AIRLINE RESERVATION SYSTEM

AN INTERACTIVE SQL PROJECT

Explore how relational databases power the airline industry!

This project covers flights, passengers, tickets, payments, and more —
designed to demonstrate real-world database design and analytical queries.

LIST ALL PASSENGERS WITH EMAIL & PHONE

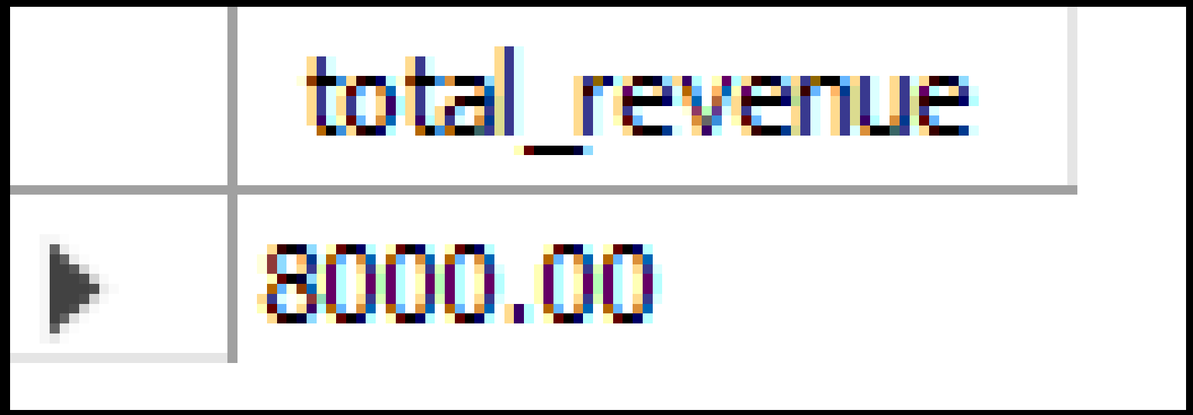
```
SELECT
 first_name, last_name,
email, phone_number
FROM
 passengers
LIMIT 10;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Conte

first_name	last_name	email	phone_number
Ali	Khan	ali.khan@example.com	1111111111
Sara	Smith	sara.smith@example.com	1111111112
John	Doe	john.doe@example.com	1111111113
Jane	Doe	jane.doe@example.com	1111111114
Carlos	Rodriguez	carlos.rod@example.com	1111111115
Maria	Lopez	maria.lopez@example.com	1111111116
Ahmed	Hassan	ahmed.hassan@example.com	1111111117
Fatima	Ali	fatima.ali@example.com	1111111118
James	Brown	james.brown@example.com	1111111119
Linda	White	linda.white@example.com	1111111120

SHOW TOTAL PAYMENTS RECEIVED

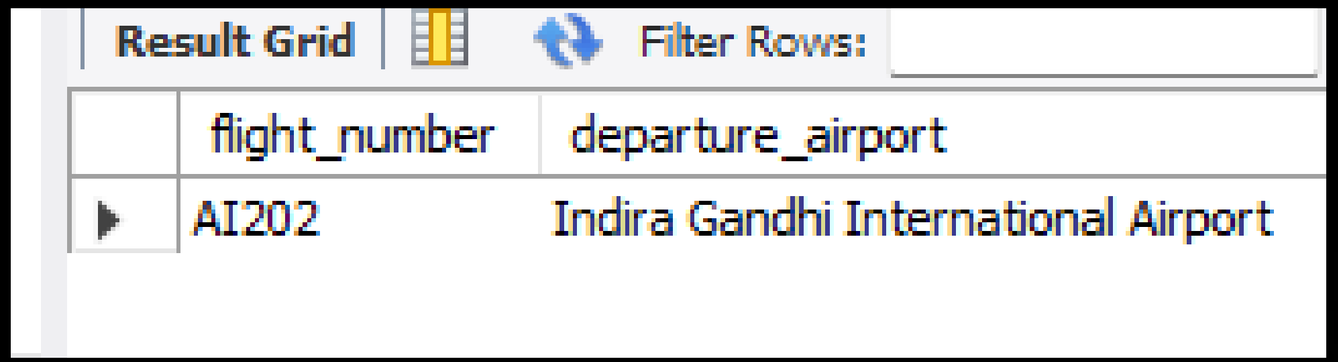
```
SELECT
    SUM(amount) AS total_revenue
FROM
    payments;
```



total_revenue
8000.00

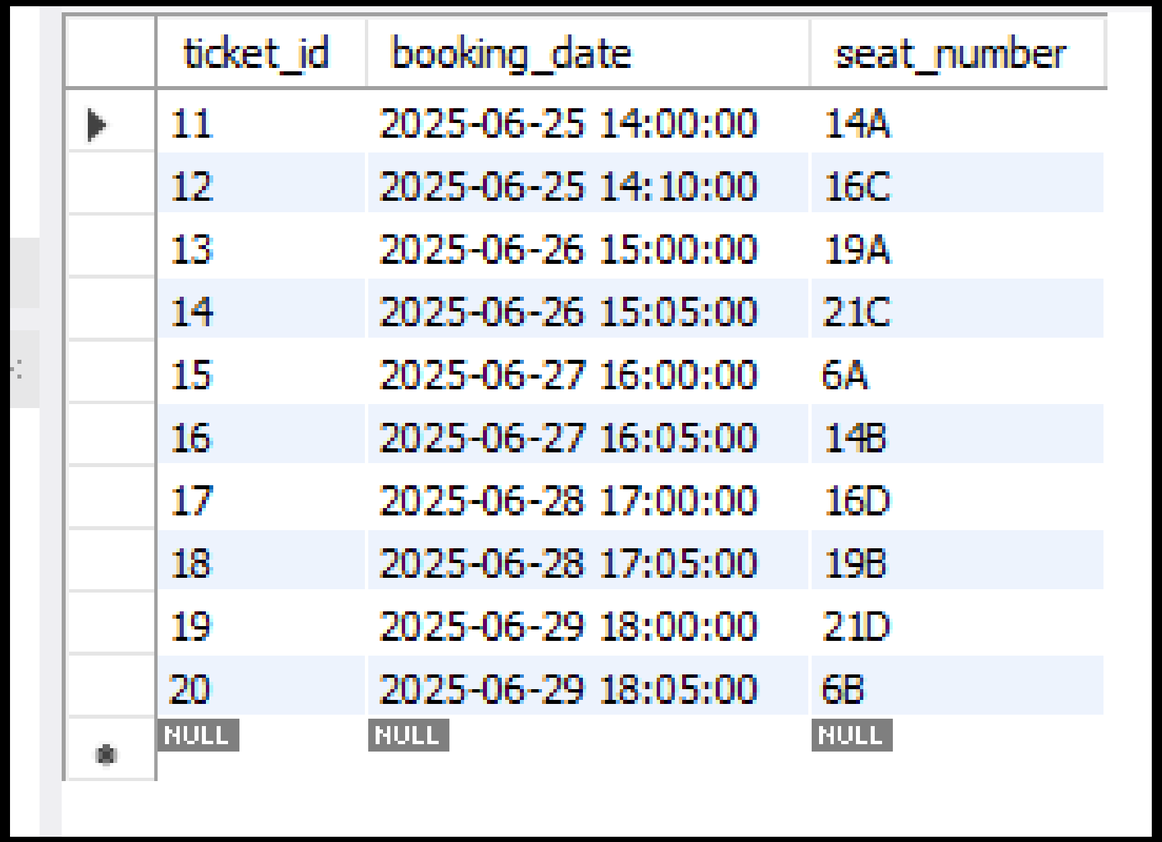
Find flights departing from 'Delhi'

```
SELECT
    F.FLIGHT_NUMBER, A.NAME AS DEPARTURE_AIRPORT
FROM
    FLIGHTS F
        JOIN
    AIRPORTS A ON F.DEPARTURE_AIRPORT_ID = A.AIRPORT_ID
WHERE
    A.CITY = 'DELHI';
```



flight_number	departure_airport
AI202	Indira Gandhi International Airport

Get tickets booked after '2025-06-25'

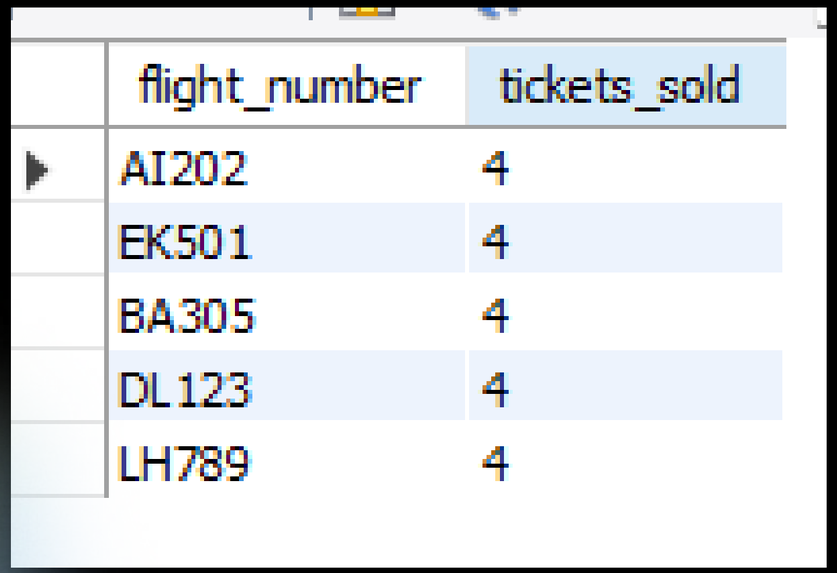


ticket_id	booking_date	seat_number
11	2025-06-25 14:00:00	14A
12	2025-06-25 14:10:00	16C
13	2025-06-26 15:00:00	19A
14	2025-06-26 15:05:00	21C
15	2025-06-27 16:00:00	6A
16	2025-06-27 16:05:00	14B
17	2025-06-28 17:00:00	16D
18	2025-06-28 17:05:00	19B
19	2025-06-29 18:00:00	21D
20	2025-06-29 18:05:00	6B
NULL	NULL	NULL

```
SELECT
        ticket_id, booking_date,
    seat_number
  FROM
        ticket
WHERE
    booking_date > '2025-06-25';
```

Number of tickets sold per flight

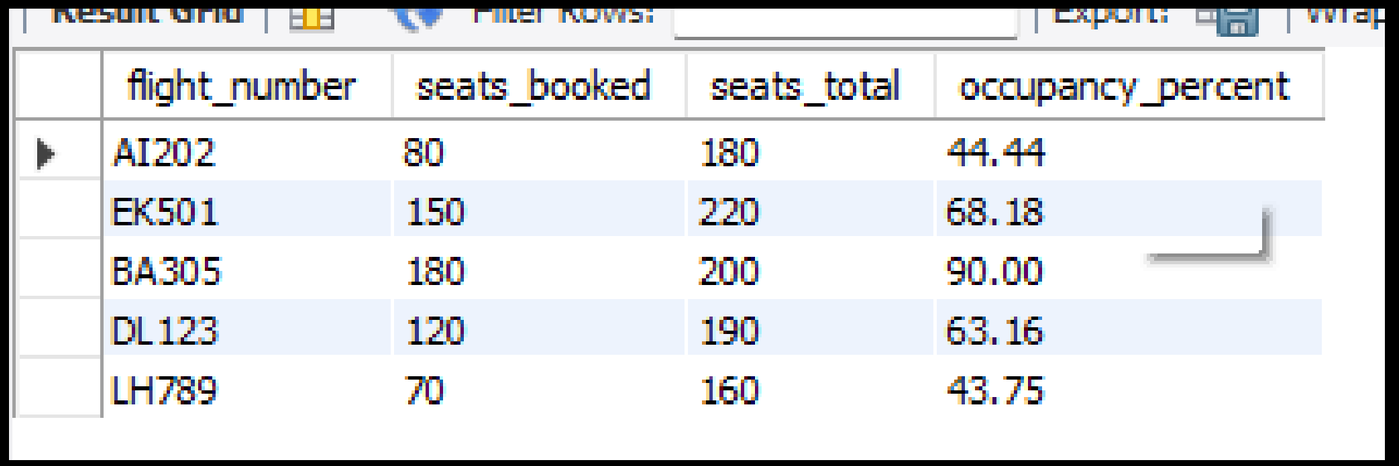
```
SELECT
f.flight_number, COUNT(t.ticket_id) AS tickets_sold
FROM
flights f
LEFT JOIN
tickets t ON f.flight_id = t.flight_id
GROUP BY f.flight_number;
```



flight_number	tickets_sold
AI202	4
EK501	4
BA305	4
DL123	4
LH789	4

Show all flights with occupancy rate

```
SELECT
    flight_number,
    seats_booked,
    seats_total,
    ROUND((seats_booked / seats_total) * 100, 2) AS occupancy_percent
FROM
    flights;
```



flight_number	seats_booked	seats_total	occupancy_percent
AI202	80	180	44.44
EK501	150	220	68.18
BA305	180	200	90.00
DL123	120	190	63.16
LH789	70	160	43.75

Payments grouped by payment method

```sql
SELECT
    payment_method,
    COUNT(*) AS num_payments,
    SUM(amount) AS total_amount
FROM
    payments
GROUP BY payment_method;
```

Result Grid | Filter Rows:

payment_method	num_payments	total_amount
Credit Card	10	4350.00
PayPal	5	2000.00
Debit Card	5	1650.00

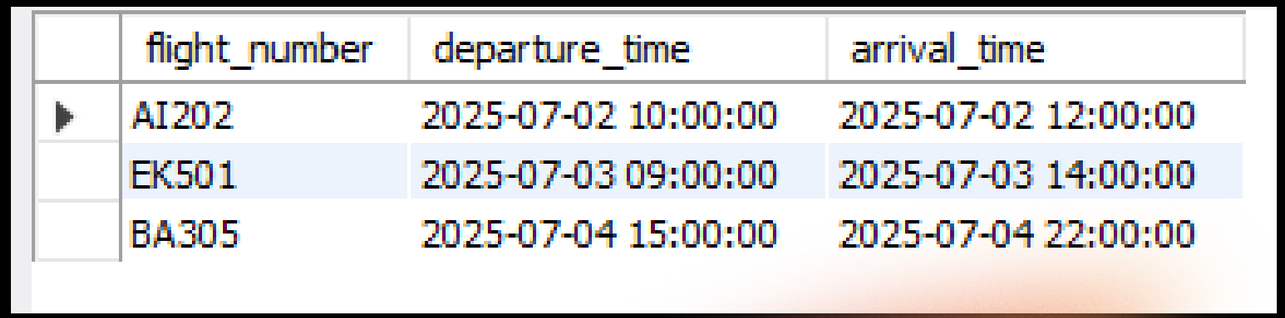
Latest bookings (most recent first)

ticket_id	booking_date	seat_number
20	2025-06-29 18:05:00	6B
19	2025-06-29 18:00:00	21D
18	2025-06-28 17:05:00	19B
17	2025-06-28 17:00:00	16D
16	2025-06-27 16:05:00	14B
15	2025-06-27 16:00:00	6A
14	2025-06-26 15:05:00	21C
13	2025-06-26 15:00:00	19A
12	2025-06-25 14:10:00	16C
11	2025-06-25 14:00:00	14A

```
SELECT
ticket_id, booking_date, seat_number
FROM
tickets
ORDER BY booking_date DESC
LIMIT 10;
```

-- Flights between '2025-07-02' and '2025-07-05'

```
SELECT
flight_number, departure_time,
arrival_time
FROM
  flights
WHERE
departure_time BETWEEN '2025-07-02'
AND '2025-07-05';
```



flight_number	departure_time	arrival_time
AI202	2025-07-02 10:00:00	2025-07-02 12:00:00
EK501	2025-07-03 09:00:00	2025-07-03 14:00:00
BA305	2025-07-04 15:00:00	2025-07-04 22:00:00

THANK YOU FOR EXPLORING THE AIRLINE RESERVATION SYSTEM SQL PROJECT

✔️ Designed and implemented a realistic database schema
✔️Inserted 20+ rows of clean, interconnected data
✔️ Wrote 15+ practical SQL queries from basics to advanced
✔️ Extracted powerful insights like occupancy, revenue, and customer trends

Keep Flying High with Data! ✈️📊