DBMS Final project Queries

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-- 1. Retrieve all records from a specific table.

SELECT \* FROM Passengers;

-- 2. Retrieve records with a specific condition.

SELECT \* FROM Passengers WHERE F\_name = 'Faizan';

-- 3. Retrieve records with a specific order.

SELECT \* FROM Passengers ORDER BY L\_name;

-- 4. Retrieve a limited number of records.

SELECT \* FROM Passengers LIMIT 5;

-- 5. Retrieve records with a join operation.

SELECT \* FROM Passengers JOIN Reservation ON Passengers.P\_ID = Reservation.P\_ID;

-- 6. Retrieve records with aggregation.

SELECT COUNT(\*), AVG(weight) FROM Luggage GROUP BY P\_id;

-- 7. Retrieve records with a subquery.

SELECT \* FROM Passengers WHERE P\_ID IN (SELECT P\_ID FROM Reservation);

-- 8. Update records.

UPDATE Passengers SET phone = '1234567890' WHERE P\_ID = 'P001';

-- 9. Insert a new record.

INSERT INTO Passengers VALUES ('P051', 'New', 'Passenger', 'newpassenger@gmail.com', '9876543210');

-- 10. Delete records.

DELETE FROM Passengers WHERE P\_ID = 'P051';

-- 11. Subquery with EXISTS.

SELECT \* FROM Reservation WHERE EXISTS (SELECT \* FROM Payment WHERE Payment.R\_ID = Reservation.R\_ID);

-- 12. Subquery with a correlated subquery.

SELECT \* FROM Fare WHERE amount > (SELECT AVG(amount) FROM Fare);

-- 13. Add a primary key constraint.

ALTER TABLE Passengers ADD PRIMARY KEY (P\_ID);

-- 14. Add a unique constraint.

ALTER TABLE Passengers ADD UNIQUE (email);

-- 15. Add a foreign key constraint.

ALTER TABLE Reservation ADD FOREIGN KEY (P\_ID) REFERENCES Passengers(P\_ID);

-- 16. Add a check constraint.

ALTER TABLE Luggage ADD CHECK (weight <= 30.0000);

-- 17. Add a default constraint.

ALTER TABLE Passengers MODIFY F\_name VARCHAR(50) DEFAULT 'Unknown';

-- 18. Add a NOT NULL constraint.

ALTER TABLE Passengers MODIFY L\_name VARCHAR(50) NOT NULL;

-- 19. Retrieve distinct records.

SELECT DISTINCT departure\_city FROM Flight;

-- 20. Perform a conditional update.

UPDATE Flight SET seat\_capacity = 250 WHERE F\_ID = 'F001';

-- 21. Retrieve records within a date range.

SELECT \* FROM Flight\_schedule WHERE departure\_date BETWEEN '2023-01-15' AND '2023-02-15';

-- 22. Retrieve the Nth highest (or lowest) value.

SELECT F\_ID, price FROM Flight ORDER BY price DESC LIMIT 2 OFFSET 1;

-- 23. Retrieve records with NULL values.

SELECT \* FROM Passengers WHERE phone IS NULL;

-- 24. Retrieve records with a pattern match.

SELECT \* FROM Passengers WHERE email LIKE '%gmail.com%';

-- 25. Retrieve records with an aggregate and HAVING clause.

SELECT class, COUNT(\*) FROM Fare GROUP BY class HAVING COUNT(\*) > 1;

-- 26. Retrieve random records.

SELECT \* FROM Flight ORDER BY RAND() LIMIT 1;

-- 27. Retrieve the latest or earliest date.

SELECT MAX(departure\_date) FROM Flight\_schedule;

-- 28. Perform a self-join.

SELECT t1.model AS model1, t2.model AS model2 FROM Aircraft t1 JOIN Aircraft t2 ON t1.A\_ID = t2.A\_ID;

-- 29. Retrieve records with a CASE statement.

SELECT F\_ID, CASE WHEN available\_seats > 100 THEN 'High Availability' ELSE 'Low Availability' END AS availability\_status FROM Flight;

-- 30. Retrieve records using the BETWEEN operator.

SELECT \* FROM Reservation WHERE reservation\_dates BETWEEN '2023-01-01' AND '2023-12-31';

-- 31. Retrieve all reservations for a specific passenger.

SELECT \* FROM Reservation WHERE P\_ID = 'P001';

-- 32. Retrieve the total number of reservations made for each flight.

SELECT F\_ID, COUNT(\*) AS total\_reservations FROM Reservation GROUP BY F\_ID;

-- 33. Retrieve the total revenue generated from reservations for each flight class.

SELECT class, SUM(amount) AS total\_revenue FROM Fare GROUP BY class;

-- 34. Retrieve the details of passengers with luggage.

SELECT Passengers.\*, Luggage.\* FROM Passengers JOIN Luggage ON Passengers.P\_ID = Luggage.P\_ID;

-- 35. Retrieve the average weight of luggage for each passenger.

SELECT P\_ID, AVG(weight) AS average\_weight FROM Luggage GROUP BY P\_ID;

-- 36. Retrieve the details of flights scheduled for a specific date.

SELECT \* FROM Flight\_schedule WHERE departure\_date = '2023-01-15';

-- 37. Retrieve the details of reservations and their corresponding payment information.

SELECT Reservation.\*, Payment.\* FROM Reservation JOIN Payment ON Reservation.R\_ID = Payment.R\_ID;

-- 38. Retrieve the details of flights that have available seats.

SELECT \* FROM Flight WHERE available\_seats > 0;

-- 39. Retrieve the details of flights that have no reservations.

SELECT \* FROM Flight WHERE F\_ID NOT IN (SELECT F\_ID FROM Reservation);

-- 40. Retrieve the details of passengers who have made payments.

SELECT Passengers.\*, Payment.\* FROM Passengers JOIN Reservation ON Passengers.P\_ID = Reservation.P\_ID JOIN Payment ON Reservation.R\_ID = Payment.R\_ID;

-- 41. Retrieve the details of the crew for a specific flight.

SELECT Crew.\* FROM Crew JOIN Flight ON Crew.F\_ID = Flight.F\_ID WHERE Flight.F\_ID = 'F001';

-- 42. Retrieve the details of passengers who made reservations with cancellation details.

SELECT Passengers.\*, Reservation.\*, Cancellation.\* FROM Passengers JOIN Reservation ON Passengers.P\_ID = Reservation.P\_ID LEFT JOIN Cancellation ON Reservation.R\_ID = Cancellation.reservation\_id;

-- 43. Retrieve the total number of passengers in each class for a specific flight.

SELECT class, COUNT(\*) AS total\_passengers FROM Fare JOIN Reservation ON Fare.F\_ID = Reservation.F\_ID WHERE Reservation.F\_ID = 'F001' GROUP BY class;

-- 44. Retrieve the details of passengers who have not made reservations.

SELECT Passengers.\* FROM Passengers LEFT JOIN Reservation ON Passengers.P\_ID = Reservation.P\_ID WHERE Reservation.R\_ID IS NULL;

-- 45. Retrieve the details of flights with their departure and arrival airports.

SELECT Flight.\*, Route.departure\_airport, Route.arrival\_airport FROM Flight JOIN Route ON Flight.F\_ID = Route.ID;

-- 46. Retrieve the details of passengers who have made reservations for flights departing from 'Karachi'.

SELECT Passengers.\* FROM Passengers JOIN Reservation ON Passengers.P\_ID = Reservation.P\_ID JOIN Flight ON Reservation.F\_ID = Flight.F\_ID WHERE Flight.departure\_city = 'Karachi';

-- 47. Retrieve the details of flights with their corresponding aircraft details.

SELECT Flight.\*, Aircraft.\* FROM Flight JOIN Aircraft ON Flight.A\_ID = Aircraft.A\_ID;

-- 48. Retrieve the details of flights with their corresponding departure and arrival times.

SELECT Flight.\*, Flight\_schedule.departure\_date, Flight\_schedule.arrival\_date FROM Flight JOIN Flight\_schedule ON Flight.F\_ID = Flight\_schedule.flight\_id;

-- 49. Retrieve the details of passengers who made reservations for flights departing on or after a specific date.

SELECT Passengers.\* FROM Passengers JOIN Reservation ON Passengers.P\_ID = Reservation.P\_ID JOIN Flight\_schedule ON Reservation.F\_ID =