

Databases & SQL for Analysts










3.7: Joining Tables of Data

1/

Query Query History

```
1 SELECT D.country,
2     COUNT(*) AS total_customers
3 FROM customer A
4
5 INNER JOIN address B ON A.address_id = B.address_id
6 INNER JOIN city C ON B.city_id = C.city_id
7 INNER JOIN country D ON C.country_id = D.country_id
8 GROUP BY D.country
9 ORDER BY total_customers DESC
10 LIMIT 10
```

Data Output Messages Notifications



SQL

	country character varying (50) 🔒	total_customers bigint 🔒
1	India	60
2	China	53
3	United States	36
4	Japan	31
5	Mexico	30
6	Brazil	28
7	Russian Federation	28
8	Philippines	20
9	Turkey	15
10	Indonesia	14

SELECT D.country,

COUNT(*) AS total_customers

FROM customer A

INNER JOIN address B ON A.address_id = B.address_id

INNER JOIN city C ON B.city_id = C.city_id

INNER JOIN country D ON C.country_id = D.country_id

GROUP BY D.country

ORDER BY total_customers DESC

LIMIT 10

I joined the tables customer > address > city > country to get each customer's country. Then I used COUNT() to count the number of customers per country, and GROUP BY to group the results. Finally, I sorted them with ORDER BY and limited the output to 10 to show only the top 10 countries with the most customers.

2/

```

1  SELECT C.city,
2         D.country,
3         COUNT(*) AS total_customers
4  FROM customer A
5  INNER JOIN address B ON A.address_id = B.address_id
6  INNER JOIN city C ON B.city_id = C.city_id
7  INNER JOIN country D ON C.country_id = D.country_id
8  WHERE D.country IN
9  ('India','China','United States','Japan', 'Mexico','Brazil',
10  'Russian Federation','Philippines','Turkey', 'Indonesia')
11
12  GROUP BY C.city, D.country
13  ORDER BY total_customers DESC
14  LIMIT 10

```

Data Output
Messages
Notifications

	city character varying (50)	country character varying (50)	total_customers bigint
2	Atlixco	Mexico	1
3	Xintai	China	1
4	Adoni	India	1
5	Dhule (Dhulia)	India	1
6	Kurashiki	Japan	1
7	Pingxiang	China	1
8	Sivas	Turkey	1
9	Celaya	Mexico	1
10	So Leopoldo	Brazil	1

Total rows: 10
Query complete 00:00:00.059

SELECT C.city,
D.country,
COUNT(*) AS total_customers
FROM customer A
INNER JOIN address B ON A.address_id = B.address_id
INNER JOIN city C ON B.city_id = C.city_id
INNER JOIN country D ON C.country_id = D.country_id
WHERE D.country IN
('India','China','United States','Japan', 'Mexico','Brazil',
'Russian Federation','Philippines','Turkey', 'Indonesia')
GROUP BY C.city, D.country
ORDER BY total_customers DESC
LIMIT 10

I joined the tables customer > address > city > country to connect each customer to their city and country. Then I used COUNT(*) to calculate the number of customers per city, grouped the results with GROUP BY, and sorted them in descending order with ORDER BY. Finally, I limited the output to 10 to show only the top 10 cities in those countries.

3/

Query Query History

```
1 SELECT
2 B.first_name,
3 B.last_name,
4 B.customer_id,
5 D.city,
6 E.country,
7 SUM(A.amount) AS total_amount
8 FROM payment A
9 INNER JOIN customer B ON A.customer_id = B.customer_id
10 INNER JOIN address C ON B.address_id = C.address_id
11 INNER JOIN city D ON C.city_id = D.city_id
12 INNER JOIN country E ON D.country_id = E.country_id
13 WHERE D.city IN
14 ('Aurora',
15 'Atlixco',
16 'Xintai',
17 'Adoni',
18 'Dhule (Dhulia)').
```

Data Output Messages Notifications

Showing rows: 1 to 5

	first_name character varying (45)	last_name character varying (45)	customer_id integer	city character varying (50)	country character varying (50)	total_amount numeric
1	Sara	Perry	84	Atlixco	Mexico	128.70
2	Gabriel	Harder	518	Sivas	Turkey	108.75
3	Sergio	Stanfield	587	Celaya	Mexico	102.76
4	Clinton	Buford	537	Aurora	United States	98.76
5	Adam	Gooch	367	Adoni	India	97.80

Total rows: 5 Query complete 00:00:00.052

SELECT
B.first_name,
B.last_name,
B.customer_id,
D.city,
E.country,
SUM(A.amount) AS total_amount
FROM payment A
INNER JOIN customer B ON A.customer_id = B.customer_id
INNER JOIN address C ON B.address_id = C.address_id
INNER JOIN city D ON C.city_id = D.city_id
INNER JOIN country E ON D.country_id = E.country_id
WHERE D.city IN
('Aurora',
'Atlixco',
'Xintai',
'Adoni',
'Dhule (Dhulia)',
'Kurashiki',
'Pingxiang',
'Sivas',
'Celaya',
'So Leopoldo')

GROUP BY D.city, E.country,
B.first_name,
B.last_name,
B.customer_id
ORDER BY total_amount DESC
LIMIT 5

I joined the tables payment > customer > address > city > country to get each client's location. Then I used SUM(amount) to calculate the total paid by each client, and GROUP BY to group by client, city, and country. I added a WHERE IN clause to limit the results to the selected cities. Finally, I sorted the total with ORDER BY and limited the output to 5 to show the top 5 clients who paid the most in those cities.