

1) Create following tables with corresponding attributes:

```
1  CREATE TABLE Airline_info (  
2      airline_id INT,  
3      airline_code VARCHAR(30),  
4      airline_name VARCHAR(50),  
5      airline_country VARCHAR(50),  
6      created_at TIMESTAMP,  
7      updated_at TIMESTAMP,  
8      info VARCHAR(50)  
9  );  
10 CREATE TABLE Airport (  
11     airport_id INT,  
12     airport_name VARCHAR(50),  
13     country VARCHAR(50),  
14     state VARCHAR(50),  
15     city VARCHAR(50),  
16     created_at TIMESTAMP,  
17     updated_at TIMESTAMP  
18 );  
19 CREATE TABLE Baggage_check (  
20     baggage_check_id INT,  
21     check_result VARCHAR(50),  
22     created_at TIMESTAMP,  
23     updated_at TIMESTAMP,  
24     booking_id INT,  
25     passenger_id INT  
26 );  
27 CREATE TABLE Baggage(  
28     baggage_id INT,  
29     weight_in_kg decimal(4,2),  
30     created_at TIMESTAMP,  
31     updated_at TIMESTAMP,  
32     booking_id INT  
33 );
```

```
75 CREATE TABLE Passengers (  
76     passenger_id INT,  
77     first_name VARCHAR(50),  
78     last_name VARCHAR(50),  
79     date_of_birth DATE,  
80     gender VARCHAR(50),  
81     country_of_citizenship VARCHAR(50),  
82     country_of_residence VARCHAR(50),  
83     passport_number VARCHAR(20),  
84     created_at TIMESTAMP,  
85     updated_at TIMESTAMP  
86 );  
87  
88 CREATE TABLE Security_check (  
89     security_check_id INT,  
90     check_result VARCHAR(20),  
91     created_at TIMESTAMP,  
92     updated_at TIMESTAMP,  
93     passenger_id INT  
94 );
```

```
34 CREATE TABLE Boarding_pass(  
35     boarding_pass_id INT,  
36     booking_id INT,  
37     seat VARCHAR(50),  
38     boarding_time TIMESTAMP,  
39     created_at TIMESTAMP,  
40     updated_at TIMESTAMP  
41 );  
42 CREATE TABLE Booking_flight (  
43     booking_flight_id INT,  
44     booking_id INT,  
45     flight_id INT,  
46     created_at TIMESTAMP,  
47     updated_at TIMESTAMP  
48 );  
49 CREATE TABLE Booking (  
50     booking_id INT,  
51     flight_id INT,  
52     passenger_id INT,  
53     booking_platform VARCHAR(50),  
54     created_at TIMESTAMP,  
55     updated_at TIMESTAMP,  
56     status VARCHAR(50),  
57     price DECIMAL(7,2)  
58 );  
59  
60 CREATE TABLE Flights (  
61     flight_id INT,  
62     sch_departure_time TIMESTAMP,  
63     sch_arrival_time TIMESTAMP,  
64     departing_airport_id INT,  
65     arriving_airport_id INT,  
66     departing_gate VARCHAR(50),  
67     arriving_gate VARCHAR(50),  
68     airline_id INT,  
69     act_departure_time TIMESTAMP,  
70     act_arrival_time TIMESTAMP,  
71     created_at TIMESTAMP,  
72     updated_at TIMESTAMP  
73 );
```

2) Define Primary keys

```
1 ✓ ALTER TABLE Airline_info ADD PRIMARY KEY (airline_id);
2 ✓ ALTER TABLE Airport ADD PRIMARY KEY (airport_id);
3 ✓ ALTER TABLE Baggage_check ADD PRIMARY KEY (baggage_check_id);
4 ✓ ALTER TABLE Baggage ADD PRIMARY KEY (baggage_id);
5 ✓ ALTER TABLE Boarding_pass ADD PRIMARY KEY (boarding_pass_id);
6 ✓ ALTER TABLE Booking_flight ADD PRIMARY KEY (booking_flight_id);
7 ✓ ALTER TABLE Booking ADD PRIMARY KEY (booking_id);
8 ✓ ALTER TABLE Flights ADD PRIMARY KEY (flight_id);
9 ✓ ALTER TABLE Passengers ADD PRIMARY KEY (passenger_id);
10 ✓ ALTER TABLE Security_check ADD PRIMARY KEY (security_check_id);
```

4) Define for all attributes not null constraint

```
1 ✓ ALTER TABLE airline_info
2   ALTER COLUMN airline_id SET NOT NULL,
3   ALTER COLUMN airline_code SET NOT NULL,
4   ALTER COLUMN airline_name SET NOT NULL,
5   ALTER COLUMN airline_country SET NOT NULL,
6   ALTER COLUMN created_at SET NOT NULL,
7   ALTER COLUMN updated_at SET NOT NULL;
8
9 ✓ ALTER TABLE Airport
10  ALTER COLUMN airport_id SET NOT NULL,
11  ALTER COLUMN airport_name SET NOT NULL,
12  ALTER COLUMN country SET NOT NULL,
13  ALTER COLUMN state SET NOT NULL,
14  ALTER COLUMN city SET NOT NULL,
15  ALTER COLUMN created_at SET NOT NULL,
16  ALTER COLUMN updated_at SET NOT NULL;
17
18 ✓ ALTER TABLE Baggage_check
19  ALTER COLUMN baggage_check_id SET NOT NULL,
20  ALTER COLUMN check_result SET NOT NULL,
21  ALTER COLUMN created_at SET NOT NULL,
22  ALTER COLUMN updated_at SET NOT NULL,
23  ALTER COLUMN booking_id SET NOT NULL,
24  ALTER COLUMN passenger_id SET NOT NULL;
25
26 ✓ ALTER TABLE Baggage
27  ALTER COLUMN baggage_id SET NOT NULL,
28  ALTER COLUMN weight_in_kg SET NOT NULL,
29  ALTER COLUMN created_at SET NOT NULL,
30  ALTER COLUMN updated_at SET NOT NULL,
31  ALTER COLUMN booking_id SET NOT NULL;
32
33 ✓ ALTER TABLE Boarding_pass
34  ALTER COLUMN boarding_pass_id SET NOT NULL,
35  ALTER COLUMN booking_id SET NOT NULL,
36  ALTER COLUMN seat SET NOT NULL,
37  ALTER COLUMN boarding_time SET NOT NULL,
38  ALTER COLUMN created_at SET NOT NULL,
39  ALTER COLUMN updated_at SET NOT NULL;
40
41 ✓ ALTER TABLE Booking_flight
42  ALTER COLUMN booking_flight_id SET NOT NULL,
43  ALTER COLUMN booking_id SET NOT NULL,
44  ALTER COLUMN flight_id SET NOT NULL,
45  ALTER COLUMN created_at SET NOT NULL,
46  ALTER COLUMN updated_at SET NOT NULL;
47
48 ✓ ALTER TABLE Booking
49  ALTER COLUMN booking_id SET NOT NULL,
50  ALTER COLUMN flight_id SET NOT NULL,
51  ALTER COLUMN passenger_id SET NOT NULL,
52  ALTER COLUMN booking_platform SET NOT NULL,
53  ALTER COLUMN created_at SET NOT NULL,
54  ALTER COLUMN updated_at SET NOT NULL,
55  ALTER COLUMN status SET NOT NULL,
56  ALTER COLUMN price SET NOT NULL;
57
58 ✓ ALTER TABLE Flights
59  ALTER COLUMN flight_id SET NOT NULL,
60  ALTER COLUMN sch_departure_time SET NOT NULL,
61  ALTER COLUMN sch_arrival_time SET NOT NULL,
62  ALTER COLUMN departing_airport_id SET NOT NULL,
63  ALTER COLUMN arriving_airport_id SET NOT NULL,
64  ALTER COLUMN departing_gate SET NOT NULL,
65  ALTER COLUMN arriving_gate SET NOT NULL,
66  ALTER COLUMN airline_id SET NOT NULL,
67  ALTER COLUMN act_departure_time SET NOT NULL,
68
69
70
71
72 ✓ ALTER TABLE Passengers
73  ALTER COLUMN passenger_id SET NOT NULL,
74  ALTER COLUMN first_name SET NOT NULL,
75  ALTER COLUMN last_name SET NOT NULL,
76  ALTER COLUMN date_of_birth SET NOT NULL,
77  ALTER COLUMN gender SET NOT NULL,
78  ALTER COLUMN country_of_citizenship SET NOT NULL,
79  ALTER COLUMN country_of_residence SET NOT NULL,
80  ALTER COLUMN passport_number SET NOT NULL,
81  ALTER COLUMN created_at SET NOT NULL,
82  ALTER COLUMN updated_at SET NOT NULL;
83
84 ✓ ALTER TABLE Security_check
85  ALTER COLUMN security_check_id SET NOT NULL,
86  ALTER COLUMN check_result SET NOT NULL,
87  ALTER COLUMN created_at SET NOT NULL,
88  ALTER COLUMN updated_at SET NOT NULL,
89  ALTER COLUMN passenger_id SET NOT NULL;
```

5) Rename airline_info table to airline

```
1 ALTER TABLE airline_info RENAME TO airline;
```

6) Rename column price to ticket_price in booking table

```
1 ✓ ALTER TABLE booking RENAME COLUMN price to ticket_price;!
```

7) Change data type of departing_gate from varchar(50) to text

```
1 ✓ ALTER TABLE flights ALTER COLUMN departing_gate TYPE TEXT;
```

8) Drop the column info(varchar(50)) from the airline table.

```
1 ✓ ALTER TABLE airline DROP COLUMN info;
```

9) Make a relationship between following tables

```
1 ✓ ALTER TABLE Security_check ADD FOREIGN KEY (passenger_id) REFERENCES Passengers(passenger_id);
2 ✓ ALTER TABLE Booking ADD FOREIGN KEY (passenger_id) REFERENCES Passengers(passenger_id);
3 ✓ ALTER TABLE Baggage_check ADD FOREIGN KEY (passenger_id) REFERENCES Passengers(passenger_id);
4 ✓ ALTER TABLE Baggage_check ADD FOREIGN KEY (booking_id) REFERENCES Booking(booking_id);
5 ✓ ALTER TABLE Baggage ADD FOREIGN KEY (booking_id) REFERENCES Booking(booking_id);
6 ✓ ALTER TABLE Boarding_pass ADD FOREIGN KEY (booking_id) REFERENCES Booking(booking_id);
7 ✓ ALTER TABLE Booking_flight ADD FOREIGN KEY (booking_id) REFERENCES Booking(booking_id);
8 ✓ ALTER TABLE Booking_flight ADD FOREIGN KEY (flight_id) REFERENCES Flights(flight_id);
9 ✓ ALTER TABLE Flights ADD FOREIGN KEY (departing_airport_id) REFERENCES Airport(airport_id);
10 ✓ ALTER TABLE Flights ADD FOREIGN KEY (arriving_airport_id) REFERENCES Airport(airport_id);
11 ✓ ALTER TABLE Flights ADD FOREIGN KEY (airline_id) REFERENCES airline(airline_id);
```

1)

generated 200 rows in mockaroo

2) Add a new airline named "KazAir" based in "Kazakhstan" to the airline table.

```
1 ✓ INSERT INTO airline (airline_id, airline_code, airline_name, airline_country, created_at, updated_at)
2 VALUES ( airline_id 201, airline_code 'KZR', airline_name 'KazAir', airline_country 'Kazakhstan', created_at NOW(), updated_at NOW());
```

3) Update the airline country "KazAir" to "Turkey".

```
1 ✓ UPDATE airline SET airline_country = 'Turkey' WHERE airline_name = 'KazAir';
```

4) Add three airlines at once: "AirEasy" in "France", "FlyHigh" in "Brazil" and "FlyFly" in "Poland".

```
1 ✓ INSERT INTO airline (airline_id, airline_code, airline_name, airline_country, created_at, updated_at)
2 VALUES
3 ( airline_id 202, airline_code 'AEZ', airline_name 'AirEasy', airline_country 'France', created_at NOW(), updated_at NOW()),
4 ( airline_id 203, airline_code 'FLH', airline_name 'FlyHigh', airline_country 'Brazil', created_at NOW(), updated_at NOW()),
5 ( airline_id 204, airline_code 'FLF', airline_name 'FlyFly', airline_country 'Poland', created_at NOW(), updated_at NOW());
```

5)Delete all flights whose arrival in 2024 year.

```
1 ✓ DELETE FROM Baggage WHERE booking_id IN (  
2     SELECT booking_id FROM Booking WHERE flight_id IN (  
3         SELECT flight_id FROM Flights WHERE EXTRACT(YEAR FROM sch_arrival_time) = 2024));  
4 ✓ DELETE FROM Boarding_pass WHERE booking_id IN (  
5     SELECT booking_id FROM Booking WHERE flight_id IN (  
6         SELECT flight_id FROM Flights WHERE EXTRACT(YEAR FROM sch_arrival_time) = 2024));  
7 ✓ DELETE FROM Baggage_check WHERE booking_id IN (  
8     SELECT booking_id FROM Booking WHERE flight_id IN (  
9         SELECT flight_id FROM Flights WHERE EXTRACT(YEAR FROM sch_arrival_time) = 2024));  
10 ✓ DELETE FROM Booking_flight WHERE flight_id IN (  
11     SELECT flight_id FROM Flights WHERE EXTRACT(YEAR FROM sch_arrival_time) = 2024);  
12 ✓ DELETE FROM Booking WHERE flight_id IN (  
13     ⚡ SELECT flight_id FROM Flights WHERE EXTRACT(YEAR FROM sch_arrival_time) = 2024);  
14 ✓ DELETE FROM Flights WHERE EXTRACT(YEAR FROM sch_arrival_time) = 2024;
```

6)Increase the price of all tickets in booking table for flights by 15%.

```
1 ✓ UPDATE booking SET ticket_price = ticket_price * 1.15;
```

7)Delete all tickets where price is less than 10000.

```
1 ✓ ▾ DELETE FROM Baggage_check WHERE booking_id IN (  
2     SELECT booking_id FROM Booking WHERE ticket_price < 10000);  
3 ✓ ▾ DELETE FROM Baggage WHERE booking_id IN (  
4     SELECT booking_id FROM Booking WHERE ticket_price < 10000);  
5 ✓ ▾ DELETE FROM Boarding_pass WHERE booking_id IN (  
6     SELECT booking_id FROM Booking WHERE ticket_price < 10000);  
7 ✓ ▾ DELETE FROM Booking_flight WHERE booking_id IN (  
8     ⚡ SELECT booking_id FROM Booking WHERE ticket_price < 10000);  
9 ✓ DELETE FROM Booking WHERE ticket_price < 10000;
```