id 1	SELECT * FROM Seat WHERE NOT class = 1 ORDER BY class
14	Sorting by aircraft id in revserse order excluding aircraft idss 1, 5 and 7	SELECT * FROM Seat WHERE aircraft NOT IN (1,5,7) ORDER BY aircraft DESC
15	Sorting by aircraft name in reverse alphabetical order excluding aircraft ids between 3 and 5	SELECT * FROM Aircraft WHERE aircraft_id NOT BETWEEN 3 AND 5 ORDER BY aircraft_name DESC
16	Sorting by passenger id in descending order excludinh males and females	SELECT * FROM Passenger WHERE passenger_gender NOT IN ('M', 'F') ORDER BY passenger_id DESC
17	Sorting by passeger gender who don't have email address of yahoo	SELECT * FROM Passenger WHERE passenger_email NOT LIKE ('%yahoo.com') ORDER BY passenger_gender
18	Sorting by passenger name except those having id from 10 to 20	SELECT * FROM Passenger WHERE passenger_id NOT BETWEEN 10 and 20
		ORDER BY passenger_name

19	Sorting by passenger name in reverse alphabetical order except those who have Khan in their name	SELECT * FROM Passenger WHERE passenger_name NOT LIKE '%Khan%' ORDER BY passenger_name DESC
20	Sorting first by passenger name and then by gender who don't have email address of Hotmail	SELECT * FROM Passenger WHERE passenger_email NOT LIKE '%hotmail.com' ORDER BY passenger_name, passenger_gender
21	Sorting by response detail alphabetically which have id greater than 1 or have 'Considered' in their detail	SELECT * FROM Response WHERE response_id > 1 OR response_detail LIKE '%Considered%' ORDER BY response_detail
22	Sorting by crew salary which have id greater than 30 or are female	SELECT * FROM Crew WHERE crew_id > 30 OR crew_gender = 'F' ORDER BY crew_gender
23	Sorting by passenger id with baggage id greater than 2 or flight id greater than 1	SELECT * FROM Baggage WHERE baggage_id > 2 OR flight > 1 ORDER BY passenger
24	Sorting by flight id in reverse order which have flight id greater than 2 or have 'DELL' in their detail	SELECT * FROM Baggage WHERE baggage_detail LIKE '%DELL%' OR flight > 2 ORDER BY flight DESC
25	Sorting by baggage id in reverse order with passenger id greater than 20 or flight id greater than 2	SELECT * FROM Baggage WHERE passenger > 20 OR flight > 2 ORDER BY baggage_id DESC

GROUP BY Statement – 25 Queries

1	GROUPING BY gender and calculating total occurences of each	SELECT crew_gender, COUNT(crew_id) AS Total FROM Crew GROUP BY crew_gender
2	GROUPING BY role id and calculating total occurences of each	SELECT crew_role, COUNT(crew_id) AS Total FROM Crew GROUP BY crew_role
3	GROUPING BY salary and calculating total occurences of each	SELECT crew_salary, COUNT(crew_id) AS Total FROM Crew GROUP BY crew_salary
4	GROUPING BY country id and calculating total occurences of each	SELECT country, COUNT(country) AS Total FROM City GROUP BY country
5	GROUPING BY flight id and calculating total occurences of each	SELECT flight, COUNT(reservation_id) AS Total FROM Reservation GROUP BY flight
6	GROUPING BY class id and calculating total occurences of each	SELECT class, COUNT(reservation_id) AS Total FROM Reservation GROUP BY class
7	GROUPING BY month number and calculating total occurences of each	SELECT Month(reservation_datetime) AS MonthNumber, COUNT(reservation_id) AS Total FROM Reservation GROUP BY Month(reservation_datetime)

8	GROUPING BY day number and calculating total occurences of each	SELECT Day(reservation_datetime) AS DayNumber, COUNT(reservation_id) AS Total FROM Reservation GROUP BY Day(reservation_datetime)

9	GROUPING BY year number and calculating total occurences of each	SELECT YEAR(reservation_datetime) AS YearNumber, COUNT(reservation_id) AS Total FROM Reservation GROUP BY YEAR(reservation_datetime)
10	GROUPING BY seat id and calculating total occurences of each	SELECT seat, COUNT(reservation_id) AS Total FROM Reservation GROUP BY seat
11	GROUPING BY amount and calculating total occurences of each	SELECT amount, COUNT(payment_id) AS Total FROM Payment GROUP BY amount
12	GROUPING BY city id and calculating total occurences of each	SELECT city, COUNT(airport_id) AS Total FROM Airport GROUP BY city
13	GROUPING BY flight id and calculating total occurences of each	SELECT flight, COUNT(table_id) AS Total FROM CrewOnFlight GROUP BY flight
14	GROUPING BY crew id and calculating total occurences of each	SELECT crew, COUNT(table_id) AS Total FROM CrewOnFlight GROUP BY crew
15	GROUPING BY gender and calculating total occurences of each	SELECT passenger_gender, COUNT(passenger_id) AS Total FROM Passenger GROUP BY passenger_gender
16	GROUPING BY gender and taking maximum salary of each gender	SELECT crew_gender, MAX(crew_salary) AS MaxSalary FROM Crew GROUP BY crew_gender
17	GROUPING BY gender and taking minimum salary of each gender	SELECT crew_gender, MIN(crew_salary) AS MinSalary FROM Crew GROUP BY crew_gender
18	GROUPING BY gender and taking average salary of each gender	SELECT crew_gender, AVG(crew_salary) AS AvgSalary FROM Crew GROUP BY crew_gender
19	GROUPING BY role id and taking maximum salary of each role	SELECT crew_role, MAX(crew_salary) AS MaxSalary FROM Crew GROUP BY crew_role
20	GROUPING BY role id and taking minimum salary of each role	SELECT crew_role, MIN(crew_salary) AS MinSalary FROM Crew GROUP BY crew_role
21	GROUPING BY role id and taking average salary of each role	SELECT crew_role, AVG(crew_salary) AS AvgSalary FROM Crew GROUP BY crew_role

22	GROUPING BY rating and calculating total occurences of each	SELECT rating, COUNT(feedback_id) AS Total FROM Feedback GROUP BY rating
23	GROUPING BY passenger id and calculating total occurences of each	SELECT passenger, COUNT(feedback_id) AS Total FROM Feedback GROUP BY passenger
24	GROUPING BY flight id and calculating total occurences of each	SELECT flight, COUNT(feedback_id) AS Total FROM Feedback GROUP BY flight
25	GROUPING BY response and calculating total occurences of each	SELECT rating, COUNT(feedback_id) AS Total FROM Feedback
		GROUP BY response

GROUP BY using AND, OR, NOT Operators and Group by – 25 Queries

1	GROUPING BY gender and calculating total occurences of each where crew id is greater than 1 and less than 10	SELECT crew_gender, COUNT(crew_id) AS Total FROM Crew WHERE crew_id > 1 AND crew_id < 10 GROUP BY crew_gender
2	GROUPING BY role id and calculating total occurences of each where gender is male and female	SELECT crew_role, COUNT(crew_id) AS Total FROM Crew WHERE crew_gender = 'M' AND crew_gender = 'F' GROUP BY crew_role
3	GROUPING BY salary and calculating total occurences of each where crew role id is greater than 5 and less than 8	SELECT crew_salary, COUNT(crew_id) AS Total FROM Crew WHERE crew_role > 5 AND crew_role < 8 GROUP BY crew_salary
4	GROUPING BY country id and calculating total occurences of each where country id is greater than 4 and less than 7	SELECT country, COUNT(country) AS Total FROM City WHERE country > 4 AND country < 7 GROUP BY country
5	GROUPING BY flight id and calculating total occurences of each where reservation date is greater than 1st March 20222 and flight is greater than 2	SELECT flight, COUNT(reservation_id) AS Total FROM Reservation WHERE reservation_datetime > '2022-3-1' AND flight > 2 GROUP BY flight

6	GROUPING BY class id and calculating total occurences of each where reservation date is between 1st March 2022 and 1st December 2022	SELECT class, COUNT(reservation_id) AS Total FROM Reservation WHERE reservation_datetime > '2022-3-1' AND reservation_datetime < '2022-12-1' GROUP BY class
7	GROUPING BY month number and calculating total occurences of each where flight id is 1 and class id is also 1	SELECT Month(reservation_datetime) AS MonthNumber, COUNT(reservation_id) AS Total FROM Reservation WHERE flight = 1 and class = 1 GROUP BY Month(reservation_datetime)
8	GROUPING BY day number and calculating total occurences of each where flight id is 2 and class id is 1	SELECT Day(reservation_datetime) AS DayNumber, COUNT(reservation_id) AS Total FROM Reservation WHERE flight = 2 and class = 1

		GROUP BY Day(reservation_datetime)
9	GROUPING BY year number and calculating total occurences of each where flight id is 1 and class id is 3	SELECT YEAR(reservation_datetime) AS YearNumber, COUNT(reservation_id) AS Total FROM Reservation WHERE flight = 1 and class = 3 GROUP BY YEAR(reservation_datetime)
10	GROUPING BY seat id and calculating total occurences of each except flight 1 and 5	SELECT seat, COUNT(reservation_id) AS Total FROM Reservation WHERE flight NOT IN (1,5) GROUP BY seat
11	GROUPING BY amount and calculating total occurences of each except between 50 and 80 thousand	SELECT amount, COUNT(payment_id) AS Total FROM Payment WHERE amount NOT BETWEEN 50000 AND 80000 GROUP BY amount
12	GROUPING BY payment method and calculating total occurences of each excluding Cash	SELECT payment_method, COUNT(payment_id) AS Total FROM Payment WHERE NOT payment_method = 'Cash' GROUP BY payment_method

13	GROUPING BY city id and calculating total occurences of each excluding those between airport ids 10 and 17	SELECT city, COUNT(airport_id) AS Total FROM Airport WHERE airport_id NOT BETWEEN 10 AND 17 GROUP BY city
14	GROUPING BY flight id and calculating total occurences of each excluding crew ids 3 and 6	SELECT flight, COUNT(table_id) AS Total FROM CrewOnFlight WHERE crew NOT IN (3,6) GROUP BY flight
15	GROUPING BY crew id and calculating total occurences of each excluding flight ids 1 and 3	SELECT crew, COUNT(table_id) AS Total FROM CrewOnFlight WHERE flight NOT IN (1,3) GROUP BY crew
16	GROUPING BY gender and calculating total occurences of each except passenger id between 20 and 30	SELECT passenger_gender, COUNT(passenger_id) AS Total FROM Passenger WHERE passenger_id NOT BETWEEN 20 AND 30 GROUP BY passenger_gender
17	GROUPING BY gender and taking maximum salary of each gender except those having crew role id 1 and 4	SELECT crew_gender, MAX(crew_salary) AS MaxSalary FROM Crew WHERE crew_role NOT IN (1,4) GROUP BY crew_gender
18	GROUPING BY gender and taking minimum salary of each gender except those having crew role id 1 and 4	SELECT crew_gender, MIN(crew_salary) AS MinSalary FROM Crew
		WHERE crew_role NOT IN (1,4) GROUP BY crew_gender
19	GROUPING BY gender and taking average salary of each gender except those having crew role id 1 and 4	SELECT crew_gender, AVG(crew_salary) AS AvgSalary FROM Crew WHERE crew_role NOT IN (1,4) GROUP BY crew_gender
20	GROUPING BY role id and taking maximum salary of each gender excluding males and females	SELECT crew_role, MAX(crew_salary) AS MaxSalary FROM Crew WHERE crew_gender NOT IN ('M','F') GROUP BY crew_role
21	GROUPING BY role id and taking minimum salary of each gender where role id is greater than 5 or address is of Islamabad	SELECT crew_role, MIN(crew_salary) AS MinSalary FROM Crew WHERE crew_address LIKE '%Islamabad%' OR crew_role > 5 GROUP BY crew_role

22	GROUPING BY role id and taking average salary of each gender where gender is male and salary is greater than 1 lakh	SELECT crew_role, AVG(crew_salary) AS AvgSalary FROM Crew WHERE crew_gender = 'M' OR crew_salary > 100000 GROUP BY crew_role
23	GROUPING BY rating and calculating total occurences of each where passenger id is greater than 5 or rating is 3	SELECT rating, COUNT(feedback_id) AS Total FROM Feedback WHERE passenger >= 5 OR rating > 3 GROUP BY rating
24	GROUPING BY passenger id and calculating total occurences of each where flight id is greater than 1 and passenger id is greater than 10	SELECT passenger, COUNT(feedback_id) AS Total FROM Feedback WHERE passenger >= 10 OR flight > 1 GROUP BY passenger
25	GROUPING BY flight id and calculating total occurences of each where rating is greater than 8 and feedback id is greater than 1	SELECT flight, COUNT(feedback_id) AS Total FROM Feedback WHERE feedback_id > 1 OR rating > 8 GROUP BY flight

Subqueries – 30 Queries

1	Where crew salary is greater than average salary	SELECT crew_name, crew_salary FROM Crew WHERE crew_salary > (SELECT AVG(crew_salary) FROM crew)
2	Where salary is greater than highest salary of role id 1	SELECT crew_name, crew_salary FROM Crew WHERE crew_salary > (SELECT MAX(crew_salary) FROM crew WHERE crew_role = 1)
3	Who have more salary than Zara Khan	SELECT * FROM Crew WHERE crew_salary > (SELECT crew_salary FROM Crew WHERE crew_name = 'Zara Khan')

4	Where salary is less than lowest salary of role id 4	SELECT crew_name, crew_salary FROM Crew WHERE crew_salary < (SELECT MIN(crew_salary) FROM crew WHERE crew_role = 4)
5	Names of cities from Pakistan	SELECT city_name FROM City WHERE country = (SELECT country_id FROM Country WHERE country_name = 'Pakistan')
6	Where aircraft is Boeing 747	SELECT flight_id FROM Flight WHERE aircraft = (SELECT aircraft_id FROM Aircraft WHERE aircraft_name = 'Boeing 747')
7	Where crew role is Pilot	SELECT crew_id, crew_name FROM Crew WHERE crew_role = (SELECT crew_id FROM CrewRole WHERE role_name = 'Pilot')
8	Where country is India	SELECT city_name FROM City WHERE country = (SELECT country_id FROM Country WHERE country_name = 'India')
9	Where country is United States	SELECT city_name FROM City WHERE country = (SELECT country_id FROM Country WHERE country_name = 'United States')

10	Where country is Japan	SELECT city_name FROM City WHERE country = (SELECT country_id FROM Country WHERE country_name = 'Japan')
11	Where aircraft is Airbus A320	SELECT flight_id FROM Flight WHERE aircraft = (SELECT aircraft_id FROM Aircraft WHERE aircraft_name = 'Airbus A320')
12	Where aircraft is Boeing 787	SELECT flight_id FROM Flight WHERE aircraft = (SELECT aircraft_id FROM Aircraft WHERE aircraft_name = 'Boeing 787')
13	Where aircraft is Airbus A380	SELECT flight_id FROM Flight WHERE aircraft = (SELECT aircraft_id FROM Aircraft WHERE aircraft_name = 'Airbus A380')
14	Where crew salary is less than average salary	SELECT crew_name, crew_salary FROM Crew WHERE crew_salary < (SELECT AVG(crew_salary) FROM crew)
15	Who have more salary than Ali Khan	SELECT * FROM Crew WHERE crew_salary > (SELECT crew_salary FROM Crew WHERE crew_name = 'Ali Khan')
16	Who have less salary than Ali Khan	SELECT * FROM Crew WHERE crew_salary < (SELECT crew_salary FROM Crew WHERE crew_name = 'Ali Khan')
17	Where class is Business	SELECT reservation_id FROM Reservation WHERE class = (SELECT class_id FROM Class WHERE class_name = 'Business')
18	Where class is Economy	SELECT reservation_id FROM Reservation WHERE class = (SELECT class_id FROM Class WHERE class_name = 'Economy')
19	Where class is First	SELECT reservation_id FROM Reservation WHERE class = (SELECT class_id FROM Class WHERE class_name = 'First')
20	Where flight departure airport is 18	SELECT crew FROM CrewOnFlight WHERE flight IN (SELECT flight_id FROM Flight WHERE flight_departure_airport = 18)
21	Where flight departure airport is 13	SELECT crew FROM CrewOnFlight WHERE flight IN (SELECT flight_id FROM Flight WHERE flight_departure_airport = 13)
22	Where flight departure airport is 5	SELECT crew FROM CrewOnFlight WHERE flight IN (SELECT flight_id FROM Flight WHERE flight_departure_airport = 5)
23	Where flight arrival airport is 19	SELECT crew FROM CrewOnFlight WHERE flight IN (SELECT flight_id FROM Flight WHERE flight_arrival_airport = 19)
24	Where flight arrival airport is 17	SELECT crew FROM CrewOnFlight WHERE flight IN (SELECT flight_id FROM Flight WHERE flight_arrival_airport = 17)
25	Where flight arrival airport is 20	SELECT crew FROM CrewOnFlight
		WHERE flight IN (SELECT flight_id FROM Flight WHERE flight_arrival_airport = 20)
26	Where city name is Lahore	SELECT airport_id, airport_name FROM Airport WHERE city = (SELECT city_id FROM City WHERE city_name = 'Lahore')
27	Where city name is Karachi	SELECT airport_id, airport_name FROM Airport WHERE city = (SELECT city_id FROM City WHERE city_name = 'Karachi')
28	Where city name is Islamabad	SELECT airport_id, airport_name FROM Airport WHERE city = (SELECT city_id FROM City WHERE city_name = 'Islamabad')

29	Where city name is London	SELECT airport_id, airport_name FROM Airport WHERE city = (SELECT city_id FROM City WHERE city_name = 'London')
30	Where flight departure airport is 18	SELECT baggage_id, baggage_detail FROM Baggage WHERE flight IN (SELECT flight_id FROM Flight WHERE flight_departure_airport = 18)

Subqueries using logical operators – 30 Queries

1	Where crew salary is greater than average salary of crew excluding role id 1 and 2	SELECT crew_name, crew_salary FROM Crew WHERE crew_salary > (SELECT AVG(crew_salary) FROM crew WHERE crew_role NOT IN (1,2))
2	Where salary is greater than highest salary of role id 1 and 4	SELECT crew_name, crew_salary FROM Crew WHERE crew_salary > (SELECT MAX(crew_salary) FROM crew WHERE crew_role = 1 OR crew_role = 4)
3	Who have more salary than Zara Khan and Ali Khan	SELECT * FROM Crew WHERE crew_salary > (SELECT MAX(crew_salary) FROM Crew WHERE crew_name = 'Zara Khan' OR crew_name = 'Ali Khan')
4	Where salary is less than lowest salary of role id 4 and 2	SELECT crew_name, crew_salary FROM Crew WHERE crew_salary < (SELECT MIN(crew_salary) FROM crew WHERE crew_role = 4 OR crew_role = 2)
5	Names of cities from Pakistan and India	SELECT city_name FROM City WHERE country IN (SELECT country_id FROM Country WHERE country_name = 'Pakistan' OR country_name = 'India')
6	Where aircraft is Boeing 747 and Boeing 787	SELECT flight_id FROM Flight WHERE aircraft IN (SELECT aircraft_id FROM Aircraft WHERE aircraft_name = 'Boeing 747' OR aircraft_name = 'Boeing 787')
7	Where crew role is Pilot or Air Host	SELECT crew_id, crew_name FROM Crew WHERE crew_role IN (SELECT crew_id FROM CrewRole WHERE role_name = 'Pilot' OR crew_role = 'Air Host')
8	Where country is India or United Kingdom	SELECT city_name FROM City WHERE country IN (SELECT country_id FROM Country WHERE country_name = 'India' OR country_name = 'United Kingdom')
9	Where country is United States or United States	SELECT city_name FROM City WHERE country IN (SELECT country_id FROM Country WHERE country_name = 'United States' OR country_name = 'Canada')
10	Where country is Japan or Nepal	SELECT city_name FROM City WHERE country IN (SELECT country_id FROM Country WHERE country_name = 'Japan' OR country_name = 'Nepal')
11	Where aircraft is Airbus A320 or Boeing 787	SELECT flight_id FROM Flight WHERE aircraft IN (SELECT aircraft_id FROM Aircraft WHERE aircraft_name = 'Airbus A320' OR aircraft_name = 'Boeing 787')

12	Where aircraft id is neither 1 and 2	SELECT flight_id FROM Flight WHERE aircraft IN (SELECT aircraft_id FROM Aircraft WHERE aircraft_id NOT IN (1,2))

13	Where aircraft is Airbus A380 or Airbus A320	SELECT flight_id FROM Flight WHERE aircraft IN (SELECT aircraft_id FROM Aircraft WHERE aircraft_name = 'Airbus A380' OR aircraft_name = 'Airbus A320')
14	Where crew salary is less than average salary of crew having id greater than 10 and address containing word Lahore	SELECT crew_name, crew_salary FROM Crew WHERE crew_salary < (SELECT AVG(crew_salary) FROM crew WHERE crew_id > 10 AND crew_address LIKE '%Lahore%')
15	Who have more salary than Ali Khan and Hassan Ali	SELECT * FROM Crew WHERE crew_salary > (SELECT MAX(crew_salary) FROM Crew WHERE crew_name = 'Ali Khan' OR crew_name = 'Hassan Ali')
16	Who have less salary than Ali Khan and Hassan Ali	SELECT * FROM Crew WHERE crew_salary < (SELECT MIN(crew_salary) FROM Crew WHERE crew_name = 'Ali Khan' OR crew_name = 'Hassan Ali')
17	Where class is Business or First	SELECT reservation_id FROM Reservation WHERE class IN (SELECT class_id FROM Class WHERE class_name = 'Business' OR class_name = 'First')
18	Where class is Economy or First	SELECT reservation_id FROM Reservation WHERE class IN (SELECT class_id FROM Class WHERE class_name = 'Economy' OR class_name = 'First')
19	Where class is Economy or Business	SELECT reservation_id FROM Reservation WHERE class IN (SELECT class_id FROM Class WHERE class_name = 'Economy' OR class_name = 'Business')
20	Where flight departure airport is not 18, 19 or 20	SELECT crew FROM CrewOnFlight WHERE flight IN (SELECT flight_id FROM Flight WHERE flight_departure_airport NOT IN (18,19,20))
21	Where flight departure airport is 13 or 18	SELECT crew FROM CrewOnFlight WHERE flight IN (SELECT flight_id FROM Flight WHERE flight_departure_airport = 13 OR flight_departure_airport = 18)
22	Where flight departure airport is 5 or 18	SELECT crew FROM CrewOnFlight WHERE flight IN (SELECT flight_id FROM Flight WHERE flight_departure_airport = 5 OR flight_departure_airport = 18)
23	Where flight arrival airport is 19 or departure aiport is 18	SELECT crew FROM CrewOnFlight WHERE flight IN (SELECT flight_id FROM Flight WHERE flight_arrival_airport = 19 OR flight_departure_airport = 18)
24	Where flight arrival airport is 17 or departure aiport is 18	SELECT crew FROM CrewOnFlight WHERE flight IN (SELECT flight_id FROM Flight WHERE flight_arrival_airport = 17 OR flight_departure_airport = 18)
25	Where flight arrival airport is 20 or departure aiport is 18	SELECT crew FROM CrewOnFlight WHERE flight IN (SELECT flight_id FROM Flight WHERE flight_arrival_airport = 20 OR flight_departure_airport = 18)
26	Where city id is from 5 to 20	SELECT airport_id, airport_name FROM Airport WHERE city IN (SELECT city_id FROM City WHERE city_id >= 5 AND city_id <= 20)
27	Where city name is Karachi or Lahore	SELECT airport_id, airport_name FROM Airport WHERE city IN (SELECT city_id FROM City WHERE city_name = 'Karachi' OR city_name = 'Lahore')

28	Where city name is Islamabad or London	SELECT airport_id, airport_name FROM Airport WHERE city IN (SELECT city_id FROM City WHERE city_name = 'Islamabad' OR city_name = 'London')
29	Where city name is Delhi or Lahore	SELECT airport_id, airport_name FROM Airport WHERE city IN (SELECT city_id FROM City WHERE city_name = 'Delhi' OR city_name = 'Lahore')
30	Where flight departure airport not in range 10 to 20	SELECT baggage_id, baggage_detail FROM Baggage WHERE flight IN (SELECT flight_id FROM Flight WHERE flight_departure_airport NOT BETWEEN 10 AND 20)

Aggregate functions MAX, MIN, SUM, COUNT, and AVG – 20 Queries

1	Taking maximum salary from crew table	SELECT MAX(crew_salary) FROM Crew
2	Highest crew id from crew table	SELECT MAX(crew_id) FROM Crew
3	Highest flight id from reservation table	SELECT MAX(flight) FROM Reservation
4	Highest passenger id from passenger table	SELECT MAX(passenger_id) FROM Passenger
5	Highest passenger id from reservation table	SELECT MAX(passenger) FROM Reservation
6	Highest arrival airport id from flight table	SELECT MAX(flight_arrival_airport) FROM Flight
7	Highest arrival date time from flight table	SELECT MAX(flight_arrival_datetime) FROM Flight
8	Highest departure date time from flight table	SELECT MIN(flight_departure_datetime) FROM Flight
9	Taking maximum salary from crew table	SELECT MIN(crew_salary) FROM Crew
10	Lowest crew id from crew table	SELECT MIN(crew_id) FROM Crew
11	Lowest flight id from reservation table	SELECT MIN(flight) FROM Reservation
12	Lowest passenger id from passenger table	SELECT MIN(passenger_id) FROM Passenger
13	Lowest passenger id from reservation table	SELECT MIN(passenger) FROM Reservation
14	Lowest arrival airport id from flight table	SELECT MIN(flight_arrival_airport) FROM Flight
15	Lowest arrival date time from flight table	SELECT MIN(flight_arrival_datetime) FROM Flight
16	Lowest departure date time from flight table	SELECT MIN(flight_departure_datetime) FROM Flight
17	Average salary from crew table	SELECT AVG(crew_salary) FROM Crew
18	Total crew ids in crew table	SELECT COUNT(crew_id) FROM Crew
19	Sum of crew salaries in crew table	SELECT SUM(crew_salary) FROM Crew
20	Sum of salaries of male crew	SELECT SUM(crew_salary) FROM Crew WHERE crew_gender = 'M'

Aggregate functions using logical Operators and Group by – 30 Queries

1	Maximum salary of male and female genders in crew table	SELECT crew_gender, MAX(crew_salary) FROM Crew WHERE crew_gender = 'M' OR crew_gender = 'F' GROUP BY crew_gender
2	Maximum salary of other and female genders in crew table	SELECT crew_gender, MAX(crew_salary) FROM Crew WHERE crew_gender = 'O' OR crew_gender = 'F' GROUP BY crew_gender
3	Average salary of other and female genders in crew table	SELECT crew_gender, AVG(crew_salary) FROM Crew WHERE crew_gender = 'O' OR crew_gender = 'F' GROUP BY crew_gender

4	Average salary of male and female genders in crew table	SELECT crew_gender, AVG(crew_salary) FROM Crew WHERE crew_gender = 'M' OR crew_gender = 'F' GROUP BY crew_gender
5	Minimum salary of male and female genders in crew table	SELECT crew_gender, MIN(crew_salary) FROM Crew WHERE crew_gender = 'M' OR crew_gender = 'F' GROUP BY crew_gender
6	Minimum salary of other and female genders in crew table	SELECT crew_gender, MIN(crew_salary) FROM Crew WHERE crew_gender = 'O' OR crew_gender = 'F' GROUP BY crew_gender
7	Getting total passenger genders having hotmail or outlook emails in passenger table	SELECT passenger_gender, COUNT(passenger_id) FROM Passenger WHERE passenger_email LIKE '%hotmail.com' OR passenger_email LIKE '%outlook.com' GROUP BY passenger_gender
8	Getting total passenger genders having hotmail or outlook emails in passenger table	SELECT passenger_gender, COUNT(passenger_id) FROM Passenger WHERE passenger_email LIKE '%gmail.com' OR passenger_email LIKE '%yahoo.com' GROUP BY passenger_gender
9	Total payments of each amount where reservation id is from 21 to 29	SELECT amount, COUNT(payment_id) FROM Payment WHERE reservation > 20 AND reservation < 30 GROUP BY amount
10	Total payments of each payment method where reservation id greater than 30 and amount greater than 50 thousand	SELECT payment_method, COUNT(payment_id) FROM Payment WHERE amount > 50000 AND reservation > 30 GROUP BY payment_method
11	Total payments of each payment method where reservation id is from 20 to 30	SELECT payment_method, COUNT(payment_id) FROM Payment WHERE reservation >= 20 AND reservation <= 30 GROUP BY payment_method
12	Each country's city where country id is form 4 to 9	SELECT country, COUNT(city_id) FROM City WHERE country > 3 AND country < 10 GROUP BY country
13	Total reservations of all flight after 1st May 2022 excluding flight id 1	SELECT flight, COUNT(reservation_id) FROM Reservation WHERE reservation_datetime > '2022-5-1' AND flight > 1 GROUP BY flight
14	Total reservations of each class in month of May	SELECT class, COUNT(reservation_id) FROM Reservation WHERE reservation_datetime > '2022-4-31' AND reservation_datetime < '2022-6-1' GROUP BY class
15	Total reservations of each month where class id 2 or flight id 2	SELECT Month(reservation_datetime), COUNT(reservation_id) FROM Reservation WHERE flight = 2 OR class = 2 GROUP BY Month(reservation_datetime)

16	Total reservations with respect to each day where flight id is 3 or class id is 1	SELECT Day(reservation_datetime), COUNT(reservation_id) FROM Reservation WHERE flight = 3 AND class = 1 GROUP BY Day(reservation_datetime)
17	Total reservations of each seat excluding flight id 2 and 4	SELECT seat, COUNT(reservation_id) FROM Reservation WHERE flight NOT IN (2,4) GROUP BY seat
18	Total payments with respect to amount where amount is not in range 60 to 90 thousand	SELECT amount, COUNT(payment_id) FROM Payment WHERE amount NOT BETWEEN 60000 AND 90000 GROUP BY amount
19	Total payments of each method excluding Cash	SELECT payment_method, COUNT(payment_id) FROM Payment WHERE NOT payment_method = 'Cash'
		GROUP BY payment_method
20	Total payments of each method excluding Online	SELECT payment_method, COUNT(payment_id) FROM Payment WHERE NOT payment_method = 'Online' GROUP BY payment_method
21	Total payments of each method excluding Card	SELECT payment_method, COUNT(payment_id) FROM Payment WHERE NOT payment_method = 'Card' GROUP BY payment_method
22	Total of each city's airports, excluding airports with airport id in range 20 to 25	SELECT city, COUNT(airport_id) FROM Airport WHERE airport_id NOT BETWEEN 20 AND 25 GROUP BY city
23	Total flights crews where excluding those crew having crew id 4 or 5	SELECT flight, COUNT(table_id) FROM CrewOnFlight WHERE crew NOT IN (4,5) GROUP BY flight
24	Total flights of each crew excluding flight id 2 or 4	SELECT crew, COUNT(table_id) FROM CrewOnFlight WHERE flight NOT IN (2,4) GROUP BY crew
25	Sum of each crew gender's salary excluding those having salary in range of 60 to 90 thousand	SELECT crew_gender, SUM(crew_salary) FROM Crew WHERE crew_salary NOT BETWEEN 60000 AND 90000 GROUP BY crew_gender
26	Sum of salaries of male and female genders	SELECT crew_gender, SUM(crew_salary) FROM Crew WHERE crew_gender = 'M' OR crew_gender = 'F' GROUP BY crew_gender
27	Sum of salaries of female and other genders	SELECT crew_gender, SUM(crew_salary) FROM Crew WHERE crew_gender = 'F' OR crew_gender = 'O' GROUP BY crew_gender
28	Sum of salaries of male and other genders	SELECT crew_gender, SUM(crew_salary) FROM Crew WHERE crew_gender = 'M' OR crew_gender = 'O' GROUP BY crew_gender
29	Sum of salaries of crew id 1 and 3	SELECT crew_role, SUM(crew_salary) FROM Crew WHERE crew_role = 1 OR crew_role = 3 GROUP BY crew_role
30	Sum of salaries of crew id 4 and 3	SELECT crew_role, SUM(crew_salary) FROM Crew WHERE crew_role = 4 OR crew_role = 8 GROUP BY crew_role

INNER Joins – 20 Queries

1	Class Name of each reservation	SELECT r.reservation_id, c.class_name FROM Reservation r INNER JOIN Class c ON c.class_id = r.class
2	Passenger Name of each reservation	SELECT r.reservation_id, p.passenger_name FROM Reservation r INNER JOIN Passenger p ON p.passenger_id = r.passenger
3	Seat Name of each reservation	SELECT r.reservation_id, s.seat_name FROM Reservation r INNER JOIN Seat s ON s.seat_id = r.seat
4	Aircraft Name of each reservation	SELECT r.reservation_id, a.aircraft_name FROM Reservation r INNER JOIN Aircraft a ON a.aircraft_id = r.flight
5	Passenger Name with the baggage id	SELECT b.baggage_id, p.passenger_name FROM Baggage b INNER JOIN Passenger p ON p.passenger_id = b.passenger

6	Passenger Name with the baggage id and detail	SELECT b.baggage_id, b.baggage_detail, p.passenger_name FROM Baggage b INNER JOIN Passenger p ON p.passenger_id = b.passenger
7	Departure date time of each baggage	SELECT b.baggage_id, f.flight_departure_datetime FROM Baggage b INNER JOIN Flight f ON f.flight_id = b.flight
8	Departure and arrival date time of each baggage with its detail	SELECT b.baggage_id, b.baggage_detail, f.flight_departure_datetime, f.flight_arrival_datetime FROM Baggage b INNER JOIN Flight f ON f.flight_id = b.flight
9	Departure and arrival date time of each baggage with its detail and passenger name	SELECT b.baggage_id, p.passenger_name, b.baggage_detail, f.flight_departure_datetime, f.flight_arrival_datetime FROM Baggage b INNER JOIN Flight f ON f.flight_id = b.flight INNER JOIN Passenger p ON p.passenger_id = b.passenger
10	Departure and arrival date time of each baggage with its detail and passenger name and departure airport name	SELECT b.baggage_id, p.passenger_name, b.baggage_detail, a.airport_name AS departure_airport,f.flight_departure_datetime, f.flight_arrival_datetime FROM Baggage b INNER JOIN Flight f ON f.flight_id = b.flight INNER JOIN Passenger p ON p.passenger_id = b.passenger INNER JOIN Airport a ON a.airport_id = f.flight_departure_airport

11	Departure and arrival date time of each baggage with its detail and passenger name and arrival airport name	SELECT b.baggage_id, p.passenger_name, b.baggage_detail, a.airport_name AS arrival_airport,f.flight_departure_datetime, f.flight_arrival_datetime FROM Baggage b INNER JOIN Flight f ON f.flight_id = b.flight INNER JOIN Passenger p ON p.passenger_id = b.passenger INNER JOIN Airport a ON a.airport_id = f.flight_arrival_airport
12	Aircraft name of each flight	SELECT f.flight_id, a.aircraft_name FROM Flight f INNER JOIN Aircraft a ON a.aircraft_id = f.aircraft
13	Arrival airport name and date time name of each flight	SELECT f.flight_id, a.airport_name AS [arrival airport], f.flight_arrival_datetime FROM Flight f INNER JOIN Airport a ON a.airport_id = f.flight_arrival_airport
14	Departure airport name and date time name of each flight	SELECT f.flight_id, a.airport_name AS departure_airport, f.flight_departure_datetime FROM Flight f INNER JOIN Airport a ON a.airport_id = f.flight_departure_airport
15	Country name of each city and city id	SELECT ci.city_id, ci.city_name, co.country_name FROM City ci INNER JOIN Country co ON co.country_id = ci.country
16	City name of each airport	SELECT a.airport_id, a.airport_name, c.city_name FROM Airport a INNER JOIN City c ON c.city_id = a.city
17	City and country name of each airport	SELECT a.airport_id, a.airport_name, c.city_name, co.country_name FROM Airport a INNER JOIN City c ON c.city_id = a.city INNER JOIN Country co ON co.country_id = c.country
18	Role name of each crew	SELECT c.crew_id, c.crew_name, cr.role_name FROM Crew c INNER JOIN CrewRole cr ON cr.role_id = c.crew_role
19	To get which crew member was present on which flight using flight's departure and arrival datetime	SELECT c.crew_name, f.flight_departure_datetime, f.flight_arrival_datetime FROM CrewOnFlight cof INNER JOIN Crew c ON c.crew_id = cof.crew INNER JOIN Flight f ON f.flight_id = cof.flight

20	To get which crew member was present on which flight using flight's departure and arrival datetime and flight's aircraft name	SELECT c.crew_name, a.aircraft_name,f.flight_departure_datetime, f.flight_arrival_datetime FROM CrewOnFlight cof INNER JOIN Crew c ON c.crew_id = cof.crew INNER JOIN Flight f ON f.flight_id = cof.flight INNER JOIN Aircraft a ON a.aircraft_id = f.aircraft

INNER Joins using logical Operators, Group by and Order by – 30 Queries

1	Total reservations of each class	SELECT c.class_name, COUNT(r.reservation_id) AS total_reservations FROM Reservation r INNER JOIN Class c ON c.class_id = r.class GROUP BY c.class_name
2	Reservation and passenger name and ordering by reservation id in descending order	SELECT r.reservation_id, p.passenger_name FROM Reservation r INNER JOIN Passenger p ON p.passenger_id = r.passenger ORDER BY r.reservation_id DESC
3	Seat Name of each reservation where reservation id is from 20 to 30	SELECT r.reservation_id, s.seat_name FROM Reservation r INNER JOIN Seat s ON s.seat_id = r.seat WHERE reservation_id >= 20 AND reservation_id <=30
4	Total reservations of each aircraft and ordering by total_reservations	SELECT a.aircraft_name, COUNT(r.reservation_id) AS total_resservations FROM Reservation r INNER JOIN Aircraft a ON a.aircraft_id = r.flight GROUP BY a.aircraft_name ORDER BY total_resservations

5	Passenger Name with the baggage id where baggage id is not 2 and 3	SELECT b.baggage_id, p.passenger_name FROM Baggage b INNER JOIN Passenger p ON p.passenger_id = b.passenger WHERE b.baggage_id NOT IN (2,3)
6	Passenger Name with the baggage id and detail where baggage detail has 'Guitar' or 'Dell' in it	SELECT b.baggage_id, b.baggage_detail, p.passenger_name FROM Baggage b INNER JOIN Passenger p ON p.passenger_id = b.passenger WHERE b.baggage_detail LIKE '%Guitar%' OR b.baggage_detail LIKE '%Dell%'
7	Departure date time of each baggage except those baggage where baggage id is 4 or 5	SELECT b.baggage_id, f.flight_departure_datetime FROM Baggage b INNER JOIN Flight f ON f.flight_id = b.flight WHERE b.baggage_id NOT IN (4,5)

8	Departure and arrival date time of each baggage with its detail where baggage id is 2,3 or 4 or date is before 1st June 2022	SELECT b.baggage_id, b.baggage_detail, f.flight_departure_datetime, f.flight_arrival_datetime FROM Baggage b INNER JOIN Flight f ON f.flight_id = b.flight WHERE b.baggage_id IN (2,3,4) OR f.flight_departure_datetime < '2022-6-1'
9	Departure and arrival date time of each baggage with its detail and passenger name where passenger has 'Muhammad' or 'Ahmed' in its name	SELECT b.baggage_id, p.passenger_name, b.baggage_detail, f.flight_departure_datetime, f.flight_arrival_datetime FROM Baggage b INNER JOIN Flight f ON f.flight_id = b.flight INNER JOIN Passenger p ON p.passenger_id = b.passenger WHERE p.passenger_name LIKE ('%Muhammad%') OR p.passenger_name LIKE ('%Ahmed%')
10	Total baggage at departure airport and ordering by total_baggage column in descending order	SELECT a.airport_name, COUNT(b.baggage_id) AS total_baggage FROM Baggage b INNER JOIN Flight f ON f.flight_id = b.flight INNER JOIN Airport a ON a.airport_id = f.flight_departure_airport GROUP BY a.airport_name ORDER BY total_baggage DESC
11	Total baggage at arrival airports and ordering by total_baggage column in descending order	SELECT a.airport_name, COUNT(b.baggage_id) AS total_baggage FROM Baggage b INNER JOIN Flight f ON f.flight_id = b.flight INNER JOIN Airport a ON a.airport_id = f.flight_arrival_airport GROUP BY a.airport_name ORDER BY total_baggage DESC
12	Total flights of aircrafts	SELECT a.aircraft_name, COUNT(f.flight_id) AS total_flights FROM Flight f INNER JOIN Aircraft a ON a.aircraft_id = f.aircraft GROUP BY a.aircraft_name
13	Total flights at airports	SELECT a.airport_name, COUNT(f.flight_id) FROM Flight f INNER JOIN Airport a ON a.airport_id = f.flight_arrival_airport

		GROUP BY a.airport_name
14	Departure airport name and date time name of each flight where airport name contains 'Iqbal' or 'Berlin'	SELECT f.flight_id, a.airport_name AS departure_airport, f.flight_departure_datetime FROM Flight f INNER JOIN Airport a ON a.airport_id = f.flight_departure_airport WHERE a.airport_name LIKE ('%Iqbal%') OR a.airport_name LIKE ('%Berlin%')

15	Country name of each city and city id except countries Pakistan, China and India	SELECT ci.city_id, ci.city_name, co.country_name FROM City ci INNER JOIN Country co ON co.country_id = ci.country WHERE co.country_name NOT IN ('Pakistan', 'China', 'India')
16	City name of each airport except cities Manchester and Hamburg	SELECT a.airport_id, a.airport_name, c.city_name FROM Airport a INNER JOIN City c ON c.city_id = a.city WHERE c.city_name NOT IN ('Manchester', 'Hamburg')
17	City and country name of each airport except airports with ids from 5 to 10 and sorting by airport name	SELECT a.airport_id, a.airport_name, c.city_name, co.country_name FROM Airport a INNER JOIN City c ON c.city_id = a.city INNER JOIN Country co ON co.country_id = c.country WHERE a.airport_id NOT BETWEEN 5 AND 10 ORDER BY a.airport_name
18	Role name of each crew except those having 'Khan' or 'Malik' in their name and ordeing by role_name column	SELECT c.crew_id, c.crew_name, cr.role_name FROM Crew c INNER JOIN CrewRole cr ON cr.role_id = c.crew_role WHERE NOT (c.crew_name LIKE ('%Khan%') OR c.crew_name LIKE ('%Malik%')) ORDER BY cr.role_name
19	To get which crew member was present on which flight using flight's departure and arrival datetime and sorting by departure date time	SELECT c.crew_name, f.flight_departure_datetime, f.flight_arrival_datetime FROM CrewOnFlight cof INNER JOIN Crew c ON c.crew_id = cof.crew INNER JOIN Flight f ON f.flight_id = cof.flight ORDER BY f.flight_departure_datetime
20	To get which crew member was present on which flight using flight's departure and arrival datetime and flight's aircraft name and sorting by arrival date time	SELECT c.crew_name, a.aircraft_name,f.flight_departure_datetime, f.flight_arrival_datetime FROM CrewOnFlight cof INNER JOIN Crew c ON c.crew_id = cof.crew INNER JOIN Flight f ON f.flight_id = cof.flight INNER JOIN Aircraft a ON a.aircraft_id = f.aircraft ORDER BY f.flight_arrival_datetime
21	City name of each airport except Cities London and Toronto	SELECT a.airport_id, a.airport_name, c.city_name FROM Airport a INNER JOIN City c ON c.city_id = a.city

		WHERE c.city_name NOT IN ('London', 'Toronto')

22	Role name of each crew except those having 'Khan' or 'Malik' in their name and sorting by role name in descending order	SELECT c.crew_id, c.crew_name, cr.role_name FROM Crew c INNER JOIN CrewRole cr ON cr.role_id = c.crew_role WHERE NOT (c.crew_name LIKE ('%Khan%') OR c.crew_name LIKE ('%Malik%')) ORDER BY cr.role_name DESC
23	City and country name of each airport except those airports with id from 5 to 10 and sorting by airport name in descending order	SELECT a.airport_id, a.airport_name, c.city_name, co.country_name FROM Airport a INNER JOIN City c ON c.city_id = a.city INNER JOIN Country co ON co.country_id = c.country WHERE a.airport_id NOT BETWEEN 5 AND 10 ORDER BY a.airport_name DESC
24	Total reservations of each aircraft and sorting by total reservations in descending order	SELECT a.aircraft_name, COUNT(r.reservation_id) AS total_resservations FROM Reservation r INNER JOIN Aircraft a ON a.aircraft_id = r.flight GROUP BY a.aircraft_name ORDER BY total_resservations DESC
25	Total cities of each country	SELECT co.country_name, COUNT(ci.city_name) AS total_cities FROM City ci INNER JOIN Country co ON co.country_id = ci.country GROUP BY co.country_name
26	Baggage details with departure and arrival date time where baggage id is from 1 to 3 or baggage date is before 1st May 2022	SELECT b.baggage_id, b.baggage_detail, f.flight_departure_datetime, f.flight_arrival_datetime FROM Baggage b INNER JOIN Flight f ON f.flight_id = b.flight WHERE b.baggage_id IN (1,3) OR f.flight_departure_datetime < '2022-5-1'
27	Departure and arrival date time of each crew on flight and sorting by departure date time in descending order	SELECT c.crew_name, f.flight_departure_datetime, f.flight_arrival_datetime FROM CrewOnFlight cof INNER JOIN Crew c ON c.crew_id = cof.crew INNER JOIN Flight f ON f.flight_id = cof.flight ORDER BY f.flight_departure_datetime DESC
28	Total reservations of each class and sorting by class name	SELECT c.class_name, COUNT(r.reservation_id) AS total_reservations FROM Reservation r INNER JOIN Class c ON c.class_id = r.class GROUP BY c.class_name ORDER BY c.class_name

29	Airports with city and country name except those having airport id form 3 to 5	SELECT a.airport_id, a.airport_name, c.city_name, co.country_name FROM Airport a INNER JOIN City c ON c.city_id = a.city INNER JOIN Country co ON co.country_id = c.country WHERE a.airport_id NOT BETWEEN 3 AND 5 ORDER BY a.airport_name
30	Total reservations of each aircraft and ordering by total_reservations column	SELECT a.aircraft_name, COUNT(r.reservation_id) AS total_resservations FROM Reservation r INNER JOIN Aircraft a ON a.aircraft_id = r.flight GROUP BY a.aircraft_name ORDER BY total_resservations

LEFT JOIN – 20 Queries

1	All passengers with or without baggage	SELECT b.baggage_id, b.baggage_detail, p.passenger_name FROM Passenger p LEFT JOIN Baggage b ON p.passenger_id = b.passenger
2	All flights with or without baggage	SELECT b.baggage_id, b.baggage_detail, f.flight_id FROM Flight f LEFT JOIN Baggage b ON f.flight_id = b.flight
3	Aircrafts with or without flights	SELECT a.aircraft_id, a.aircraft_name, f.flight_id FROM Aircraft a LEFT JOIN Flight f ON a.aircraft_id = f.aircraft
4	Airports with or without departures	SELECT a.airport_id, a.airport_name, f.flight_id AS flight_departure_id FROM Airport a LEFT JOIN Flight f ON a.airport_id = f.flight_departure_airport
5	Airports with or without arrivals	SELECT a.airport_id, a.airport_name, f.flight_id AS flight_arrival_id FROM Airport a LEFT JOIN Flight f ON a.airport_id = f.flight_arrival_airport
6	Passengers with or without feedback	SELECT p.passenger_id, p.passenger_name, f.feedback_id, f.complete_feedback FROM Passenger p LEFT JOIN Feedback f ON p.passenger_id = f.passenger
7	Passengers with or without rating	SELECT p.passenger_id, p.passenger_name, f.rating FROM Passenger p LEFT JOIN Feedback f ON p.passenger_id = f.passenger
8	Crew with a flight or without a flight	SELECT c.crew_id, c.crew_name, cof.flight FROM Crew c LEFT JOIN CrewOnFlight cof

		ON c.crew_id = cof.crew
9	All passengers with or without a reservation	SELECT r.reservation_id, p.passenger_name FROM Passenger p LEFT JOIN Reservation r ON p.passenger_id = r.passenger
10	Country with or without a city in City table	SELECT ci.city_name, co.country_name FROM Country co LEFT JOIN City ci ON co.country_id = ci.country
11	Response whether it is in feedback or not	SELECT f.feedback_id, f.complete_feedback, f.passenger, r.response_detail FROM Response r
		LEFT JOIN Feedback f ON r.response_id = f.response
12	Flights whether they have a feedback or not	SELECT fb.feedback_id, fb.complete_feedback, f.flight_id FROM Flight f LEFT JOIN Feedback fb ON f.flight_id = fb.flight
13	City whether it has an airport or not	SELECT a.airport_id, a.airport_name, c.city_name FROM City c LEFT JOIN Airport a ON c.city_id = a.airport_id
14	Class whether it has a seat or not	SELECT s.seat_id, s.seat_name, c.class_name FROM Class c LEFT JOIN Seat s ON c.class_id = s.class
15	Reservations whether payment of it has been made or not	SELECT r.reservation_id, p.amount FROM Reservation r LEFT JOIN Payment p ON r.reservation_id = p.reservation
16	Class whether there is any reservation of it or not	SELECT r.reservation_id, c.class_name FROM Class c LEFT JOIN Reservation r ON c.class_id = r.class
17	Seat whether there is any reservation of it or not	SELECT r.reservation_id, s.seat_id, s.seat_name FROM Seat s LEFT JOIN Reservation r ON s.seat_id = r.seat
18	Flight whether it has any crew as of now or not	SELECT cof.crew, f.flight_id FROM Flight f LEFT JOIN CrewOnFlight cof ON f.flight_id = cof.flight
19	Flights whether they have a rating or not	SELECT fb.feedback_id, f.flight_id, fb.rating FROM Flight f LEFT JOIN Feedback fb ON f.flight_id = fb.flight
20	Crew Roles whether there is a crew matching that role or not	SELECT c.crew_id, c.crew_name, cr.role_name FROM CrewRole cr LEFT JOIN Crew c ON cr.role_id = c.crew_role

RIGHT JOIN – 20 Queries

1	All passengers with or without baggage	SELECT b.baggage_id, b.baggage_detail, p.passenger_name FROM Baggage b RIGHT JOIN Passenger p ON p.passenger_id = b.passenger
2	All flights with or without baggage	SELECT b.baggage_id, b.baggage_detail, f.flight_id FROM Baggage b RIGHT JOIN Flight f ON f.flight_id = b.flight
3	Aircrafts with or without flights	SELECT a.aircraft_id, a.aircraft_name, f.flight_id FROM Flight f RIGHT JOIN Aircraft a ON a.aircraft_id = f.aircraft
4	Airports with or without departures	SELECT a.airport_id, a.airport_name, f.flight_id AS flight_departure_id FROM Flight f RIGHT JOIN Airport a ON a.airport_id = f.flight_departure_airport
5	Airports with or without arrivals	SELECT a.airport_id, a.airport_name, f.flight_id AS flight_arrival_id FROM Flight f RIGHT JOIN Airport a ON a.airport_id = f.flight_arrival_airport
6	Passengers with or without feedback	SELECT p.passenger_id, p.passenger_name, f.feedback_id, f.complete_feedback FROM Feedback f RIGHT JOIN Passenger p ON p.passenger_id = f.passenger
7	Passengers with or without rating	SELECT p.passenger_id, p.passenger_name, f.rating FROM Feedback f RIGHT JOIN Passenger p ON p.passenger_id = f.passenger
8	Crew with a flight or without a flight	SELECT c.crew_id, c.crew_name, cof.flight FROM CrewOnFlight cof RIGHT JOIN Crew c ON c.crew_id = cof.crew
9	All passengers with or without a reservation	SELECT r.reservation_id, p.passenger_name FROM Reservation r RIGHT JOIN Passenger p ON p.passenger_id = r.passenger
10	Country with or without a city in City table	SELECT ci.city_name, co.country_name FROM City ci RIGHT JOIN Country co ON co.country_id = ci.country
11	Response whether it is in feedback or not	SELECT f.feedback_id, f.complete_feedback, f.passenger, r.response_detail FROM Feedback f RIGHT JOIN Response r ON r.response_id = f.response
12	Flights whether they have a feedback or not	SELECT fb.feedback_id, fb.complete_feedback, f.flight_id FROM Feedback fb RIGHT JOIN Flight f ON f.flight_id = fb.flight

13	City whether it has an airport or not	SELECT a.airport_id, a.airport_name, c.city_name FROM Airport a RIGHT JOIN City c ON c.city_id = a.airport_id
14	Class whether it has a seat or not	SELECT s.seat_id, s.seat_name, c.class_name FROM Seat s RIGHT JOIN Class c ON c.class_id = s.class
15	Reservations whether payment of it has been made or not	SELECT r.reservation_id, p.amount FROM Payment p RIGHT JOIN Reservation r ON r.reservation_id = p.reservation
16	Class whether there is any reservation of it or not	SELECT r.reservation_id, c.class_name FROM Reservation r RIGHT JOIN Class c ON c.class_id = r.class
17	Seat whether there is any reservation of it or not	SELECT r.reservation_id, s.seat_id, s.seat_name FROM Reservation r RIGHT JOIN Seat s ON s.seat_id = r.seat
18	Flight whether it has any crew as of now or not	SELECT cof.crew, f.flight_id FROM CrewOnFlight cof RIGHT JOIN Flight f ON f.flight_id = cof.flight
19	Flights whether they have a rating or not	SELECT fb.feedback_id, f.flight_id, fb.rating FROM Feedback fb RIGHT JOIN Flight f ON f.flight_id = fb.flight
20	Crew Roles whether there is a crew matching that role or not	SELECT c.crew_id, c.crew_name, cr.role_name FROM Crew c RIGHT JOIN CrewRole cr ON cr.role_id = c.crew_role

FULL OUTER JOIN – 20 Queries

1	All passengers and baggage	SELECT b.baggage_id, b.baggage_detail, p.passenger_name FROM Passenger p FULL OUTER JOIN Baggage b ON p.passenger_id = b.passenger
2	All flights and baggage	SELECT b.baggage_id, b.baggage_detail, f.flight_id FROM Flight f FULL OUTER JOIN Baggage b ON f.flight_id = b.flight
3	All aircrafts and flights	SELECT a.aircraft_id, a.aircraft_name, f.flight_id FROM Aircraft a FULL OUTER JOIN Flight f ON a.aircraft_id = f.aircraft
4	All airports and flights (with its departure)	SELECT a.airport_id, a.airport_name, f.flight_id AS flight_departure_id FROM Airport a FULL OUTER JOIN Flight f ON a.airport_id = f.flight_departure_airport

5	All airports and flights (with its arrival)	SELECT a.airport_id, a.airport_name, f.flight_id AS flight_arrival_id FROM Airport a FULL OUTER JOIN Flight f ON a.airport_id = f.flight_arrival_airport
6	All feedbacks and passengers with their complete feedback	SELECT p.passenger_id, p.passenger_name, f.feedback_id, f.complete_feedback FROM Passenger p FULL OUTER JOIN Feedback f ON p.passenger_id = f.passenger
7	All feedbacks and passengers with their ratings	SELECT p.passenger_id, p.passenger_name, f.rating FROM Passenger p FULL OUTER JOIN Feedback f ON p.passenger_id = f.passenger
8	All crew and flights	SELECT c.crew_id, c.crew_name, cof.flight FROM Crew c FULL OUTER JOIN CrewOnFlight cof ON c.crew_id = cof.crew
9	All passengers and reservations	SELECT r.reservation_id, p.passenger_name FROM Passenger p FULL OUTER JOIN Reservation r ON p.passenger_id = r.passenger
10	All cities and countries	SELECT ci.city_name, co.country_name FROM Country co FULL OUTER JOIN City ci ON co.country_id = ci.country
11	All response and feedbacks	SELECT f.feedback_id, f.complete_feedback, f.passenger, r.response_detail FROM Response r FULL OUTER JOIN Feedback f
		ON r.response_id = f.response
12	All feedbacks and flight their complete feedback	SELECT fb.feedback_id, fb.complete_feedback, f.flight_id FROM Flight f FULL OUTER JOIN Feedback fb ON f.flight_id = fb.flight
13	All cities and airports	SELECT a.airport_id, a.airport_name, c.city_name FROM City c FULL OUTER JOIN Airport a ON c.city_id = a.airport_id
14	All classes and seats	SELECT s.seat_id, s.seat_name, c.class_name FROM Class c FULL OUTER JOIN Seat s ON c.class_id = s.class
15	All reservations and payments	SELECT r.reservation_id, p.amount FROM Reservation r FULL OUTER JOIN Payment p ON r.reservation_id = p.reservation
16	All classes and reservations	SELECT r.reservation_id, c.class_name FROM Class c FULL OUTER JOIN Reservation r ON c.class_id = r.class
17	All seats and reservations	SELECT r.reservation_id, s.seat_id, s.seat_name FROM Seat s FULL OUTER JOIN Reservation r ON s.seat_id = r.seat

18	All flights and crew in CrewOnFlight table	SELECT cof.crew, f.flight_id FROM Flight f FULL OUTER JOIN CrewOnFlight cof ON f.flight_id = cof.flight
19	All feedbacks and flights with their ratings	SELECT fb.feedback_id, f.flight_id, fb.rating FROM Flight f FULL OUTER JOIN Feedback fb ON f.flight_id = fb.flight
20	All crew and crew roles	SELECT c.crew_id, c.crew_name, cr.role_name FROM CrewRole cr FULL OUTER JOIN Crew c ON cr.role_id = c.crew_role

Stored Procedures without parameter – 25 Queries

1	Stored Procedure to view crew table	CREATE PROCEDURE view_crew_table AS BEGIN SELECT * FROM Crew END
2	Stored Procedure to view aircraft table	CREATE PROCEDURE view_aircraft_table AS BEGIN SELECT * FROM Aircraft END
3	Stored Procedure to view passenger table	CREATE PROCEDURE view_passenger_table AS BEGIN SELECT * FROM Passenger END
4	Stored Procedure to view airport table	CREATE PROCEDURE view_airport_table AS BEGIN SELECT * FROM Airport END
5	Stored Procedure to view baggage table	CREATE PROCEDURE view_baggage_table AS BEGIN SELECT * FROM Baggage END
6	Stored Procedure to view city table	CREATE PROCEDURE view_city_table AS BEGIN SELECT * FROM City END
7	Stored Procedure to view class table	CREATE PROCEDURE view_class_table
		AS BEGIN SELECT * FROM Class END
8	Stored Procedure to view country table	CREATE PROCEDURE view_country_table AS BEGIN SELECT * FROM Country END
9	Stored Procedure to view crew on flight table	CREATE PROCEDURE view_crew_on_flight_table AS BEGIN SELECT * FROM CrewOnFlight END
10	Stored Procedure to view crew role table	CREATE PROCEDURE view_crew_role_table AS BEGIN SELECT * FROM CrewRole END
11	Stored Procedure to view feedback table	CREATE PROCEDURE view_feedback_table AS BEGIN SELECT * FROM Feedback END
12	Stored Procedure to view flight table	CREATE PROCEDURE view_flight_table AS BEGIN SELECT * FROM Flight END
13	Stored Procedure to view payment table	CREATE PROCEDURE view_payment_table AS BEGIN SELECT * FROM Payment END

14	Stored Procedure to view reservation table	CREATE PROCEDURE view_reservation_table AS BEGIN SELECT * FROM Reservation END
15	Stored Procedure to view response table	CREATE PROCEDURE view_response_table AS BEGIN SELECT * FROM Response END
16	Stored Procedure to view seat table	CREATE PROCEDURE view_seat_table AS BEGIN SELECT * FROM Seat END
17	Stored Procedure to view city with country name	CREATE PROCEDURE view_city_with_country_name AS BEGIN SELECT ci.city_id, ci.city_name, co.country_name FROM City ci INNER JOIN Country co ON co.country_id = ci.country END
18	Stored Procedure to view airport with city name	CREATE PROCEDURE view_airport_with_city_name AS BEGIN SELECT a.airport_id, a.airport_name, c.city_name FROM Airport a INNER JOIN City c ON c.city_id = a.city END
19	Stored Procedure to view reservation with passenger name	CREATE PROCEDURE view_reservation_with_passenger_name AS BEGIN SELECT r.reservation_id, p.passenger_name, r.reservation_datetime FROM Reservation r INNER JOIN Passenger p ON p.passenger_id = r.passenger END
20	Stored Procedure to view reservation with seat name	CREATE PROCEDURE view_reservation_with_seat_name AS BEGIN SELECT r.reservation_id, s.seat_name, r.flight, r.reservation_datetime FROM Reservation r INNER JOIN Seat s ON s.seat_id = r.seat END
21	Stored Procedure to view feedback with passenger name	CREATE PROCEDURE feedback_with_passenger_name AS BEGIN SELECT f.feedback_id, f.complete_feedback, f.passenger, p.passenger_name FROM Feedback f INNER JOIN Passenger p
		ON p.passenger_id = f.passenger END
22	Stored Procedure to view flight with aircraft name	CREATE PROCEDURE flight_with_aircraft_name AS BEGIN SELECT f.flight_id, a.aircraft_name, f.flight_departure_datetime, f.flight_arrival_datetime FROM Flight f INNER JOIN Aircraft a ON a.aircraft_id = f.aircraft END

23	Stored Procedure to view baggage with passenger name	CREATE PROCEDURE baggage_with_passenger_name AS BEGIN SELECT b.baggage_id, b.baggage_detail, b.passenger, p.passenger_name FROM Baggage b INNER JOIN Passenger p ON p.passenger_id = b.passenger END
24	Stored Procedure to view feedback with response	CREATE PROCEDURE feedback_with_response AS BEGIN SELECT f.feedback_id, f.complete_feedback, f.flight, f.passenger, r.response_detail FROM Feedback f INNER JOIN Response r ON r.response_id = f.response END
25	Stored Procedure to view airport with city and country name	CREATE PROCEDURE airport_with_city_and_country_name AS BEGIN SELECT a.airport_id, a.airport_name, c.city_name, co.country_name FROM Airport a INNER JOIN City c ON c.city_id = a.city INNER JOIN Country co ON co.country_id = c.country END

Stored Procedures with parameter – 25 Queries

1	Stored Procedure to view city by giving its id	CREATE PROCEDURE specific_city_id @c_id int AS BEGIN SELECT * FROM City WHERE city_id = @c_id END
2	Stored Procedure to view city by giving its name	CREATE PROCEDURE specific_city_name @c_name varchar(100) AS BEGIN SELECT * FROM City WHERE city_name = @c_name END
3	Stored Procedure to view country by giving its id	CREATE PROCEDURE specific_country_id @c_id int AS BEGIN SELECT * FROM Country WHERE country_id = @c_id END
4	Stored Procedure to view country by giving its name	CREATE PROCEDURE specific_country_name @c_name varchar(100) AS BEGIN SELECT * FROM Country WHERE country_name = @c_name END

5	Stored Procedure to view baggage by giving passenger id	CREATE PROCEDURE baggage_of_passenger @p_id int AS BEGIN SELECT * FROM Baggage WHERE passenger = @p_id END

6	Stored Procedure to view specific flight using flight id	CREATE PROCEDURE specific_flight_id @f_id int AS BEGIN SELECT * FROM Flight WHERE flight_id = @f_id END
7	Stored Procedure to view baggage by giving flight id	CREATE PROCEDURE baggage_of_flight @f_id int AS BEGIN SELECT * FROM Baggage WHERE flight = @f_id END
8	Stored Procedure to view specific flight using departure airport id	CREATE PROCEDURE flight_departure_airport @fd_id int AS BEGIN SELECT * FROM Flight WHERE flight_departure_airport = @fd_id END
9	Stored Procedure to view specific flight using flight arrival airport id	CREATE PROCEDURE flight_arrival_airport @fa_id int AS BEGIN SELECT * FROM Flight WHERE flight_arrival_airport = @fa_id END
10	Stored Procedure to view specific flights of a aircraft using aircraft id	CREATE PROCEDURE flights_of_aircraft @a_id int AS BEGIN SELECT * FROM Flight WHERE aircraft = @a_id END
11	Stored Procedure to view specific aircraft using aircraft id	CREATE PROCEDURE specific_aircraft_id @a_id int AS BEGIN SELECT * FROM Aircraft a WHERE aircraft_id = @a_id END
12	Stored Procedure to view specific aircraft using aircraft name	CREATE PROCEDURE specific_aircraft_name @a_name varchar(50) AS BEGIN SELECT * FROM Aircraft WHERE aircraft_name = @a_name END
13	Stored Procedure to view specific airport using airport id	CREATE PROCEDURE specific_airport_id @a_id int AS BEGIN SELECT * FROM Airport WHERE airport_id = @a_id END
14	Stored Procedure to view specific airport of a city	CREATE PROCEDURE specific_city_airport_id @c_id int AS BEGIN SELECT * FROM Airport WHERE city = @c_id END
15	Stored Procedure to view specific airport using its name	CREATE PROCEDURE specific_airport_name @a_name varchar(300) AS BEGIN SELECT * FROM Airport WHERE airport_name = @a_name END

16	Stored Procedure to view specific crew using crew id	CREATE PROCEDURE specific_crew_id @c_id int AS BEGIN SELECT * FROM Crew WHERE crew_id = @c_id END
17	Stored Procedure to view specific crew using crew name	CREATE PROCEDURE specific_crew_name @c_name varchar(100) AS BEGIN SELECT * FROM Crew WHERE crew_name = @c_name END
18	Stored Procedure to view specific crew using crew role id	CREATE PROCEDURE specific_crew_role @cr_id int AS BEGIN SELECT * FROM Crew WHERE crew_role = @cr_id END
19	Stored Procedure to view specific crew using crew email	CREATE PROCEDURE specific_crew_email @c_email varchar(150) AS BEGIN SELECT * FROM Crew WHERE crew_email = @c_email END
20	Stored Procedure to view specific crew using crew gender	CREATE PROCEDURE specific_crew_gender @c_gender varchar(1) AS BEGIN SELECT * FROM Crew WHERE crew_gender = @c_gender END
21	Stored Procedure to view crew on a specific flight	CREATE PROCEDURE specific_flight_crew @f_id int AS BEGIN SELECT * FROM CrewOnFlight WHERE flight = @f_id END
22	Stored Procedure to crew's flights	CREATE PROCEDURE specific_crew_flight @c_id int AS BEGIN SELECT * FROM CrewOnFlight WHERE crew = @c_id END
23	Stored Procedure to view passenger's feedback using passenger id	CREATE PROCEDURE passenger_feedback @p_id int AS BEGIN SELECT * FROM Feedback WHERE passenger = @p_id END
24	Stored Procedure to view feedback using flight id	CREATE PROCEDURE flight_feedback @f_id int AS BEGIN SELECT * FROM Feedback WHERE flight = @f_id END
25	Stored Procedure to view feedback using response id	CREATE PROCEDURE response_feedback @r_id int AS BEGIN SELECT * FROM Feedback WHERE response = @r_id END

Stored Procedures with parameter using logical Operators and Group by – 30 Queries

1	Stored Procedure to view crew with a specified gender and role	CREATE PROCEDURE crew_gender_and_role @gender varchar(1), @r_id int AS BEGIN SELECT * FROM Crew WHERE crew_gender = @gender AND crew_role = @r_id END
2	Stored Procedure to get crew in a salary range	CREATE PROCEDURE crew_salary_range @min_salary int, @max_salary int AS BEGIN SELECT * FROM Crew WHERE crew_salary >= @min_salary AND crew_salary <= @max_salary END
3	Stored Procedure to get rew with a specific role or lives in a particular city	CREATE PROCEDURE crew_role_or_city @role int, @city varchar(100) AS BEGIN SELECT * FROM Crew WHERE crew_role = @role OR crew_address LIKE ('%' + @city + '%') END
4	Stored Procedure to get crew with a specific email host or having salary less than a specific amount	CREATE PROCEDURE crew_email_or_salary @email_host varchar(20), @salary int AS BEGIN SELECT * FROM Crew WHERE crew_email LIKE ('%' + @email_host + '%') OR crew_salary < @salary END
5	Stored Procedure to exclude two roles from crew table	CREATE PROCEDURE exclude_roles @role_one int, @role_two int AS BEGIN SELECT * FROM Crew WHERE crew_role NOT IN (@role_one, @role_two) END
6	Stored Procedure to exclude three roles from crew table	CREATE PROCEDURE exclude_three_roles @role_one int, @role_two int, @role_three int AS BEGIN SELECT * FROM Crew WHERE crew_role NOT IN (@role_one, @role_two, @role_three) END
7	Stored Procedure to exclude two flights from flight table	CREATE PROCEDURE exclude_flights @flight_one int, @flight_two int AS BEGIN SELECT * FROM Flight WHERE flight_id NOT IN (@flight_one, @flight_two) END
8	Stored Procedure to exclude salary from a range	CREATE PROCEDURE exclude_salary_range @s1 int, @s2 int AS BEGIN SELECT * FROM Crew WHERE crew_salary NOT BETWEEN @s1 AND @s2 END

9	Stored Procedure to set passengers with specific email host and gender	CREATE PROCEDURE passenger_email_host_and_gender @e_host varchar(20), @gender varchar(1) AS BEGIN SELECT * FROM Passenger WHERE passenger_gender = @gender AND passenger_email LIKE ('%' + @e_host + '%')

		END
10	Stored Procedure to set passengers with specific email host or gender	CREATE PROCEDURE passenger_email_host_or_gender @e_host varchar(20), @gender varchar(1) AS BEGIN SELECT * FROM Passenger WHERE passenger_gender = @gender OR passenger_email LIKE ('%' + @e_host + '%') END
11	Stored Procedure to get total salary of a specified role	CREATE PROCEDURE total_salary_of_role @r_id int AS BEGIN SELECT crew_role, SUM(crew_salary) AS total_salary FROM Crew WHERE crew_role = @r_id GROUP BY crew_role END
12	Stored Procedure to get total salary of a specified gender	CREATE PROCEDURE total_salary_of_gender @gender varchar(1) AS BEGIN SELECT crew_gender, SUM(crew_salary) AS total_salary FROM Crew WHERE crew_gender = @gender GROUP BY crew_gender END
13	Stored Procedure to get total passengers wrt to pass	CREATE PROCEDURE total_passengers_wrt_gender @gender varchar(1) AS BEGIN SELECT passenger_gender, COUNT(*) AS total_passengers FROM Passenger WHERE passenger_gender = @gender GROUP BY passenger_gender END
14	Stored Procedure to get reservations of a specific class	CREATE PROCEDURE total_class_reservations @class int AS BEGIN SELECT class, COUNT(*) AS total_reservations FROM Reservation WHERE class = @class GROUP BY class END
15	Stored Procedure to get total crew on a flight	CREATE PROCEDURE total_flight_crew @f_id int AS BEGIN SELECT flight, COUNT(*) AS total_crew FROM CrewOnFlight WHERE flight = @f_id GROUP BY flight END

16	Stored Procedure to get total flights of a crew	CREATE PROCEDURE total_crew_flights @c_id int AS BEGIN SELECT crew, COUNT(*) AS total_flights FROM CrewOnFlight WHERE crew = @c_id GROUP BY crew END
17	Stored Procedure to get total cities of a country	CREATE PROCEDURE total_cities_of_country @c_id int AS BEGIN SELECT country, COUNT(*) AS total_cities FROM City WHERE country = @c_id GROUP BY country END
18	Stored Procedure to get total airports of a city	CREATE PROCEDURE total_airports_of_city @c_id int AS BEGIN SELECT city, COUNT(*) AS total_airports FROM Airport WHERE city = @c_id GROUP BY city END
19	Stored Procedure to get total baggage of a passenger	CREATE PROCEDURE total_baggage_of_a_passenger @p_id int AS BEGIN SELECT passenger, COUNT(*) AS total_baggage FROM Baggage WHERE passenger = @p_id GROUP BY passenger END
20	Stored Procedure to get total feedbacks of a flight	CREATE PROCEDURE total_feedbacks_of_a_flight @f_id int AS BEGIN SELECT flight, COUNT(*) AS total_feedbacks FROM Feedback WHERE flight = @f_id GROUP BY flight END
21	Stored Procedure to get total salary of a specified role where crew id is greater than 5	CREATE PROCEDURE total_salary_of_role_cid_gt_five @r_id int AS BEGIN SELECT crew_role, SUM(crew_salary) AS total_salary FROM Crew WHERE crew_role = @r_id AND crew_id > 5 GROUP BY crew_role END

22	Stored Procedure to get total salary of a specified gender having a specfic role	CREATE PROCEDURE total_salary_of_gender_specific_role @gender varchar(1), @r_id int AS BEGIN SELECT crew_gender, SUM(crew_salary) AS total_salary FROM Crew WHERE crew_gender = @gender AND crew_role = @r_id GROUP BY crew_gender END
23	Stored Procedure to get total passengers wrt to passenger gender and those having a specific email host	CREATE PROCEDURE total_passengers_wrt_gender_with_email_host @gender varchar(1), @e_host varchar(20) AS BEGIN SELECT passenger_gender, COUNT(*) AS total_passengers FROM Passenger WHERE passenger_gender = @gender AND passenger_email LIKE ('%' + @e_host + '%') GROUP BY passenger_gender END
24	Stored Procedure to get reservations of a specific class in a flight	CREATE PROCEDURE total_class_reservations_of_a_flight @c_id int, @f_id int

		AS BEGIN SELECT class, COUNT(*) AS total_reservations FROM Reservation WHERE class = @c_id AND flight = @f_id GROUP BY class END
25	Stored Procedure to get total crew on a flight where crew id should be greater than 3	CREATE PROCEDURE total_flight_crew_excluding_also @f_id int AS BEGIN SELECT flight, COUNT(*) AS total_crew FROM CrewOnFlight WHERE flight = @f_id AND crew > 3 GROUP BY flight END
26	Stored Procedure to get total flights of a crew excluding flight 1	CREATE PROCEDURE total_crew_flights_excluding_one_flight @c_id int AS BEGIN SELECT crew, COUNT(*) AS total_flights FROM CrewOnFlight WHERE crew = @c_id AND flight > 1 GROUP BY crew END
27	Stored Procedure to get total cities of a country and excluding cities with city id 2, 5 and 7	CREATE PROCEDURE total_cities_of_country_excluding_also @c_id int AS BEGIN SELECT country, COUNT(*) AS total_cities FROM City WHERE country = @c_id AND city_id NOT IN (2, 5, 7) GROUP BY country END

28	Stored Procedure to get total airports of a city and excluding airports with id 1, 5 and 8	CREATE PROCEDURE total_airports_of_city_excluding @c_id int AS BEGIN SELECT city, COUNT(*) AS total_airports FROM Airport WHERE city = @c_id AND airport_id NOT IN (1, 5, 8) GROUP BY city END
29	Stored Procedure to get total baggage of a passenger where flight id is greater than 2	CREATE PROCEDURE total_baggage_of_a_passenger_fgt_two @p_id int AS BEGIN SELECT passenger, COUNT(*) AS total_baggage FROM Baggage WHERE passenger = @p_id AND flight > 2 GROUP BY passenger END
30	Stored Procedure to get total considered feedbacks of a flight	CREATE PROCEDURE total_considered_feedbacks_of_a_flight @f_id int AS BEGIN SELECT flight, COUNT(*) AS total_feedbacks FROM Feedback WHERE flight = @f_id AND response = 3 GROUP BY flight END

DML Triggers INSERT – 20 Queries

1	Trigger when a row is inserted in Aircraft table	CREATE TRIGGER trigger_insert_aircraft ON Aircraft FOR INSERT AS BEGIN DECLARE @a_id int SELECT @a_id = aircraft_id FROM inserted INSERT INTO TriggersAudit VALUES('Aircraft Id ' + CAST(@a_id AS varchar(5)) + ' has been inserted in Aircraft table.', 'Insert', 'Aircraft') END
2	Trigger when a row is inserted in Airport table	CREATE TRIGGER trigger_insert_airport ON Airport FOR INSERT AS BEGIN DECLARE @a_id int SELECT @a_id = airport_id FROM inserted INSERT INTO TriggersAudit VALUES('Airport Id ' + CAST(@a_id AS varchar(5)) + ' has been inserted in Airport table.', 'Insert', 'Airport') END

3	Trigger when a row is inserted in Baggage table	CREATE TRIGGER trigger_insert_baggage ON Baggage FOR INSERT AS BEGIN DECLARE @b_id int SELECT @b_id = baggage_id FROM inserted INSERT INTO TriggersAudit VALUES('Baggage Id ' + CAST(@b_id AS varchar(5)) + ' has been inserted in Baggage table.', 'Insert', 'Baggage') END
4	Trigger when a row is inserted in City table	CREATE TRIGGER trigger_insert_city ON City FOR INSERT AS BEGIN DECLARE @c_id int SELECT @c_id = city_id FROM inserted INSERT INTO TriggersAudit VALUES('City Id ' + CAST(@c_id AS varchar(5)) + ' has been inserted in City table.', 'Insert', 'City') END
5	Trigger when a row is inserted in Class table	CREATE TRIGGER trigger_insert_class ON Class FOR INSERT AS BEGIN DECLARE @c_id int SELECT @c_id = class_id FROM inserted INSERT INTO TriggersAudit VALUES('Class Id ' + CAST(@c_id AS varchar(5)) + ' has been inserted in Class table.', 'Insert', 'Class')

		END
6	Trigger when a row is inserted in Country table	CREATE TRIGGER trigger_insert_country ON Country FOR INSERT AS BEGIN DECLARE @c_id int SELECT @c_id = country_id FROM inserted INSERT INTO TriggersAudit VALUES('Country Id ' + CAST(@c_id AS varchar(5)) + ' has been inserted in Country table.', 'Insert', 'Country') END
7	Trigger when a row is inserted in Crew table	CREATE TRIGGER trigger_insert_crew ON Crew FOR INSERT AS BEGIN DECLARE @c_id int SELECT @c_id = crew_id FROM inserted INSERT INTO TriggersAudit VALUES('Crew Id ' + CAST(@c_id AS varchar(5)) + ' has been inserted in Crew table.', 'Insert', 'Crew') END

8	Trigger when a row is inserted in CrewOnFlight table	CREATE TRIGGER trigger_insert_crew_on_flight ON CrewOnFlight FOR INSERT AS BEGIN DECLARE @t_id int SELECT @t_id = table_id FROM inserted INSERT INTO TriggersAudit VALUES('Table Id ' + CAST(@t_id AS varchar(5)) + ' has been inserted in CrewOnFlight table.', 'Insert', 'CrewOnFlight') END
9	Trigger when a row is inserted in CrewRole table	CREATE TRIGGER trigger_insert_crew_role ON CrewRole FOR INSERT AS BEGIN DECLARE @r_id int SELECT @r_id = role_id FROM inserted INSERT INTO TriggersAudit VALUES('CrewRole Id ' + CAST(@r_id AS varchar(5)) + ' has been inserted in CrewRole table.', 'Insert', 'CrewRole') END
10	Trigger when a row is inserted in Feedback table	CREATE TRIGGER trigger_insert_feedback ON Feedback FOR INSERT AS BEGIN DECLARE @f_id int SELECT @f_id = feedback_id FROM inserted INSERT INTO TriggersAudit VALUES('Feedback Id ' + CAST(@f_id AS varchar(5)) + ' has been inserted in Feedback table.', 'Insert', 'Feedback') END
11	Trigger when a row is inserted in Flight table	CREATE TRIGGER trigger_insert_flight ON Flight FOR INSERT AS BEGIN

		DECLARE @f_id int SELECT @f_id = flight_id FROM inserted INSERT INTO TriggersAudit VALUES('Flight Id ' + CAST(@f_id AS varchar(5)) + ' has been inserted in Flight table.', 'Insert', 'Flight') END
12	Trigger when a row is inserted in Passenger table	CREATE TRIGGER trigger_insert_passenger ON Passenger FOR INSERT AS BEGIN DECLARE @p_id int SELECT @p_id = passenger_id FROM inserted INSERT INTO TriggersAudit VALUES('Passenger Id ' + CAST(@p_id AS varchar(5)) + ' has been inserted in Passenger table.', 'Insert', 'Passenger') END

13	Trigger when a row is inserted in Payment table	CREATE TRIGGER trigger_insert_payment ON Payment FOR INSERT AS BEGIN DECLARE @p_id int SELECT @p_id = payment_id FROM inserted INSERT INTO TriggersAudit VALUES('Payment Id ' + CAST(@p_id AS varchar(5)) + ' has been inserted in Payment table.', 'Insert', 'Payment') END
14	Trigger when a row is inserted in Reservation table	CREATE TRIGGER trigger_insert_reservation ON Reservation FOR INSERT AS BEGIN DECLARE @r_id int SELECT @r_id = reservation_id FROM inserted INSERT INTO TriggersAudit VALUES('Reservation Id ' + CAST(@r_id AS varchar(5)) + ' has been inserted in Reservation table.', 'Insert', 'Reservation') END
15	Trigger when a row is inserted in Response table	CREATE TRIGGER trigger_insert_response ON Response FOR INSERT AS BEGIN DECLARE @r_id int SELECT @r_id = response_id FROM inserted INSERT INTO TriggersAudit VALUES('Response Id ' + CAST(@r_id AS varchar(5)) + ' has been inserted in Response table.', 'Insert', 'Response') END
16	Trigger when a row is inserted in Seat table	CREATE TRIGGER trigger_insert_Seat ON Seat FOR INSERT AS BEGIN DECLARE @s_id int SELECT @s_id = seat_id FROM inserted INSERT INTO TriggersAudit
		VALUES('Seat Id ' + CAST(@s_id AS varchar(5)) + ' has been inserted in Seat table.', 'Insert', 'Seat') END
17	Trigger when a row is inserted in Aircraft table with trigger message also displaying aircraft name	CREATE TRIGGER trigger_insert_aircraft_with_name ON Aircraft FOR INSERT AS BEGIN DECLARE @a_id int, @a_name varchar(50) SELECT @a_id = aircraft_id, @a_name = aircraft_name FROM inserted INSERT INTO TriggersAudit VALUES('Aircraft Id ' + CAST(@a_id AS varchar(5)) + ' of name ' + @a_name + ' has been inserted in Aircraft table.', 'Insert', 'Aircraft') END

18	Trigger when a row is inserted in city table with trigger message also displaying city name	CREATE TRIGGER trigger_insert_city_with_name ON City FOR INSERT AS BEGIN DECLARE @c_id int, @c_name varchar(100) SELECT @c_id = city_id, @c_name = city_name FROM inserted INSERT INTO TriggersAudit VALUES('City Id ' + CAST(@c_id AS varchar(5)) + ' of name ' + @c_name + ' has been inserted in City table.', 'Insert', 'City') END
19	Trigger when a row is inserted in Country table with trigger message also displaying country name	CREATE TRIGGER trigger_insert_country_with_name ON Country FOR INSERT AS BEGIN DECLARE @c_id int, @c_name varchar(100) SELECT @c_id = country_id, @c_name = country_name FROM inserted INSERT INTO TriggersAudit VALUES('Country Id ' + CAST(@c_id AS varchar(5)) + ' of name ' + @c_name + ' has been inserted in Country table.', 'Insert', 'Country') END
20	Trigger when a row is inserted in Class table with trigger message also displaying class name	CREATE TRIGGER trigger_insert_class_with_name ON Class FOR INSERT AS BEGIN DECLARE @c_id int, @c_name varchar(20) SELECT @c_id = class_id, @c_name = class_name FROM inserted INSERT INTO TriggersAudit VALUES('Class Id ' + CAST(@c_id AS varchar(5)) + ' of name ' + @c_name + ' has been inserted in Class table.', 'Insert', 'Class') END

DML Triggers UPDATE – 20 Queries

1	Trigger when a row is updated in Aircraft table	CREATE TRIGGER trigger_update_aircraft ON Aircraft AFTER UPDATE AS BEGIN DECLARE @a_id int SELECT @a_id = aircraft_id FROM inserted INSERT INTO TriggersAudit VALUES('Aircraft Id ' + CAST(@a_id AS varchar(5)) + ' has been updated in Aircraft table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'Aircraft') END

2	Trigger when a row is updated in Airport table	CREATE TRIGGER trigger_update_airport ON Airport AFTER UPDATE AS BEGIN DECLARE @a_id int SELECT @a_id = airport_id FROM inserted INSERT INTO TriggersAudit VALUES('Airport Id ' + CAST(@a_id AS varchar(5)) + ' has been updated in Airport table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'Airport') END
3	Trigger when a row is updated in Baggage table	CREATE TRIGGER trigger_update_baggage ON Baggage AFTER UPDATE AS BEGIN DECLARE @b_id int SELECT @b_id = baggage_id FROM inserted INSERT INTO TriggersAudit VALUES('Baggage Id ' + CAST(@b_id AS varchar(5)) + ' has been updated in Baggage table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'Baggage') END
4	Trigger when a row is updated in City table	CREATE TRIGGER trigger_update_city ON City AFTER UPDATE AS BEGIN DECLARE @c_id int SELECT @c_id = city_id FROM inserted INSERT INTO TriggersAudit VALUES('City Id ' + CAST(@c_id AS varchar(5)) + ' has been updated in City table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'City') END
5	Trigger when a row is updated in Class table	CREATE TRIGGER trigger_update_class ON Class AFTER UPDATE AS BEGIN DECLARE @c_id int SELECT @c_id = class_id FROM inserted INSERT INTO TriggersAudit VALUES('Class Id ' + CAST(@c_id AS varchar(5)) + ' has been updated in Class table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'Class') END

6	Trigger when a row is updated in Country table	CREATE TRIGGER trigger_update_country ON Country AFTER UPDATE AS BEGIN DECLARE @c_id int SELECT @c_id = country_id FROM inserted INSERT INTO TriggersAudit VALUES('Country Id ' + CAST(@c_id AS varchar(5)) + ' has been updated in Country table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'Country') END
7	Trigger when a row is updated in Crew table	CREATE TRIGGER trigger_update_crew ON Crew AFTER UPDATE AS BEGIN DECLARE @c_id int SELECT @c_id = crew_id FROM inserted INSERT INTO TriggersAudit VALUES('Crew Id ' + CAST(@c_id AS varchar(5)) + ' has been updated in Crew table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'Crew') END
8	Trigger when a row is updated in CrewOnFlight table	CREATE TRIGGER trigger_update_crew_on_flight ON CrewOnFlight AFTER UPDATE AS BEGIN DECLARE @t_id int SELECT @t_id = table_id FROM inserted INSERT INTO TriggersAudit VALUES('Table Id ' + CAST(@t_id AS varchar(5)) + ' has been updated in CrewOnFlight table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'CrewOnFlight') END
9	Trigger when a row is updated in CrewRole table	CREATE TRIGGER trigger_update_crew_role ON CrewRole AFTER UPDATE AS BEGIN DECLARE @r_id int SELECT @r_id = role_id FROM inserted INSERT INTO TriggersAudit VALUES('CrewRole Id ' + CAST(@r_id AS varchar(5)) + ' has been updated in CrewRole table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'CrewRole') END

10	Trigger when a row is updated in Feedback table	CREATE TRIGGER trigger_update_feedback ON Feedback AFTER UPDATE AS BEGIN DECLARE @f_id int SELECT @f_id = feedback_id FROM inserted INSERT INTO TriggersAudit VALUES('Feedback Id ' + CAST(@f_id AS varchar(5)) + ' has been updated in Feedback table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'Feedback') END

11	Trigger when a row is updated in Flight table	CREATE TRIGGER trigger_update_flight ON Flight AFTER UPDATE AS BEGIN DECLARE @f_id int SELECT @f_id = flight_id FROM inserted INSERT INTO TriggersAudit VALUES('Flight Id ' + CAST(@f_id AS varchar(5)) + ' has been updated in Flight table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'Flight') END
12	Trigger when a row is updated in Passenger table	CREATE TRIGGER trigger_update_passenger ON Passenger AFTER UPDATE AS BEGIN DECLARE @p_id int SELECT @p_id = passenger_id FROM inserted INSERT INTO TriggersAudit VALUES('Passenger Id ' + CAST(@p_id AS varchar(5)) + ' has been updated in Passenger table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'Passenger') END
13	Trigger when a row is updated in Payment table	CREATE TRIGGER trigger_update_payment ON Payment AFTER UPDATE AS BEGIN DECLARE @p_id int SELECT @p_id = payment_id FROM inserted INSERT INTO TriggersAudit VALUES('Payment Id ' + CAST(@p_id AS varchar(5)) + ' has been updated in Payment table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'Payment') END

14	Trigger when a row is updated in Reservation table	CREATE TRIGGER trigger_update_reservation ON Reservation AFTER UPDATE AS BEGIN DECLARE @r_id int SELECT @r_id = reservation_id FROM inserted INSERT INTO TriggersAudit VALUES('Reservation Id ' + CAST(@r_id AS varchar(5)) + ' has been updated in Reservation table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'Reservation') END
15	Trigger when a row is updated in Response table	CREATE TRIGGER trigger_update_response ON Response AFTER UPDATE AS BEGIN DECLARE @r_id int SELECT @r_id = response_id FROM inserted INSERT INTO TriggersAudit VALUES('Response Id ' + CAST(@r_id AS varchar(5)) + ' has been updated in Response table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'Response') END

16	Trigger when a row is updated in Seat table	CREATE TRIGGER trigger_update_Seat ON Seat AFTER UPDATE AS BEGIN DECLARE @s_id int SELECT @s_id = seat_id FROM inserted INSERT INTO TriggersAudit VALUES('Seat Id ' + CAST(@s_id AS varchar(5)) + ' has been updated in Seat table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'Seat') END
17	Trigger when a row is updated in Aircraft table with trigger message also displaying aircraft name	CREATE TRIGGER trigger_update_aircraft_with_name ON Aircraft AFTER UPDATE AS BEGIN DECLARE @a_id int, @a_name varchar(50) SELECT @a_id = aircraft_id, @a_name = aircraft_name FROM inserted INSERT INTO TriggersAudit VALUES('Aircraft Id ' + CAST(@a_id AS varchar(5)) + ' of name ' + @a_name + ' has been updated in Aircraft table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'Aircraft') END

18	Trigger when a row is updated in city table with trigger message also displaying city name	CREATE TRIGGER trigger_update_city_with_name ON City AFTER UPDATE AS BEGIN DECLARE @c_id int, @c_name varchar(100) SELECT @c_id = city_id, @c_name = city_name FROM inserted INSERT INTO TriggersAudit VALUES('City Id ' + CAST(@c_id AS varchar(5)) + ' of name ' + @c_name + ' has been updated in City table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'City') END
19	Trigger when a row is updated in Country table with trigger message also displaying country name	CREATE TRIGGER trigger_update_country_with_name ON Country AFTER UPDATE AS BEGIN DECLARE @c_id int, @c_name varchar(100) SELECT @c_id = country_id, @c_name = country_name FROM inserted INSERT INTO TriggersAudit VALUES('Country Id ' + CAST(@c_id AS varchar(5)) + ' of name ' + @c_name + ' has been updated in Country table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'Country') END
20	Trigger when a row is updated in Class table with trigger message also displaying class name	CREATE TRIGGER trigger_update_class_with_name ON Class AFTER UPDATE AS BEGIN DECLARE @c_id int, @c_name varchar(20) SELECT @c_id = class_id, @c_name = class_name FROM inserted INSERT INTO TriggersAudit
		VALUES('Class Id ' + CAST(@c_id AS varchar(5)) + ' of name ' + @c_name + ' has been updated in Class table at ' + CAST(GETDATE() as varchar(30)) + '.', 'Update', 'Class') END

DML Triggers DELETE – 20 Queries

1	Trigger when a row is deleted from Aircraft table	CREATE TRIGGER trigger_delete_aircraft ON Aircraft FOR DELETE AS BEGIN DECLARE @a_id int SELECT @a_id = aircraft_id FROM deleted INSERT INTO TriggersAudit VALUES('Aircraft Id ' + CAST(@a_id AS varchar(5)) + ' has been deleted from Aircraft table.', 'Delete', 'Aircraft') END

2	Trigger when a row is deleted from Airport table	CREATE TRIGGER trigger_delete_airport ON Airport FOR DELETE AS BEGIN DECLARE @a_id int SELECT @a_id = airport_id FROM deleted INSERT INTO TriggersAudit VALUES('Airport Id ' + CAST(@a_id AS varchar(5)) + ' has been deleted from Airport table.', 'Delete', 'Airport') END
3	Trigger when a row is deleted from Baggage table	CREATE TRIGGER trigger_delete_baggage ON Baggage FOR DELETE AS BEGIN DECLARE @b_id int SELECT @b_id = baggage_id FROM deleted INSERT INTO TriggersAudit VALUES('Baggage Id ' + CAST(@b_id AS varchar(5)) + ' has been deleted from Baggage table.', 'Delete', 'Baggage') END
4	Trigger when a row is deleted from City table	CREATE TRIGGER trigger_delete_city ON City FOR DELETE AS BEGIN DECLARE @c_id int SELECT @c_id = city_id FROM deleted INSERT INTO TriggersAudit VALUES('City Id ' + CAST(@c_id AS varchar(5)) + ' has been deleted from City table.', 'Delete', 'City') END
5	Trigger when a row is deleted from Class table	CREATE TRIGGER trigger_delete_class ON Class FOR DELETE AS BEGIN DECLARE @c_id int SELECT @c_id = class_id FROM deleted

		INSERT INTO TriggersAudit VALUES('Class Id ' + CAST(@c_id AS varchar(5)) + ' has been deleted from Class table.', 'Delete', 'Class') END
6	Trigger when a row is deleted from Country table	CREATE TRIGGER trigger_delete_country ON Country FOR DELETE AS BEGIN DECLARE @c_id int SELECT @c_id = country_id FROM deleted INSERT INTO TriggersAudit VALUES('Country Id ' + CAST(@c_id AS varchar(5)) + ' has been deleted from Country table.', 'Delete', 'Country') END

7	Trigger when a row is deleted from Crew table	CREATE TRIGGER trigger_delete_crew ON Crew FOR DELETE AS BEGIN DECLARE @c_id int SELECT @c_id = crew_id FROM deleted INSERT INTO TriggersAudit VALUES('Crew Id ' + CAST(@c_id AS varchar(5)) + ' has been deleted from Crew table.', 'Delete', 'Crew') END
8	Trigger when a row is deleted from CrewOnFlight table	CREATE TRIGGER trigger_delete_crew_on_flight ON CrewOnFlight FOR DELETE AS BEGIN DECLARE @t_id int SELECT @t_id = table_id FROM deleted INSERT INTO TriggersAudit VALUES('Table Id ' + CAST(@t_id AS varchar(5)) + ' has been deleted from CrewOnFlight table.', 'Delete', 'CrewOnFlight') END
9	Trigger when a row is deleted from CrewRole table	CREATE TRIGGER trigger_delete_crew_role ON CrewRole FOR DELETE AS BEGIN DECLARE @r_id int SELECT @r_id = role_id FROM deleted INSERT INTO TriggersAudit VALUES('CrewRole Id ' + CAST(@r_id AS varchar(5)) + ' has been deleted from CrewRole table.', 'Delete', 'CrewRole') END
10	Trigger when a row is deleted from Feedback table	CREATE TRIGGER trigger_delete_feedback ON Feedback FOR DELETE AS BEGIN DECLARE @f_id int SELECT @f_id = feedback_id FROM deleted INSERT INTO TriggersAudit VALUES('Feedback Id ' + CAST(@f_id AS varchar(5)) + ' has been deleted from Feedback table.', 'Delete', 'Feedback')

		END

11	Trigger when a row is deleted from Flight table	CREATE TRIGGER trigger_delete_flight ON Flight FOR DELETE AS BEGIN DECLARE @f_id int SELECT @f_id = flight_id FROM deleted INSERT INTO TriggersAudit VALUES('Flight Id ' + CAST(@f_id AS varchar(5)) + ' has been deleted from Flight table.', 'Delete', 'Flight') END
12	Trigger when a row is deleted from Passenger table	CREATE TRIGGER trigger_delete_passenger ON Passenger FOR DELETE AS BEGIN DECLARE @p_id int SELECT @p_id = passenger_id FROM deleted INSERT INTO TriggersAudit VALUES('Passenger Id ' + CAST(@p_id AS varchar(5)) + ' has been deleted from Passenger table.', 'Delete', 'Passenger') END
13	Trigger when a row is deleted from Payment table	CREATE TRIGGER trigger_delete_payment ON Payment FOR DELETE AS BEGIN DECLARE @p_id int SELECT @p_id = payment_id FROM deleted INSERT INTO TriggersAudit VALUES('Payment Id ' + CAST(@p_id AS varchar(5)) + ' has been deleted from Payment table.', 'Delete', 'Payment') END
14	Trigger when a row is deleted from Reservation table	CREATE TRIGGER trigger_delete_reservation ON Reservation FOR DELETE AS BEGIN DECLARE @r_id int SELECT @r_id = reservation_id FROM deleted INSERT INTO TriggersAudit VALUES('Reservation Id ' + CAST(@r_id AS varchar(5)) + ' has been deleted from Reservation table.', 'Delete', 'Reservation') END
15	Trigger when a row is deleted from Response table	CREATE TRIGGER trigger_delete_response ON Response FOR DELETE AS BEGIN DECLARE @r_id int SELECT @r_id = response_id FROM deleted INSERT INTO TriggersAudit VALUES('Response Id ' + CAST(@r_id AS varchar(5)) + ' has been deleted from Response table.', 'Delete', 'Response') END
16	Trigger when a row is deleted from Seat table	CREATE TRIGGER trigger_delete_Seat ON Seat FOR DELETE AS BEGIN

		DECLARE @s_id int SELECT @s_id = seat_id FROM deleted INSERT INTO TriggersAudit VALUES('Seat Id ' + CAST(@s_id AS varchar(5)) + ' has been deleted from Seat table.', 'Delete', 'Seat') END
17	Trigger when a row is deleted from Aircraft table with trigger message also displaying aircraft name	CREATE TRIGGER trigger_delete_aircraft_with_name ON Aircraft FOR DELETE AS BEGIN DECLARE @a_id int, @a_name varchar(50) SELECT @a_id = aircraft_id, @a_name = aircraft_name FROM deleted INSERT INTO TriggersAudit VALUES('Aircraft Id ' + CAST(@a_id AS varchar(5)) + ' of name ' + @a_name + ' has been deleted from Aircraft table.', 'Delete', 'Aircraft') END
18	Trigger when a row is deleted from city table with trigger message also displaying city name	CREATE TRIGGER trigger_delete_city_with_name ON City FOR DELETE AS BEGIN DECLARE @c_id int, @c_name varchar(100) SELECT @c_id = city_id, @c_name = city_name FROM deleted INSERT INTO TriggersAudit VALUES('City Id ' + CAST(@c_id AS varchar(5)) + ' of name ' + @c_name + ' has been deleted from City table.', 'Delete', 'City') END
19	Trigger when a row is deleted from Country table with trigger message also displaying country name	CREATE TRIGGER trigger_delete_country_with_name ON Country FOR DELETE AS BEGIN DECLARE @c_id int, @c_name varchar(100) SELECT @c_id = country_id, @c_name = country_name FROM deleted INSERT INTO TriggersAudit VALUES('Country Id ' + CAST(@c_id AS varchar(5)) + ' of name ' + @c_name + ' has been deleted from Country table.', 'Delete', 'Country') END
20	Trigger when a row is deleted from Class table with trigger message also displaying class name	CREATE TRIGGER trigger_delete_class_with_name ON Class FOR DELETE AS BEGIN DECLARE @c_id int, @c_name varchar(20) SELECT @c_id = class_id, @c_name = class_name FROM deleted INSERT INTO TriggersAudit VALUES('Class Id ' + CAST(@c_id AS varchar(5)) + ' of name ' + @c_name + ' has been deleted from Class table.', 'Delete', 'Class') END

VIEW Statement – 10 Queries

1	View for specific column of airport table	`CREATE VIEW view_airport AS SELECT airport_name FROM Airport`
2	View for specific column of city table	`CREATE VIEW view_cities AS SELECT city_name FROM City`
3	View for specific column of country table	`CREATE VIEW view_countries AS SELECT country_name FROM Country`
4	View for specific column of aircraft table	`CREATE VIEW view_aircrafts AS SELECT aircraft_name FROM Aircraft`
5	View for specific column of baggage table	`CREATE VIEW view_baggage AS SELECT baggage_detail FROM Baggage`
6	View for specific columns of crew table	`CREATE VIEW view_crew AS SELECT crew_name, crew_email FROM Crew`
7	View for specific column of CrewRole table	`CREATE VIEW view_crew_roles AS SELECT role_name FROM CrewRole`
8	View for specific columns of feedback table	`CREATE VIEW view_feedbacks AS SELECT complete_feedback, rating FROM Feedback`
9	View for specific columns of passenger table	`CREATE VIEW view_passengers AS SELECT passenger_id, passenger_email FROM Passenger`
10	View for specific columns of Seat table	`CREATE VIEW view_seats AS SELECT seat_name, class FROM Seat`

VIEW Statement using logical Operators – 30 Queries

1	View for all airports except those having airport id 2 and 10	`CREATE VIEW view_specific_aiports_itt AS SELECT airport_id, airport_name FROM Airport WHERE airport_id NOT IN (2,10)`
2	View for all airports except those having airport id 5 and 6	`CREATE VIEW view_specific_aiports_ifs AS SELECT airport_id, airport_name FROM Airport WHERE airport_id NOT IN (5,6)`
3	View for all airports except those having airport id 9 and 10	`CREATE VIEW view_specific_aiports_int AS SELECT airport_id, airport_name FROM Airport WHERE airport_id NOT IN (9,10)`
4	View for all airports except those having airport id between 10 and 20	`CREATE VIEW view_specific_aiports_btt AS SELECT airport_id, airport_name FROM Airport WHERE airport_id NOT BETWEEN 10 AND 20`
5	View for all airports except those having airport id between 5 and 15	`CREATE VIEW view_specific_aiports_bff AS SELECT airport_id, airport_name FROM Airport WHERE airport_id NOT BETWEEN 5 AND 15`
6	View for all airports except those having airport id between 20 and 30	`CREATE VIEW view_specific_aiports_nbtt AS SELECT airport_id, airport_name FROM Airport WHERE airport_id NOT BETWEEN 20 AND 30`
7	View for all cities having country id 1 or 3	`CREATE VIEW view_specific_city_ot AS SELECT city_id, city_name FROM City WHERE country = 1 OR country = 3`
8	View for all cities having country id 4 or 5	`CREATE VIEW view_specific_city_ff AS SELECT city_id, city_name FROM City WHERE country = 4 OR country = 5`
9	View for all cities having country id 7 or 9	`CREATE VIEW view_specific_city_sn AS SELECT city_id, city_name FROM City WHERE country = 7 OR country = 9`
10	View for all cities having country id 4 or 6	`CREATE VIEW view_specific_city_fs AS SELECT city_id, city_name FROM City WHERE country = 4 OR country = 6`

11	View for crew which is male and has gmail email	CREATE VIEW view_specific_crew_mg AS SELECT crew_id, crew_name, crew_email FROM Crew WHERE crew_gender = 'M' AND crew_email LIKE '%gmail.com'
12	View for crew which is male and has yahoo email	CREATE VIEW view_specific_crew_my AS SELECT crew_id, crew_name, crew_email FROM Crew WHERE crew_gender = 'M' AND crew_email LIKE '%yahoo.com'
13	View for crew which is female and has gmail email	CREATE VIEW view_specific_crew_fg AS SELECT crew_id, crew_name, crew_email FROM Crew

		WHERE crew_gender = 'F' AND crew_email LIKE '%gmail.com'
14	View for crew which is female and has gmail email	CREATE VIEW view_specific_crew_fy AS SELECT crew_id, crew_name, crew_email FROM Crew WHERE crew_gender = 'F' AND crew_email LIKE '%yahoo.com'
15	View for crew which has other gender and has gmail email	CREATE VIEW view_specific_crew_og AS SELECT crew_id, crew_name, crew_email FROM Crew WHERE crew_gender = 'O' AND crew_email LIKE '%gmail.com'
16	View for crew which has other gender and has yahoo email	CREATE VIEW view_specific_crew_oy AS SELECT crew_id, crew_name, crew_email FROM Crew WHERE crew_gender = 'O' AND crew_email LIKE '%yahoo.com'
17	View for crew whose gender is male or other	CREATE VIEW view_specific_crew_om AS SELECT crew_id, crew_name, crew_email FROM Crew WHERE crew_gender = 'O' OR crew_gender = 'M'
18	View for crew whose gender is female or other	CREATE VIEW view_specific_crew_of AS SELECT crew_id, crew_name, crew_email FROM Crew WHERE crew_gender = 'O' OR crew_gender = 'F'
19	View for crew whose gender is male or female	CREATE VIEW view_specific_crew_fm AS SELECT crew_id, crew_name, crew_email FROM Crew WHERE crew_gender = 'F' OR crew_gender = 'M'
20	View for crew role where role name is Pilot or Air Host	CREATE VIEW view_specific_crew_role_pahm AS SELECT role_id, role_name FROM CrewRole WHERE role_name = 'Pilot' OR role_name = 'Air Host'
21	View for crew role where role name is Air Hostess or Air Host	CREATE VIEW view_specific_crew_role_ahmahf AS SELECT role_id, role_name FROM CrewRole WHERE role_name = 'Air Hostess' OR role_name = 'Air Host'
22	View for crew which is pilot or air hostess	CREATE VIEW view_crew_wrt_role_pahm AS SELECT c.crew_name, c.crew_email, c.crew_salary, cr.role_name FROM Crew c INNER JOIN CrewRole cr ON cr.role_id = c.crew_role WHERE cr.role_name = 'Pilot' OR role_name = 'Air Hostess'
23	View for crew which is pilot or load master	CREATE VIEW view_crew_wrt_role_plm AS SELECT c.crew_name, c.crew_email, c.crew_salary, cr.role_name FROM Crew c INNER JOIN CrewRole cr ON cr.role_id = c.crew_role WHERE cr.role_name = 'Pilot' OR role_name = 'Load Master'
24	View for seats of aircraft id 1 and 3	CREATE VIEW view_seat_ot AS SELECT seat_name, class, aircraft FROM Seat WHERE aircraft = 1 OR aircraft = 3

25	View for seats of aircraft id 4 and 2	CREATE VIEW view_seat_ft AS SELECT seat_name, class, aircraft FROM Seat WHERE aircraft = 4 OR aircraft = 2
26	View for seats not in class 1 and 3	CREATE VIEW view_seat_not AS SELECT seat_name, class, aircraft FROM Seat WHERE class NOT IN (1,3)
27	View for seats not in class 2 and 3	CREATE VIEW view_seat_ntt AS SELECT seat_name, class, aircraft FROM Seat WHERE class NOT IN (2,3)
28	View for reservations except of those passengers having ids between 20 and 30	CREATE VIEW view_res_ntt AS SELECT reservation_id, passenger, flight FROM Reservation WHERE passenger NOT BETWEEN 20 AND 30
29	View for reservations except of those passengers having ids between 10 and 18	CREATE VIEW view_res_nte AS SELECT reservation_id, passenger, flight FROM Reservation WHERE passenger NOT BETWEEN 10 AND 18
30	View for specific reservation and flight details where flight id is not 1 and 4	CREATE VIEW view_res_flight_nof AS SELECT r.reservation_id, r.passenger, f.flight_departure_airport, f.flight_arrival_airport FROM Reservation r INNER JOIN Flight f ON f.flight_id = r.flight WHERE flight NOT IN (1,4)

Single-Row Functions UPPER, LOWER, INITCAP, CONCAT, LENGTH, SUBSTR using logical operators – 50 Queries

1	Passenger name in upper case where passenger id from 5 to 20	SELECT UPPER(passenger_name) FROM Passenger WHERE passenger_id >= 5 and passenger_id <= 20
2	Passenger name in lower case where passenger id from 5 to 20	SELECT LOWER(passenger_name) FROM Passenger WHERE passenger_id >= 5 and passenger_id <= 20
3	Crew name in upper case where crew id from 5 to 20	SELECT UPPER(crew_name) FROM Crew WHERE crew_id >= 5 and crew_id <= 20
4	Crew name in lower case where crew id from 5 to 20	SELECT LOWER(crew_name) FROM Crew WHERE crew_id >= 5 and crew_id <= 20
5	Passenger name and its length where passenger id from 5 to 20	SELECT passenger_name, LEN(passenger_name) FROM Passenger WHERE passenger_id >= 5 and passenger_id <= 20
6	Crew name and its length where crew id from 5 to 20	SELECT crew_name, LEN(crew_name) FROM Crew WHERE crew_id >= 5 and crew_id <= 20
7	Baggage detail in upper case where id greater than 1 and less than 5	SELECT baggage_id, UPPER(baggage_detail) FROM Baggage WHERE baggage_id > 1 AND baggage_id < 5
8	Baggage detail in lower case where id greater than 1 and less than 5	SELECT baggage_id, LOWER(baggage_detail) FROM Baggage WHERE baggage_id > 1 AND baggage_id < 5
9	Baggage detail and its length where id greater than 1 and less than 5	SELECT baggage_id, baggage_detail, LEN(baggage_detail) FROM Baggage WHERE baggage_id > 1 AND baggage_id < 5
10	Passenger email in upper case where passenger id from 5 to 20	SELECT UPPER(passenger_email) FROM Passenger WHERE passenger_id >= 5 and passenger_id <= 20
11	Crew email in upper case where crew id from 5 to 20	SELECT UPPER(crew_email) FROM Crew WHERE crew_id >= 5 and crew_id <= 20
12	City names in upper case except those having id 1, 10 and 20	SELECT city_id, UPPER(city_name) FROM City WHERE city_id NOT IN (1,10,20)

13	City names in lower case except those having id 1, 10 and 20	SELECT city_id, LOWER(city_name) FROM City WHERE city_id NOT IN (1,10,20)
14	Country names in upper case except those having id 1 and 5	SELECT country_id, UPPER(country_name) FROM Country WHERE country_id NOT IN (1,5)
15	Country names in lower case except those having id 1 and 5	SELECT country_id, LOWER(country_name) FROM Country WHERE country_id NOT IN (1,5)
16	Role names in upper case except those having id 1 and 5	SELECT role_id, UPPER(role_name) FROM CrewRole WHERE role_id NOT IN (1,5)
17	Role names in lower case except those having id 1 and 5	SELECT role_id, LOWER(role_name) FROM CrewRole WHERE role_id NOT IN (1,5)
18	Passenger email and its length where passenger id from 5 to 20	SELECT passenger_email, LEN(passenger_email) FROM Passenger WHERE passenger_id >= 5 and passenger_id <= 20
19	Crew email and its length where crew id from 5 to 20	SELECT crew_email, LEN(crew_email) FROM Crew WHERE crew_id >= 5 and crew_id <= 20
20	City name and its length except those having id 1, 10 and 20	SELECT city_name, LEN(city_name) FROM City WHERE city_id NOT IN (1,10,20)
21	City name and its length except those having id 1, 10 and 20	SELECT city_name, LEN(city_name) FROM City WHERE city_id NOT IN (1,10,20)

22	Country name and its length except those having id 1 and 5	SELECT country_name, LEN(country_name) FROM Country WHERE country_id NOT IN (1,5)
23	Country name and its length except those having id 1 and 5	SELECT country_name, LEN(country_name) FROM Country WHERE country_id NOT IN (1,5)
24	Role name and its length except those having id 1 and 5	SELECT role_name, LEN(role_name) FROM CrewRole WHERE role_id NOT IN (1,5)
25	Role name and its length except those having id 1 and 5	SELECT role_name, LEN(role_name) FROM CrewRole WHERE role_id NOT IN (1,5)
26	Airport name in default and upper case except those in city id 2 and 3	SELECT airport_name, UPPER(airport_name) FROM Airport WHERE city NOT IN (2,3)
27	Airport name in default and lower case except those in city id 2 and 3	SELECT airport_name, LOWER(airport_name) FROM Airport WHERE city NOT IN (2,3)
28	Airport name and its length except those in city id 2 and 3	SELECT airport_name, LEN(airport_name) FROM Airport WHERE city NOT IN (2,3)
29	Response detail in normal and upper case where it has 'consideration' and 'considered'	SELECT response_detail, UPPER(response_detail) FROM Response WHERE response_detail LIKE '%consideration%' OR response_detail LIKE '%considered%'
30	Response detail in normal and lower case where it has 'consideration' and 'considered'	SELECT response_detail, LOWER(response_detail) FROM Response WHERE response_detail LIKE '%consideration%' OR response_detail LIKE '%considered%'
31	Response detail and its length where it has 'consideration' and 'considered'	SELECT response_detail, LEN(response_detail) FROM Response WHERE response_detail LIKE '%consideration%' OR response_detail LIKE '%considered%'
32	Substring of city name except Lahore and Delhi	SELECT city_name, SUBSTRING(city_name, 1, 3) AS SubName FROM City WHERE city_name NOT IN ('Lahore', 'Delhi')

33	Substring of country name except US and Canada	SELECT country_name, SUBSTRING(country_name, 1, 3) AS SubName FROM Country WHERE country_name NOT IN ('United States', 'Canada')
34	Substring of crew name except those having id 2, 4 and 6	SELECT crew_name, SUBSTRING(crew_name, 1, 3) AS SubName FROM Crew WHERE crew_id NOT IN (2, 4, 6)
35	Substring of crew email except those having id 2, 4 and 6	SELECT crew_email, SUBSTRING(crew_email, 1, 3) AS SubEmail FROM Crew WHERE crew_id NOT IN (2, 4, 6)
36	Substring of crew address except those having id 2, 4 and 6	SELECT crew_address, SUBSTRING(crew_address, 1, 5) AS SubEmail FROM Crew WHERE crew_id NOT IN (2, 4, 6)
37	Substring of passenger name which are male and female	SELECT passenger_name, SUBSTRING(passenger_name, 1, 4) FROM Passenger WHERE passenger_gender = 'M' OR passenger_gender = 'F'
38	Substring of passenger name which are male and others	SELECT passenger_name, SUBSTRING(passenger_name, 1, 4) FROM Passenger WHERE passenger_gender = 'M' OR passenger_gender = 'O'
39	Substring of passenger name which are female and others	SELECT passenger_name, SUBSTRING(passenger_name, 1, 4) FROM Passenger WHERE passenger_gender = 'F' OR passenger_gender = 'O'
40	Substring of passenger email which are female and others	SELECT passenger_email, SUBSTRING(passenger_email, 1, 4) FROM Passenger WHERE passenger_gender = 'F' OR passenger_gender = 'O'
41	Substring of passenger email which are female and male	SELECT passenger_email, SUBSTRING(passenger_email, 1, 4) FROM Passenger
		WHERE passenger_gender = 'F' OR passenger_gender = 'M'
42	Substring of passenger email which are male and others	SELECT passenger_email, SUBSTRING(passenger_email, 1, 4) FROM Passenger WHERE passenger_gender = 'M' OR passenger_gender = 'O'
43	Concatinating crew name and email except those having crew id 3 or 4	SELECT crew_id, CONCAT(crew_name, ' having email ', crew_email) FROM Crew WHERE crew_id NOT IN (3,4)
44	Concatinating crew name and salary except those having crew id 3 or 4	SELECT crew_id, CONCAT(crew_name, ' is earning ', CAST(crew_salary as varchar(7))) FROM Crew WHERE crew_id NOT IN (3,4)
45	Concatinating crew name and address except those having crew id 3 or 4	SELECT crew_id, CONCAT(crew_name, ' lives at ', crew_address) FROM Crew WHERE crew_id NOT IN (3,4)
46	Concatinating crew name and gender except those having crew id 3 or 4	SELECT crew_id, CONCAT(crew_name, ' is of gender ', crew_gender) FROM Crew WHERE crew_id NOT IN (3,4)
47	Concatinating crew name and role name from CrewRole table except those having crew id 3 or 4	SELECT crew_id, CONCAT(crew_name, ' is ', cr.role_name) FROM Crew c INNER JOIN CrewRole cr ON cr.role_id = c.crew_role WHERE c.crew_id NOT IN (3,4)
48	Concatinating city name from city table and country name from country table except those cities having id 4 and 5	SELECT city_id, CONCAT(ci.city_name, ' ', co.country_name) FROM City ci INNER JOIN Country co ON co.country_id = ci.country WHERE ci.city_id NOT IN (4,5)

49	Concatinating passenger name and gender where passenger id is not in range 5 and 10	SELECT passenger_id, CONCAT(passenger_name, ' of gender ', passenger_gender) FROM Passenger WHERE passenger_id NOT BETWEEN 5 AND 10
50	Concatinating passenger name and email where passenger id is not in range 5 and 10	SELECT passenger_id, CONCAT(passenger_name, ' having email ', passenger_email) FROM Passenger WHERE passenger_id NOT BETWEEN 5 AND 10

Single-Row Functions INSTR, TRIM, REPLACE, ROUND, TRUNC using logical operators – 50 Queries

1	Replacing google with gmail in passenger emails where emails were not of yahoo	SELECT passenger_id, REPLACE(passenger_email, 'google', 'gmail') FROM Passenger WHERE passenger_email NOT LIKE '%yahoo.com'
2	Replacing yahoo with outlook in passenger emails where emails were not of google	SELECT passenger_id, REPLACE(passenger_email, 'yahoo', 'outlook') FROM Passenger WHERE passenger_email NOT LIKE '%google.com'
3	Replacing yahoo with outlook in passenger emails where emails were not of Hotmail	SELECT passenger_id, REPLACE(passenger_email, 'yahoo', 'outlook') FROM Passenger WHERE passenger_email NOT LIKE '%hotmail.com'
4	Index of google in passenger email where passenger id greater than 3 and passenger email has google in it	SELECT passenger_id, CHARINDEX('google', passenger_email) FROM Passenger WHERE passenger_id > 3 AND passenger_email LIKE '%google%'
5	Index of yahoo in passenger email where passenger id greater than 3 and passenger email has yahoo in it	SELECT passenger_id, CHARINDEX('yahoo', passenger_email) FROM Passenger WHERE passenger_id > 3 AND passenger_email LIKE '%yahoo%'
6	Index of hotmail in passenger email where passenger id greater than 3 and passenger email has hotmail in it	SELECT passenger_id, CHARINDEX('hotmail', passenger_email) FROM Passenger WHERE passenger_id > 3 AND passenger_email LIKE '%hotmail%'

7	Index of Lahore in crew address where crew id greater than 3 and crew address has Lahore in it	SELECT crew_id, CHARINDEX('Lahore', crew_address) FROM Crew WHERE crew_id > 3 AND crew_address LIKE '%Lahore%'
8	Index of Karachi in crew address where crew id greater than 3 and crew address has Karachi in it	SELECT crew_id, CHARINDEX('Karachi', crew_address) FROM Crew WHERE crew_id > 3 AND crew_address LIKE '%Karachi%'
9	Index of Islamabad in crew address where crew id greater than 3 and crew address has Islamabad in it	SELECT crew_id, CHARINDEX('Islamabad', crew_address) FROM Crew WHERE crew_id > 3 AND crew_address LIKE '%Islamabad%'
10	Index of Kala Shah Kaku in crew address where crew id greater than 3 and crew address has Kala Shah Kaku in it	SELECT crew_id, CHARINDEX('Kala Shah Kaku', crew_address) FROM Crew WHERE crew_id > 3 AND crew_address LIKE '%Kala Shah Kaku%'
11	Index of Quetta in crew address where crew id greater than 3 and crew address has Quetta in it	SELECT crew_id, CHARINDEX('Quetta', crew_address) FROM Crew WHERE crew_id > 3 AND crew_address LIKE '%Quetta%'
12	Index of Peshawar in crew address where crew id greater than 3 and crew address has Peshawar in it	SELECT crew_id, CHARINDEX('Peshawar', crew_address) FROM Crew WHERE crew_id > 3 AND crew_address LIKE '%Peshawar%'

13	Index of Sui in crew address where crew id greater than 3 and crew address has Sui in it	SELECT crew_id, CHARINDEX('Sui', crew_address) FROM Crew WHERE crew_id > 3 AND crew_address LIKE '%Sui%'
14	Replacing Lahore with LAH in crew address where crew id greater than 3 and crew address has Lahore in it	SELECT crew_id, REPLACE(crew_address, 'Lahore', 'LAH') FROM Crew WHERE crew_id > 3 AND crew_address LIKE '%Lahore%'
15	Replacing Islamabad with ISL in crew address where crew id greater than 3 and crew address has Islamabad in it	SELECT crew_id, REPLACE(crew_address, 'Islamabad', 'ISL') FROM Crew WHERE crew_id > 3 AND crew_address LIKE '%Islamabad%'
16	Replacing Karachi with KAR in crew address where crew id greater than 3 and crew address has Karachi in it	SELECT crew_id, REPLACE(crew_address, 'Karachi', 'KAR') FROM Crew WHERE crew_id > 3 AND crew_address LIKE '%Karachi%'
17	Replacing Quetta with QUE in crew address where crew id greater than 3 and crew address has Quetta in it	SELECT crew_id, REPLACE(crew_address, 'Quetta', 'QUE') FROM Crew WHERE crew_id > 3 AND crew_address LIKE '%Quetta%'
18	Replacing Peshawar with PES in crew address where crew id greater than 3 and crew address has Peshawar in it	SELECT crew_id, REPLACE(crew_address, 'Peshawar', 'PES') FROM Crew WHERE crew_id > 3 AND crew_address LIKE '%Peshawar%'
19	Replacing Sui with SUI in crew address where crew id greater than 3 and crew address has Sui in it	SELECT crew_id, REPLACE(crew_address, 'Sui', 'SUI') FROM Crew WHERE crew_id > 3 AND crew_address LIKE '%Sui%'
20	Replacing Kala Shah Kaku with KSK in crew address where crew id greater than 3 and crew address has Kala Shah Kaku in it	SELECT crew_id, REPLACE(crew_address, 'Kala Shah Kaku', 'KSK') FROM Crew WHERE crew_id > 3 AND crew_address LIKE '%Kala Shah Kaku%'
21	Index of Airport in airport name where airport id not in range of 5 to 10	SELECT airport_id, airport_name, CHARINDEX('Airport', airport_name) FROM Airport WHERE airport_id NOT BETWEEN 5 AND 10
22	Trimming passenger name if it has useless spaces where passenger is a male or passenger id is greater than 2	SELECT passenger_id, TRIM(passenger_name) FROM Passenger WHERE passenger_gender = 'M' OR passenger_id > 2
23	Trimming crew name if it has useless spaces where crew gender	SELECT crew_id, TRIM(crew_name) FROM Crew WHERE crew_gender = 'M' OR crew_id > 10

	is male or crew id is greater than 5	
24	Trimming passenger email if it has useless spaces where passenger is a male or passenger id is greater than 2	SELECT passenger_id, TRIM(passenger_email) FROM Passenger WHERE passenger_gender = 'M' OR passenger_id > 2
25	Trimming crew email if it has useless spaces where crew gender is male or crew id is greater than 5	SELECT crew_id, TRIM(crew_email) FROM Crew WHERE crew_gender = 'M' OR crew_id > 10
26	Trimming aircraft name if it has useless spaces where aircraft id is greater than 1 and less than 7	SELECT aircraft_id, TRIM(aircraft_name) FROM Aircraft WHERE aircraft_id > 1 AND aircraft_id < 7
27	Trimming baggage detail if it has useless spaces where flight id is 1 and passenger id is greater than 40	SELECT baggage_id, TRIM(baggage_detail) FROM Baggage WHERE flight = 1 OR passenger > 40

28	Trimming city name if it has useless spaces where city name is neither Islamabad nor Toronto	SELECT city_id, TRIM(city_name) FROM City WHERE city_name NOT IN ('Islamabad', 'Toronto')
29	Trimming country name if it has useless spaces where country name is neither Canada nor Japan	SELECT country_id, TRIM(country_name) FROM Country WHERE country_name NOT IN ('Japan', 'Canada')
30	Trimming role name if it has useless spaces where role name is neither Pilot nor Air Host	SELECT role_id, TRIM(role_name) FROM CrewRole WHERE role_name NOT IN ('Pilot', 'Air Host')
31	Trimming feedback if it has useless spaces where feedback id is neither 1 nor 2	SELECT feedback_id, TRIM(complete_feedback) FROM Feedback WHERE feedback_id NOT IN (1, 2)
32	Trimming feedback if it has useless spaces where feedback id is neither 1 nor 3	SELECT feedback_id, TRIM(complete_feedback) FROM Feedback WHERE feedback_id NOT IN (1, 3)
33	Trimming feedback if it has useless spaces where feedback id is neither 2 nor 3	SELECT feedback_id, TRIM(complete_feedback) FROM Feedback WHERE feedback_id NOT IN (2, 3)
34	Trimming response detail if it has useless spaces where response id is neither 1 nor 3	SELECT response_id, TRIM(response_detail) FROM Response WHERE response_id NOT IN (1, 3)
35	Trimming response detail if it has useless spaces where response id is neither 1 nor 2	SELECT response_id, TRIM(response_detail) FROM Response WHERE response_id NOT IN (1, 2)
36	Trimming response detail if it has useless spaces where response id is neither 2 nor 3	SELECT response_id, TRIM(response_detail) FROM Response WHERE response_id NOT IN (2, 3)
37	Trimming seat name if it has useless spaces where seat id is not 5, 10 and 20	SELECT seat_id, TRIM(seat_name) FROM Seat WHERE seat_id NOT IN (5, 10, 20)
38	Trimming seat name if it has useless spaces where seat id is not in range 20 to 30	SELECT seat_id, TRIM(seat_name) FROM Seat WHERE seat_id NOT BETWEEN 20 AND 30
39	Trimming seat name if it has useless spaces where seat id is less than 20 or greater than 50	SELECT seat_id, TRIM(seat_name) FROM Seat WHERE seat_id < 20 OR seat_id > 50
40	Trimming seat name if it has useless spaces where seat id is less not than 20 and not greater than 50	SELECT seat_id, TRIM(seat_name) FROM Seat WHERE NOT (seat_id < 20 OR seat_id > 50)
41	Truncating arrival date time to Year precision where flight id is neither 1 nor 3	SELECT flight_id, DATETRUNC(YEAR, flight_arrival_datetime) FROM Flight WHERE flight_id NOT IN (1, 3)
42	Truncating arrival date time to Month precision where flight id is neither 1 nor 3	SELECT flight_id, DATETRUNC(MONTH, flight_arrival_datetime) FROM Flight WHERE flight_id NOT IN (1, 3)
43	Truncating arrival date time to Day precision where flight id is neither 1 nor 3	SELECT flight_id, DATETRUNC(DAY, flight_arrival_datetime) FROM Flight WHERE flight_id NOT IN (1, 3)
44	Truncating arrival date time to Hour precision where flight id is neither 1 nor 3	SELECT flight_id, DATETRUNC(HOUR, flight_arrival_datetime) FROM Flight WHERE flight_id NOT IN (1, 3)
45	Truncating arrival date time to Minute precision where flight id is neither 1 nor 3	SELECT flight_id, DATETRUNC(MINUTE, flight_arrival_datetime) FROM Flight WHERE flight_id NOT IN (1, 3)
46	Truncating arrival date time to Second precision where flight id is neither 1 nor 3	SELECT flight_id, DATETRUNC(SECOND, flight_arrival_datetime) FROM Flight WHERE flight_id NOT IN (1, 3)

47	Rounding crew salary to two decimal places where crew gender is male or crew address has Lahore in it	SELECT crew_id, ROUND(CONVERT(DECIMAL(10,4), crew_salary), 2) FROM Crew WHERE crew_gender = 'M' OR crew_address LIKE '%Lahore%'
48	Rounding crew salary to two decimal places where crew gender is female or crew address has Lahore in it	SELECT crew_id, ROUND(CONVERT(DECIMAL(10,4), crew_salary), 2) FROM Crew WHERE crew_gender = 'F' OR crew_address LIKE '%Lahore%'
49	Rounding crew salary to two decimal places where crew gender is other or crew address has Lahore in it	SELECT crew_id, ROUND(CONVERT(DECIMAL(10,4), crew_salary), 2) FROM Crew WHERE crew_gender = 'O' OR crew_address LIKE '%Lahore%'
50	Rounding crew salary to two decimal places where crew gender is male or other	SELECT crew_id, ROUND(CONVERT(DECIMAL(10,4), crew_salary), 2) FROM Crew WHERE crew_gender = 'M' OR crew_gender = 'O'

Transaction COMMIT and ROLLBACK – 20 Queries

1	Transaction on inserting a new city	BEGIN TRANSACTION INSERT INTO City VALUES('Chennai', 9) COMMIT TRAN ROLLBACK TRAN
2	Transaction on inserting a new country	BEGIN TRANSACTION INSERT INTO Country VALUES('Bangladesh') COMMIT TRAN ROLLBACK TRAN
3	Transaction on inserting a new class	BEGIN TRANSACTION INSERT INTO Class VALUES('VIP') COMMIT TRAN ROLLBACK TRAN
4	Transaction on inserting a new aircraft	BEGIN TRANSACTION INSERT INTO Aircraft VALUES('Boeing 345') COMMIT TRAN ROLLBACK TRAN
5	Transaction on inserting a new airport	BEGIN TRANSACTION INSERT INTO Airport VALUES('Lahore Airport', 18) COMMIT TRAN ROLLBACK TRAN
6	Transaction on inserting a new baggage	BEGIN TRANSACTION INSERT INTO Baggage VALUES('Computers', 5, 3) COMMIT TRAN ROLLBACK TRAN
7	Transaction on inserting a new crew	BEGIN TRANSACTION INSERT INTO Crew

		VALUES('Saleem Khan', 1, 200000, 'saleem.khan@gmail.com', '684 Main Town Lahore', 'M') COMMIT TRAN ROLLBACK TRAN

8	Transaction on inserting a CrewOnFlight	BEGIN TRANSACTION INSERT INTO CrewOnFlight VALUES(6, 1) COMMIT TRAN ROLLBACK TRAN
9	Transaction on inserting a CrewRole	BEGIN TRANSACTION INSERT INTO CrewRole VALUES('Cleaner') COMMIT TRAN ROLLBACK TRAN
10	Transaction on inserting a Feedback	BEGIN TRANSACTION INSERT INTO Feedback VALUES('Good Airline', 7, 2, 9, 1) COMMIT TRAN ROLLBACK TRAN
11	Transaction on inserting a Flight	BEGIN TRANSACTION INSERT INTO Feedback VALUES(2, '2022-9-12 9:15:00', 15, '2022-9-12 15:20:00', 10) COMMIT TRAN ROLLBACK TRAN
12	Transaction on inserting a Passenger	BEGIN TRANSACTION INSERT INTO Passenger VALUES('Adeel Sarfaraz', 'adeel.sarfaraz@gmail.com', 'M') COMMIT TRAN ROLLBACK TRAN
13	Transaction on inserting a Payment	BEGIN TRANSACTION INSERT INTO Passenger VALUES(70, 90000, 'Online') COMMIT TRAN ROLLBACK TRAN
14	Transaction on inserting a Reservation	BEGIN TRANSACTION INSERT INTO Reservation VALUES(70, 7, 1, 18, '2022-9-10 6:00:00') COMMIT TRAN ROLLBACK TRAN
15	Transaction on inserting a Response	BEGIN TRANSACTION INSERT INTO Passenger VALUES('Action underway') COMMIT TRAN ROLLBACK TRAN
16	Transaction on inserting a Seat	BEGIN TRANSACTION INSERT INTO Passenger VALUES('AB45', 3, 7) COMMIT TRAN ROLLBACK TRAN
17	Transaction on updating aircraft name	BEGIN TRANSACTION UPDATE Aircraft SET aircraft_name = 'Airbus T56' WHERE aircraft_id = 6 COMMIT TRAN ROLLBACK TRAN
18	Transaction on updating city name	BEGIN TRANSACTION UPDATE City SET city_name = 'NY' WHERE city_id = 6 COMMIT TRAN ROLLBACK TRAN

19	Transaction on updating country name	BEGIN TRANSACTION UPDATE Country SET country_name = 'USA' WHERE country_id = 1
		COMMIT TRAN ROLLBACK TRAN
20	Transaction on deleting country name	BEGIN TRANSACTION DELETE FROM Country WHERE country_id = 11 COMMIT TRAN ROLLBACK TRAN

Exception handling - Try Catch – 20 Queries

1	Trying to cast aircraft name as int	BEGIN TRY SELECT CAST(aircraft_name AS INT) FROM Aircraft END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
2	Trying to cast city name as int	BEGIN TRY SELECT CAST(city_name AS INT) FROM City END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
3	Trying to divide salary by zero	BEGIN TRY SELECT crew_salary / 0 AS custom_column FROM Crew END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
4	Trying to set country id 25 (which is not present in country table)	BEGIN TRY UPDATE City SET country = 25 WHERE city_id = 5 END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
5	Trying to update a table which does not exist	BEGIN TRY UPDATE MyTable SET country = 25 WHERE city_id = 5 END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
6	Trying to set aircraft id 25 (which is not present in aircraft table)	BEGIN TRY UPDATE Flight SET aircraft = 25 WHERE flight_id = 5 END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH

7	Trying to set response id 50 (which is not present in response table)	BEGIN TRY UPDATE Feedback SET response = 50 WHERE feedback_id = 2 END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
8	Trying to cast country name as int	BEGIN TRY SELECT CAST(country_name AS INT) FROM Country END TRY

		BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
9	Trying to cast complete feedback as datetime	BEGIN TRY SELECT CAST(complete_feedback AS DATETIME) FROM Feedback END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
10	Trying to cast complete feedback as decimal	BEGIN TRY SELECT CAST(complete_feedback AS DECIMAL(20, 7)) FROM Feedback END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
11	Trying to cast complete feedback as int	BEGIN TRY SELECT CAST(complete_feedback AS INT) FROM Feedback END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
12	Trying to cast complete feedback as bit	BEGIN TRY SELECT CAST(complete_feedback AS BIT) FROM Feedback END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
13	Trying to cast complete feedback as time	BEGIN TRY SELECT CAST(complete_feedback AS TIME) FROM Feedback END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
14	Trying to cast complete feedback as small date time	BEGIN TRY SELECT CAST(complete_feedback AS SMALLDATETIME) FROM Feedback END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
15	Trying to divide sum of country ids by zero	BEGIN TRY SELECT SUM(country_id) / 0 FROM Country END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH

16	Trying to divide average of city ids by zero	BEGIN TRY SELECT AVG(city_id) / 0 FROM City END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
17	Trying to divide minimum of city ids by zero	BEGIN TRY SELECT MIN(city_id) / 0 FROM City END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
18	Trying to divide maximum of city ids by zero	BEGIN TRY SELECT MAX(city_id) / 0 FROM City
		END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
19	Trying to cast seat name as int	BEGIN TRY SELECT CAST(seat_name AS INT) FROM Seat END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH
20	Trying to cast crew gender as int	BEGIN TRY SELECT CAST(crew_gender AS INT) FROM Crew END TRY BEGIN CATCH SELECT ERROR_MESSAGE() AS ErrMessage END CATCH