

### 3.7 Joining Tables of Data

```
1) SELECT COUNT(customer_id) AS customer_count,  
    D.country  
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 country  
ORDER BY COUNT(customer_id) DESC  
LIMIT 10
```

customer_count	country
60	India
53	China
36	United States
31	Japan
30	Mexico
28	Brazil
28	Russian Federation
20	Philippines
15	Turkey
14	Indonesia

To list the top ten countries in terms of customer numbers, started with customer table to get the customer id as a count and country from country table to be the display columns. Do an inner join with address table with the address\_id on both tables. Next inner join with city table with city\_id from city and address table. Last inner join of country and city table with country\_id. Then group by country and order by customer count descending.

```
2) SELECT COUNT(customer_id) AS customer_count, C.city,  
    D.country  
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 country IN ('India', 'China', 'United States', 'Japan', 'Mexico', 'Brazil', 'Russian  
Federation', 'Philippines', 'Turkey', 'Indonesia')  
GROUP BY city, country  
ORDER BY COUNT(customer_id) DESC  
LIMIT 10
```

customer_count	city	country
2	Aurora	United States
1	Atlixco	Mexico
1	Xintai	China
1	Adoni	India
	Dhule	
1	(Dhulia)	India
1	Kurashiki	Japan
1	Pingxiang	China
1	Sivas	Turkey
1	Celaya	Mexico
	So	
1	Leopoldo	Brazil

To display the top ten cities within the top ten countries, started with customer id from customer table, city from city table and country from country table. Inner join on address id between customer and address tables. Then inner join of city within address and city tables. Continue with inner join of country id between city and country tables. List the top ten countries using the where statement, then group by city then country. Finally order by customer count from greatest to least using descending.

```

3) SELECT A.customer_id, B.first_name, B.last_name, D.city,
      SUM(A.amount) AS total_payment
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
WHERE city IN ('Aurora', 'Atlixco', 'Xintari', 'Adoni', 'Dhule(Dhulia)', 'Kurashiki', 'Pingxiang',
'Sivas', 'Celaya', 'So Leopoldo')
GROUP BY A.customer_id, first_name, last_name, city
ORDER BY total_payment DESC
LIMIT 5

```

customer_id	first_name	last_name	city	total_payment
84	Sara	Perry	Atlixco	128.7
518	Gabriel	Harder	Sivas	108.75
587	Sergio	Stanfield	Celaya	102.76
537	Clinton	Buford	Aurora	98.76
367	Adam	Gooch	Adoni	97.8

To display top five paying customers among the top ten cities customer id and sum of payment (amount) from payment table, first name and last name from customer table and city from city table.

Begin with inner join of customer id from payment and customer tables. Then inner join of address id from customer and address table. Inner join of city id from address and city tables. With the where statement list all the cities from the previous select statement of top ten cities, then group by customer id, first name, last name and city, then order by total payment from highest to lowest using descending and limit by 5.