DATABASE MANAGEMENT SYSTEM – WEEK 04 ASSIGNMENT

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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.