CREATE DATABASE AirlineDB;

USE AirlineDB;

CREATE TABLE Flights (

FlightID INT PRIMARY KEY AUTO\_INCREMENT,

Airline VARCHAR(100),

Origin VARCHAR(50),

Destination VARCHAR(50),

DepartureTime DATETIME,

ArrivalTime DATETIME,

TotalSeats INT

);

CREATE TABLE Customers (

CustomerID INT PRIMARY KEY AUTO\_INCREMENT,

FullName VARCHAR(100),

Email VARCHAR(100),

Phone VARCHAR(15)

);

CREATE TABLE Seats (

SeatID INT PRIMARY KEY AUTO\_INCREMENT,

FlightID INT,

SeatNumber VARCHAR(5),

IsBooked BOOLEAN DEFAULT FALSE,

FOREIGN KEY (FlightID) REFERENCES Flights(FlightID) ON DELETE CASCADE

);

CREATE TABLE Bookings (

BookingID INT PRIMARY KEY AUTO\_INCREMENT,

CustomerID INT,

FlightID INT,

SeatID INT,

BookingDate DATETIME DEFAULT CURRENT\_TIMESTAMP,

Status ENUM('CONFIRMED', 'CANCELLED') DEFAULT 'CONFIRMED',

FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID),

FOREIGN KEY (FlightID) REFERENCES Flights(FlightID),

FOREIGN KEY (SeatID) REFERENCES Seats(SeatID)

);

INSERT INTO Flights (Airline, Origin, Destination, DepartureTime, ArrivalTime, TotalSeats)

VALUES

('IndiGo', 'Delhi', 'Mumbai', '2025-07-10 10:00:00', '2025-07-10 12:00:00', 150),

('Air India', 'Mumbai', 'Chennai', '2025-07-11 14:00:00', '2025-07-11 16:30:00', 120);

INSERT INTO Customers (FullName, Email, Phone)

VALUES

('Alice Johnson', 'alice@mail.com', '9876543210'),

('Bob Singh', 'bob@mail.com', '9123456780');

INSERT INTO Seats (FlightID, SeatNumber)

SELECT 1, CONCAT('A', n) FROM (SELECT 1 AS n UNION SELECT 2 UNION SELECT 3 UNION SELECT 4

UNION SELECT 5 UNION SELECT 6 UNION SELECT 7 UNION SELECT 8 UNION SELECT 9 UNION SELECT 10) AS nums;

SELECT \* FROM Flights

WHERE Origin = 'Delhi' AND Destination = 'Mumbai';

SELECT SeatNumber FROM Seats

WHERE FlightID = 1 AND IsBooked = FALSE;

-- Mark seat as booked

UPDATE Seats SET IsBooked = TRUE WHERE SeatID = 3;

-- Create booking

INSERT INTO Bookings (CustomerID, FlightID, SeatID)

VALUES (1, 1, 3);

DELIMITER $$

CREATE TRIGGER after\_booking\_cancel

AFTER UPDATE ON Bookings

FOR EACH ROW

BEGIN

IF NEW.Status = 'CANCELLED' THEN

UPDATE Seats SET IsBooked = FALSE WHERE SeatID = NEW.SeatID;

END IF;

END$$

DELIMITER ;

CREATE VIEW AvailableFlights AS

SELECT f.FlightID, f.Airline, f.Origin, f.Destination, f.DepartureTime, s.SeatNumber

FROM Flights f

JOIN Seats s ON f.FlightID = s.FlightID

WHERE s.IsBooked = FALSE;

SELECT

b.BookingID,

c.FullName AS Customer,

f.Airline,

f.Origin,

f.Destination,

s.SeatNumber,

b.BookingDate,

b.Status

FROM Bookings b

JOIN Customers c ON b.CustomerID = c.CustomerID

JOIN Flights f ON b.FlightID = f.FlightID

JOIN Seats s ON b.SeatID = s.SeatID

ORDER BY b.BookingDate DESC;

SELECT

b.BookingID,

c.FullName AS Customer,

f.Airline,

f.Origin,

f.Destination,

s.SeatNumber,

b.BookingDate,

b.Status

FROM Bookings b

JOIN Customers c ON b.CustomerID = c.CustomerID

JOIN Flights f ON b.FlightID = f.FlightID

JOIN Seats s ON b.SeatID = s.SeatID

ORDER BY b.BookingDate DESC;

SELECT \* FROM Seats WHERE FlightID = 1;

-- Example: Adding 5 seats for Flight ID 1

INSERT INTO Seats (FlightID, SeatNumber, IsBooked) VALUES

(1, 'A1', 0),

(1, 'A2', 0),

(1, 'A3', 0),

(1, 'B1', 0),

(1, 'B2', 0);

-- Similarly for Flight ID 2

INSERT INTO Seats (FlightID, SeatNumber, IsBooked) VALUES

(2, 'C1', 0),

(2, 'C2', 0),

(2, 'C3', 0);