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DATABASE MANAGEMENT SYSTEM – WEEK 04 ASSIGNMENT

**Question 01**

CREATE DATABASE AirportManagement;

USE AirportManagement;

CREATE TABLE Airline(

airline\_id INT AUTO\_INCREMENT ,

airline\_name VARCHAR(100) NOT NULL,

country VARCHAR(50)NOT NULL,

CONSTRAINT PRIMARY KEY (airline\_id)

);

DESC Airline;

CREATE TABLE Flight(

flight\_id INT AUTO\_INCREMENT,

airline\_id INT,

flight\_number VARCHAR(20) NOT NULL,

origin VARCHAR(50) NOT NULL,

destination VARCHAR(50) NOT NULL,

departure\_time DATETIME,

arrival\_time DATETIME,

CONSTRAINT PRIMARY KEY (flight\_id),

CONSTRAINT FOREIGN KEY (airline\_id) REFERENCES Airline(airline\_id)

);

DESC Flight;

CREATE TABLE Ticket(

ticket\_id INT AUTO\_INCREMENT,

flight\_id INT,

ticket\_price DECIMAL(10,2),

ticket\_class VARCHAR(20) NOT NULL,

CONSTRAINT PRIMARY KEY (ticket\_id),

CONSTRAINT FOREIGN KEY (flight\_id) REFERENCES Flight(flight\_id)

);

DESC Ticket;

CREATE TABLE Passenger(

passenger\_id INT AUTO\_INCREMENT,

first\_name VARCHAR(50),

last\_name VARCHAR(50),

email VARCHAR(100) NOT NULL,

age INT NOT NULL,

seat\_number VARCHAR(10) NOT NULL,

ticket\_id INT NOT NULL,

CONSTRAINT PRIMARY KEY (passenger\_id),

CONSTRAINT FOREIGN KEY (ticket\_id) REFERENCES Ticket(ticket\_id)

);

DESC Passenger;

INSERT INTO Airline (airline\_name,country) VALUES

("Delta Airline","USA"),

("Emirates","UAE"),

("Lufthansa","Germany");

SELECT\*FROM Airline;

INSERT INTO Flight (airline\_id,flight\_number,origin,destination,departure\_time,arrival\_time) VALUES

(1,"DL123","New York","Los Angeles","2023-01-01 08:00:00","2023-01-01 10:30:00"),

(2,"EK456","Dubai","London","2023-01-02 14:00:00","2023-01-02 18:00:00"),

(3,"LH789","Berlin","Paris","2023-01-03 09:30:00","2023-01-03 11:30:00");

SELECT\*FROM Flight;

INSERT INTO Ticket (flight\_id,ticket\_price,ticket\_class) VALUES

(1,250.00,"Economy"),

(2,500.00,"Business"),

(3,300.00,"Economy");

SELECT\*FROM Ticket;

INSERT INTO Passenger (passenger\_id,first\_name,last\_name,email,age,seat\_number,ticket\_id) VALUES

(4,"John","Doe","jhon@example.com",30,"A23",1),

(5,"Emma","Smith","emma@example.com",25,"B15",2),

(6,"Michael","Johnson","michael@example.com",40,"C10",3);

**Question 02**

UPDATE Flight SET destination = 'Paris' WHERE flight\_id = 2;

**Question 03**

UPDATE Ticket SET ticket\_price = 350.00 WHERE ticket\_class = 'Economy' AND flight\_id IN (SELECT flight\_id FROM Flight WHERE origin = 'Dubai');

**Question 04**

UPDATE Flight SET departure\_time = '2023-02-01 10:00:00' WHERE origin = 'New York' AND destination = 'Los Angeles';

**Question 05**

SELECT\*FROM Flight WHERE origin = 'Dubai' AND destination = 'London';

**Question 06**

SELECT \* FROM Ticket WHERE ticket\_class IN ('Business', 'Economy');

**Question 07**

SELECT \* FROM Passenger WHERE age = 25 OR email LIKE '%@example.com';

**Question 08**

SELECT \* FROM Passenger LIMIT 5;

**Question 09**

SELECT \* FROM Ticket ORDER BY ticket\_price DESC LIMIT 3;

**Question 10**

SELECT COUNT(\*) AS number\_of\_flights FROM Flight;

**Question 11**

SELECT COUNT(\*) AS passengers\_above\_30 FROM Passenger WHERE age > 30;

**Question 12**

SELECT \* FROM Passenger WHERE ticket\_id IN (SELECT ticket\_id FROM Ticket WHERE flight\_id IN (SELECT flight\_id FROM Flight WHERE origin = 'New York'));

**Question 13**

SELECT \* FROM Flight WHERE arrival\_time BETWEEN '2023-01-01 12:00:00' AND '2023-01-03 12:00:00';

**Question 14**

SELECT \* FROM Ticket WHERE ticket\_price > 300.00;

**Question 15**

SELECT \* FROM Flight ORDER BY departure\_time DESC;

**Question 16**

SELECT \* FROM Passenger ORDER BY age DESC;

**Question 17**

SELECT \* FROM Ticket ORDER BY ticket\_price DESC;

**Question 18**

SELECT \* FROM Flight ORDER BY arrival\_time ASC;

**Question 19**

SELECT \* FROM Passenger ORDER BY first\_name ASC;

**Question 20**

SELECT \* FROM Ticket ORDER BY ticket\_class ASC;

**Question 21**

SELECT \* FROM Flight ORDER BY origin ASC, destination DESC;

**Question 22**

SELECT \* FROM Passenger ORDER BY age DESC, last\_name ASC;

**Question 23**

ON DELETE CASCADE in SQL is a referential integrity constraint that, when specified in a foreign key relationship, means that if a record in the parent table is deleted, then all corresponding records in the child table will be automatically deleted as well.

**Question 24**

If ON DELETE CASCADE is set between the Orders table (parent) and the OrderDetails table (child), when an order is deleted from the Orders table, all corresponding order details in the OrderDetails table will be automatically deleted as well.

**Question 25**

If an employee's details are updated in the Employees table, it has no impact on the EmployeeTasks table when the foreign key relationship is set with ON DELETE CASCADE. The cascade action only triggers when a record is deleted from the parent table, not when it is updated.