

3.7: Joining Tables of Data

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Question 1:

```
1 select d.country, count(customer_id)
2 from customer as a
3 inner join address as b on a.address_id=b.address_id
4 inner join city as c on b.city_id=c.city_id
5 inner join country as d on c.country_id=d.country_id
6 group by country
7 order by count desc
8 limit 10;
```

Data Output Explain Messages Notifications

	country character varying (50)	count 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

In this query, I used inner join because it is the most cost efficient method. I used multiple joins combining customer table, address table, city table, and country table. Next, I used alias for each table based on alphabets and joined tables using foreign keys. I used aggregate function for customer_id counts and grouping by country to get top 10 countries.

Question 2:

```
1 select d.country, count(customer_id)
2 from customer as a
3 inner join address as b on a.address_id=b.address_id
4 inner join city as c on b.city_id=c.city_id
5 inner join country as d on c.country_id=d.country_id
6 group by country
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This query is very similar to the very first query. However, I approached this query by adding the city column from city table. Next, I grouped by country then city before ordering by unique ID count. I used inner join because it is the most cost efficient method. I used multiple joins combining customer table, address table, city table, and country table. Next, I used alias for each table based on alphabets and joined tables using foreign keys to get relevant information.

Question 3:

```
1 select a.customer_id, a.first_name as "customer first name", a.last_name as "customer last name",
2 d.country, c.city, sum(e.amount) as "total amount paid"
3 from customer as a
4 inner join address as b on a.address_id=b.address_id
5 inner join city as c on b.city_id=c.city_id
6 inner join country as d on c.country_id=d.country_id
7 inner join payment as e on a.customer_id=e.customer_id
8 where city in ('Aurora','Acua','Citrus Heights','Iwaki','Ambattur','Shanwei','So
9 Leopoldo','Teboksary','Tianjin','Cianjur')
10 group by a.customer_id, first_name, last_name, country, city
11 order by "total amount paid" desc
12 limit 5;
```

[Data Output](#) [Explain](#) [Messages](#) [Notifications](#)

	 customer_id integer	 customer first name character varying (45)	 customer last name character varying (45)	 country character varying (50)	 city character varying (50)	 total amount paid numeric	
1	225	Arlene	Harvey	India	Ambattur	111.76	
2	424	Kyle	Spurlock	China	Shanwei	109.71	
3	240	Marlene	Welch	Japan	Iwaki	106.77	
4	486	Glen	Talbert	Mexico	Acua	100.77	
5	537	Clinton	Buford	United States	Aurora	98.76	