```sql
1 •    show databases;
2 •    create database day23;
3 •    use day23;
4 •    show tables;
5
6 •    select *  from booking_history;
7 •    desc booking_history;
8
9 •    select *  from customers_large;
10 •   desc customers_large;
11
12 •   select *  from hotels_large;
13 •   desc hotels_large;
14
15 •   select *  from reservations_large;
16 •   desc reservations_large;
17
18 •   select *  from rooms_large;
19 •   desc rooms_large;
```

```
31
32    -- 1) check is that any room avilable in |required specific date range
33
34 •  SELECT  room_id,hotel_name,room_type,availability FROM rooms_large
35    INNER JOIN hotels_large  ON rooms_large.hotel_id = hotels_large.hotel_id
36    WHERE rooms_large.availability = "yes" and room_type="single"
37    AND rooms_large.room_id NOT IN (SELECT reservations_large.room_id FROM reservations_large
38    WHERE reservations_large.check_in BETWEEN '2024-09-01' AND '2024-09-02'
39    or reservations_large.check_out between '2024-10-01' and '2024-10-02');
40
```

Limit to 1000 rows

Result Grid | Filter Rows: | Export: | Wrap Cell Content: 𝓘A | Fetch rows:

| room_id | hotel_name | room_type | availability |
|---------|-----------|-----------|-------------|
| 3 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 4 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 10 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 14 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 15 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 17 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 27 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 31 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 33 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 34 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 52 | Macdonald, Camacho and Contreras Hotel | Single | Yes |

```
46
47    -- 2)calculate total revenue by room type across all hotels
48
49 •  select room_type,sum(res.total_price)as total_revenue
50    from rooms_large
51    join reservations_large res on rooms_large.room_id=res.room_id
52    group by room_type
53    order by total_revenue desc;
54
55    who spent most on reservations
```

| room_type | total_revenue |
|-----------|---------------|
| Single | 20621460.490000013 |
| Double | 18292286.410000023 |
| Suite | 17352491.67000001 |

```sql
56
57   -- who spent most on reservations
58 • select customers_large.customer_id,customers_large.first_name,customers_large.last_name,
59   sum(reservations_large.total_price)as total_spent
60   from customers_large
61   join reservations_large  on customers_large.customer_id=reservations_large.customer_id
62   group by customers_large.customer_id
63   order by total_spent desc
64   limit 3;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

| customer_id | first_name | last_name | total_spent |
|---|---|---|---|
| 941 | Justin | Carroll | 273124.71 |
| 898 | Jessica | Williams | 255797.38 |
| 751 | Dennis | Raymond | 246617.14 |

Result 6 ×

```sql
66
67    -- FIND CUSTOMERS WHO MADE RESERVATIONS IN MULTIPL CITIES.
68
69 •  SELECT reservations_large.customer_id,customers_large.first_name,customers_large.last_name,
70    COUNT(DISTINCT hotels_large.city) AS city_count
71    FROM reservations_large
72    JOIN hotels_large  ON reservations_large.hotel_id = hotels_large.hotel_id
73    JOIN customers_large  ON reservations_large.customer_id = customers_large.customer_id
74    GROUP BY reservations_large.customer_id, customers_large.first_name, customers_large.last_name
75    HAVING COUNT(DISTINCT hotels_large.city) > 1
76    order by city_count desc;
77
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: IA

| customer_id | first_name | last_name | city_count |
|---|---|---|---|
| 675 | Thomas | Lopez | 9 |
| 49 | Henry | Vaughn | 8 |
| 557 | Wendy | Kelly | 8 |
| 585 | Tommy | Rollins | 8 |
| 587 | William | Gates | 8 |
| 601 | Hannah | Gallegos | 8 |

Result 7 ×

```sql
79
80    -- find hotels with maximum reservations cancelled
81
82 •  SELECT hotels_large.hotel_id,hotels_large.hotel_name,hotels_large.city,hotels_large.country,
83    COUNT(booking_history.history_id) AS canceled_reservations
84    FROM booking_history
85    JOIN reservations_large  ON booking_history.reservation_id = reservations_large.reservation_id
86    JOIN hotels_large  ON reservations_large.hotel_id = hotels_large.hotel_id
87    WHERE booking_history.status = 'Cancelled'
88    GROUP BY hotels_large.hotel_id, hotels_large.hotel_name, hotels_large.city, hotels_large.country
89    ORDER BY canceled_reservations desc;
```

**Result Grid** | Filter Rows: | Export: | Wrap Cell Content: $\overline{A}$

| hotel_id | hotel_name | city | country | canceled_reservations |
|---|---|---|---|---|
| 30 | Kelley Inc Hotel | Port Pamelaburgh | Norfolk Island | 27 |
| 58 | Vasquez-Bates Hotel | Curryland | Ireland | 25 |
| 100 | Hopkins Inc Hotel | Kevinview | Aruba | 25 |
| 92 | Ramirez, Byrd and Jenkins Hotel | Bergville | Canada | 25 |
| 76 | Pratt Inc Hotel | Bethburgh | Guatemala | 23 |
| 54 | Hunt, Lozano and Levy Hotel | North Heather | Uganda | 23 |
| 55 | Rodriguez, Greene and Crawford Hotel | Port Steven | Comoros | 22 |
| 48 | Aguirre, Jordan and Daugherty Hotel | Port Christianburgh | Ethiopia | 21 |

Result 8

```sql
91
92    -- IDENTIFY THE CUSTOMERS WHO MOST TIME IN HOTELS
93 •  SELECT reservations_large.customer_id,customers_large.first_name,customers_large.last_name,hotels_
94    DATEDIFF(reservations_large.check_out, reservations_large.check_in) AS stay_duration
95    FROM reservations_large
96    JOIN customers_large  ON reservations_large.customer_id = customers_large.customer_id
97    JOIN hotels_large  ON reservations_large.hotel_id = hotels_large.hotel_id
98    WHERE DATEDIFF(reservations_large.check_out, reservations_large.check_in) > 90
99    ORDER BY stay_duration desc;
100
101
```

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

| customer_id | first_name | last_name | hotel_name | stay_duration |
|---|---|---|---|---|
| 470 | Margaret | Fisher | Hunt, Lozano and Levy Hotel | 274 |
| 984 | Lisa | Prince | Sullivan, Jones and Hansen Hotel | 271 |
| 915 | David | Jones | Shepherd-Mccarthy Hotel | 268 |
| 947 | Alexander | Brown | Silva Ltd Hotel | 267 |
| 312 | Vicki | Hall | Pham, Mckinney and Hubbard Hotel | 263 |
| 813 | Brian | Kane | Mcdaniel-Hansen Hotel | 261 |
| 151 | Jerry | Robertson | Hawkins LLC Hotel | 260 |
| 905 | Jenna | Shepherd | Scott, Torres and Fuller Hotel | 259 |

Result 9 ×

Read Onl

```
100
101
102    -- Identify the most RESERVATIONS booked time of month.
103 •  SELECT MONTH(reservations_large.booking_date) AS month_name,
104    COUNT(reservations_large.reservation_id) AS total_bookings
105    FROM reservations_large
106    GROUP BY MONTH(reservations_large.booking_date)
107    ORDER BY total_bookings desc;
108
109
110
```

| month_name | total_bookings |
|---|---|
| 7 | 344 |
| 3 | 337 |
| 1 | 337 |
| 8 | 334 |
| 6 | 330 |
| 4 | 329 |
| 2 | 314 |
| 5 | 301 |

Result 10

Read Only

```
123    -- create view for query
124 •  create or replace view first_query as
125    SELECT  room_id,hotel_name,room_type,availability FROM rooms_large
126    INNER JOIN hotels_large  ON rooms_large.hotel_id = hotels_large.hotel_id
127    WHERE rooms_large.availability = "yes" and room_type="single"
128    AND rooms_large.room_id NOT IN (SELECT reservations_large.room_id FROM reservations_large
129    WHERE reservations_large.check_in BETWEEN '2024-09-01' AND '2024-09-02'
130    or reservations_large.check_out between '2024-10-01' and '2024-10-02');
131
132    -- call the view
133 •  select * from first_query;
```

**Result Grid** | Filter Rows: [              ] | Export: | Wrap Cell Content: | Fetch rows:

| room_id | hotel_name | room_type | availability |
|---|---|---|---|
| 3 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 4 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 10 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 14 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 15 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 17 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 27 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 31 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 33 | Macdonald, Camacho and Contreras Hotel | Single | Yes |
| 34 | Macdonald, Camacho and Contreras Hotel | Single | Yes |