

JOMACS SQL TRAINING PROGRAM FINAL PROJECT
(PROJECT 1)

OMEGA TBS AIRLINES

QUESTION 1

```
CREATE SCHEMA IF NOT EXISTS omega_tbs_airlines;
```

```
CREATE TABLE IF NOT EXISTS flights
```

```
(  
    flight_id INT PRIMARY KEY NOT NULL,  
    airline VARCHAR(45) NOT NULL,  
    departure_airport VARCHAR(45) NOT NULL,  
    destination_airport VARCHAR(45) NOT NULL,  
    departure_time DATETIME NOT NULL,  
    arrival_time DATETIME NOT NULL,  
    seat_available INT NOT NULL  
);
```

```
CREATE TABLE IF NOT EXISTS passengers
```

```
(  
    passenger_id INT PRIMARY KEY NOT NULL,  
    name VARCHAR(45) NOT NULL,  
    contact_number VARCHAR(45) NOT NULL,  
    email VARCHAR(255) NOT NULL  
);
```

```
CREATE TABLE IF NOT EXISTS bookings
(
    booking_id INT PRIMARY KEY NOT NULL,
    date_of_booking DATE NOT NULL,
    seat_number INT NOT NULL,
    flight_date DATE NOT NULL,
    flight_id INT NOT NULL,
    passenger_id INT NOT NULL,
    Booking_status VARCHAR(15),

    CONSTRAINT fk_bookings_flights
    FOREIGN KEY (flight_id)
    REFERENCES flights (flight_id),

    CONSTRAINT fk_bookings_passengers
    FOREIGN KEY (passenger_id)
    REFERENCES passengers (passenger_id)
);
```

A QUERY ADDING NEW FLIGHTS

INSERT INTO flights (

flight_id,
airline,
departure_airport,
destination_airport,
departure_time,
arrival_time,
seat_available
)

VALUES

(621, 'Ethiopian Airlines', 'DAR', 'LHR', '2023-01-01 06:00:00', '2023-01-01 07:00:00', 20),

(622, 'Egypt Air', 'CAI', 'FRA', '2023-01-20 08:30:00', '2023-01-20 09:30:00', 0),

(623, 'Kenya Airways', 'NBO', 'CPH', '2023-02-10 07:30:00', '2023-02-10 08:30:00', 0),

(624, 'Ghana Airways', 'ACC', 'AMS', '2023-03-07 12:00:00', '2023-03-07 13:30:00', 50),

(625, 'Rwanda Air', 'JNB', 'VIE', '2023-04-04 13:30:00', '2023-04-04 15:00:00', 100),

(626, 'Air Mauritius', 'ADD', 'HEL', '2023-05-05 14:00:00', '2023-05-05 19:00:00', 15),

(627, 'Fastjet', 'LOS', 'MUC', '2023-06-09 17:00:00', '2023-06-09 22:00:00', 70) ;

A QUERY ADDIND NEW PASSENGERS

INSERT INTO passengers

```
(  
    passenger_id,  
    name,  
    contact_number,  
    email  
)
```

VALUES

```
(50, 'Kofi Sey', '+233-2498-98152', 'ksey@gmail.com'),  
(51, 'Raymond Havim', '+233-2404-15173', 'vim88@gmail.com'),  
(52, 'Doreen Dela', '+233-2508-11119', 'dela23@jomacs.com'),  
(53, 'Kwasi Asafuah', '+233-5402--8422', 'kwesi90@ymail.com'),  
(54, 'Barbara Peters', '+233-5402-98423', 'bibi123@gmail.com'),  
(55, 'Maurice Owusu', '+233-2931-22314', 'mau22@hotmail.com'),  
(56, 'Isabelle Takpa', '+233-5931-84124', 'isabelle@yahoo.com') ;
```

A QUERY ADDING BOOKINGS

INSERT INTO bookings

```
(  
    booking_id,  
    date_of_booking,  
    seat_number,  
    flight_date,  
    flight_id,  
    passenger_id,  
    Booking_status)
```

VALUES

```
(11, '2022-12-25', 125, '2023-01-01', 621, 52, 'Active'),  
(12, '2023-01-15', 126, '2023-01-20', 622, 53, 'Active'),  
(13, '2023-02-08', 129, '2023-02-10', 623, 51, 'Active'),  
(14, '2023-03-02', 140, '2023-03-07', 624, 55, 'Active'),  
(15, '2023-04-01', 189, '2023-04-04', 625, 56, 'Active'),  
(16, '2023-05-02', 172, '2023-05-05', 626, 54, 'Active'),  
(17, '2023-06-01', 144, '2023-06-09', 627, 50, 'Active');
```

A QUERY ADDING A NEW BOOKING

INSERT INTO bookings

```
(  
    booking_id,  
    date_of_booking,  
    seat_number,  
    flight_date,  
    flight_id,  
    passenger_id,  
    Booking_status  
)
```

VALUES

```
(18, '2023-06-21', 144, '2023-06-26', 627, 50, 'Active');
```

A QUERY CANCELLING A BOOKING

UPDATE bookings

SET Booking_status ='Cancelled'

WHERE booking_id = 11;

A QUERY TO GENERATE REPORT ON AVAILABLE FLIGHTS BETWEEN TWO LOCATIONS

SELECT *

FROM flights

WHERE seat_available <> 0;

QUERY TO GENERATE REPORT ON BOOKING MADE BY A PARTICULAR PASSENGER.

```
SELECT *  
FROM bookings  
    JOIN passengers USING (passenger_id)  
WHERE passenger_id =52 ;
```

A QUERY TO GENERATE REPORT ON FLIGHTS AT FULL CAPACITY

```
SELECT *  
FROM flights  
WHERE seat_available =0 ;
```

JOMACS SQL TRAINING PROGRAM FINAL PROJECT
(PROJECT 2)

OMEGA MOVIES

CREATE SCHEMA IF NOT EXISTS omega_movies;

CREATE TABLE IF NOT EXISTS movies

```
(  
    movie_id INT PRIMARY KEY NOT NULL,  
    title VARCHAR(45) NOT NULL,  
    director VARCHAR(45) NOT NULL,  
    genre VARCHAR(45) NOT NULL,  
    release_date YEAR NOT NULL  
);
```

CREATE TABLE IF NOT EXISTS subscribers

```
(  
    subscriber_id INT PRIMARY KEY NOT NULL,  
    name VARCHAR(45) NOT NULL,  
    email VARCHAR(45) NOT NULL,  
    subscription_plan VARCHAR(45) NOT NULL,  
    subscription_date DATE NOT NULL  
);
```


CREATE TABLE IF NOT EXISTS rentals

```
(  
    rental_id INT PRIMARY KEY NOT NULL,  
    rental_date DATE NOT NULL,  
    return_date DATE NOT NULL,  
    return_status VARCHAR(20) NOT NULL,  
    movie_id INT NOT NULL,  
    subscriber_id INT NOT NULL,  
  
    CONSTRAINT fk_rentals_movies  
    FOREIGN KEY (movie_id)  
    REFERENCES movies (movie_id),  
  
    CONSTRAINT fk_rentals_subscribers  
    FOREIGN KEY (subscriber_id)  
    REFERENCES subscribers (subscriber_id)  
);
```

INSERTING RECORDS INTO THE MOVIE TABLE

INSERT INTO movies

```
(  
    movie_id,  
    title,  
    director,  
    genre,  
    release_date  
)
```

VALUES

```
(1001, 'Back to the Future', 'Alfred Hitchcock', 'Adventure', 1985),  
(1002, 'Spirited Away', 'Jack Clayton', 'Action', 2001),  
(1003, 'Seven Samurai', 'Yvonne Nelson', 'Mystery', 2001),  
(1004, 'Avatar', 'Michael Cinimo', 'Animation', 2009),  
(1005, 'Beyond the Sea', 'Adjetey Anan', 'Thriller', 2004),  
(1006, 'Aliens', 'David Lean', 'Horror', 1986),  
(1007, 'Slumdog Millionaire', 'Jackie Appiah', 'Comedy', 2008),  
(1008, 'The Prestige', 'Milos Forman', 'War', 2008),  
(1009, 'Titanic', 'Rita Dominic', 'Romance', 1997),  
(1010, 'American Beauty', 'Ridley Scott', 'Biography', 1999),  
(1011, 'Donnie Darko', 'James Gardner', 'Drama', 2001),  
(1012, 'I Told You So', 'Nii Tackie', 'Comedy', 1999),  
(1013, 'Boogie Night', 'Juliet Asante', 'Music', 1997),  
(1014, 'Chinatown', 'Chris Attah', 'Adventure', 1997),  
(1015, 'Blade Runner', 'Stanley Kubrick', 'Action', 1999) ;
```

INSERTING RECORDS INTO THE SUBSCRIBERS TABLE

INSERT INTO subscribers

```
(  
    subscriber_id,  
    name,  
    email,  
    subscription_plan,  
    subscription_date  
)
```

VALUES

```
(50, 'Raymond', 'mond11@ymail.com', 'Premium', '2022-06-09'),  
(51, 'Naa', 'naa4sure@gmail.com', 'Standard', '2022-05-15'),  
(52, 'Johnson', 'johnson18@jomacs.com', 'Basic', '2022-01-20'),  
(53, 'Barbara', 'barbip@gmail.com', 'Basic', '2021-09-12'),  
(55, 'Isabella', 'isagem@ymail.com', 'Premium', '2023-01-01'),  
(56, 'Dela', 'dela99@hotmail.com', 'Standard', '2019-05-05'),  
(57, 'Aminu', 'aminu22@jomacs.com', 'Standard with Ads', '2021-12-01'),  
(60, 'Habietu', 'habibi@gmail.com', 'Premium', '2021-06-19'),  
(62, 'Maurice', 'mau99@hotmail.com', 'Standard with Ads', '2020-12-15');
```

INSERTING RECORDS INTO THE RENTALS TABLE

INSERT INTO rentals

```
(  
    rental_id,  
    rental_date,  
    return_date,  
    return_status,  
    movie_id,  
    subscriber_id  
)
```

VALUES

```
(105, '2023-01-20', '2023-01-25', 'Returned', 1015, 50),  
(106, '2023-02-16', '2023-02-23', 'Returned', 1011, 51),  
(108, '2023-01-12', '2023-01-22', 'Returned', 1007, 52),  
(110, '2023-03-19', '2023-03-27', 'Returned', 1001, 53),  
(111, '2023-04-15', '2023-04-19', 'Returned', 1003, 62),  
(112, '2023-04-09', '2023-04-18', 'Returned', 1010, 55),  
(113, '2023-05-10', '2023-05-15', 'Not Returned', 1005, 56),  
(114, '2023-05-18', '2023-05-24', 'Not Returned', 1008, 57),  
(115, '2023-06-09', '2023-06-17', 'Not Returned', 1012, 60),  
(116, '2023-06-10', '2023-06-10', 'Not Returned', 1011, 63);
```

A QUERY ADDING A NEW MOVIE

INSERT INTO movies

```
(  
    movie_id,  
    title,  
    director,  
    genre,  
    release_date  
)
```

VALUES

```
(1016, 'The Little Mermaid', 'David Fincher', 'Mystery', 2023);
```

A QUERY ADDING A NEW SUBSCRIBER

INSERT INTO subscribers

```
(  
    subscriber_id,  
    name,  
    email,  
    subscription_plan,  
    subscription_date  
)
```

VALUES

```
(63, 'Enock', 'enockp@gmail.com', 'Basic', '2021-10-12');
```

A QUERY ADDING A RECORD OF NEW RENTED MOVIE BY A SUBSCRIBER

```
INSERT INTO rentals
    (rental_id,
     rental_date,
     return_date,
     movie_id,
     subscriber_id)
VALUES
    (118, '2022-07-25', '2022-07-30', 'Not Returned', 1016, 63);
```

A QUERY TO EFFECT RECORD OF A RETURNED MOVIE BY A SUBSCRIBER

```
UPDATE rentals
SET return_status = 'Returned'
WHERE subscriber_id =60;
```

A COMPLEX QUERY TO GENERATE A REPORT OF MOST POPULAR MOVIES.

```
SELECT      m.movie_id ,
            m.title,
            m.release_date,
            COUNT(movie_id) AS most_popular_movies
FROM rentals r
JOIN movies m USING (movie_id)
GROUP BY (movie_id)
ORDER BY most_popular_movies DESC
LIMIT 3;
```

A COMPLEX QUERY TO GENERATE A REPORT OF ACTIVE SUBSCRIBERS (WHERE ACTIVE SUBSCRIBER SHOULD HAVE RENTED A MOVIE IN THE LAST FOUR MONTHS)

```
SELECT
            r.rental_id,
            r.rental_date,
            r.subscriber_id,
            s.name,
            s.subscription_plan
FROM rentals r
JOIN subscribers s USING (subscriber_id)
WHERE rental_date BETWEEN '2023-03-01' AND '2023-06-30';
```

A COMPLEX QUERY TO GENERATE A REPORT OF MOVIES RENTED BY A PARTICULAR SUBSCRIBER.

```
SELECT
    r.rental_id,
    r.rental_date,
    m.movie_id,
    m.title,
    s.subscriber_id,
    s.name
FROM rentals r
JOIN movies m USING (movie_id)
JOIN subscribers s USING (subscriber_id)
WHERE subscriber_id = 55 ;
```

A COMPLEX QUERY TO GENERATE A REPORT OF TOTAL MOVIE RENTALS IN A SPECIFIC PERIOD.

```
SELECT
    COUNT(*) AS total_rentals
FROM rentals
WHERE rental_date BETWEEN '2023-04-01' AND '2023-6-15' ;
```