

1.a

The screenshot shows a PostgreSQL query editor interface. The top bar indicates the connection is 'Rockbuster/postgres@PostgreSQL 15'. Below the toolbar, the 'Query' tab is active, displaying a SQL query. The 'Data Output' tab is also visible, showing the results of the query in a table format. The query is as follows:

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

The 'Data Output' tab shows the following results:

	country character varying (50)	customer_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

The bottom status bar indicates 'Total rows: 10 of 10', 'Query complete 00:00:00.152', and 'Ln 9, Col 9'.

1.b I found the connection keys between the customer and country tables that would help connect both tables. Then I found which columns were necessary for my table to show the results I wanted to present which was customer count grouped by country. The other requirement for this table was that it needed to be limited to the top 10 so I made the order descending and limited to 10.

2.a

```
Query Query History
1 SELECT COUNT(A.customer_id) AS customer_count,
2 C.city,
3 D.country
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 GROUP BY country, city
9 HAVING country IN ('India','China','United States','Japan','Mexico','Brazil','Russian Federation','Phillippines','Turkey')
10 ORDER BY COUNT(customer_id) DESC
11 LIMIT 10
```

```
Query Query History
1 customer_id) AS customer_count,
2
3
4
5 ess B ON A.address_id = B.address_id
6 C ON B.city_id = C.city_id
7 try D ON C.country_id = D.country_ID
8 y, city
9 IN ('India','China','United States','Japan','Mexico','Brazil','Russian Federation','Phillippines','Turkey','Indonesia')
10 customer_id) DESC
11
```

Data Output Messages Notifications			
	customer_count bigint	city character varying (50)	country character varying (50)
1	2	Aurora	United States
2	1	Acua	Mexico
3	1	Citrus Heights	United States
4	1	Iwaki	Japan
5	1	Ambattur	India
6	1	Shanwei	China
7	1	So Leopoldo	Brazil
8	1	Teboksary	Russian Federation
9	1	Tianjin	China
10	1	Cianjur	Indonesia

2.b I looked at the previous table and used the countries from that and had my query only look at solely cities from those countries. Then I made the order ascending based on the number of customers and limited it to the top 10.

3.a

QueryQuery History

```
1 SELECT SUM(A.amount) AS "total amount paid",
2 A.customer_id,
3 B.first_name,
4 B.last_name,
5 D.city,
6 E.country
7 FROM payment A
8 INNER JOIN customer B ON A.customer_id = B.customer_id
9 INNER JOIN address C ON B.address_id = C.address_id
10 INNER JOIN city D ON C.city_id = D.city_id
11 INNER JOIN country E ON D.country_id = E.country_ID
12 GROUP BY A.customer_id,
13 B.first_name,
14 B.last_name,
15 D.city,
16 E.country
17 HAVING city IN ('Aurora','Acua','Citrus Heights','Iwaki','Ambattur','Shanwei','So Leopoldo','Teboksary','Tianjin','Cianj
18 ORDER BY "total amount paid" DESC
19 LIMIT 5
```

QueryQuery History

```
1 ECT SUM(A.amount) AS "total amount paid",
2 ustomer_id,
3 irst_name,
4 ast_name,
5 ity,
6 ountry
7 M payment A
8 ER JOIN customer B ON A.customer_id = B.customer_id
9 ER JOIN address C ON B.address_id = C.address_id
10 ER JOIN city D ON C.city_id = D.city_id
11 ER JOIN country E ON D.country_id = E.country_ID
12 UP BY A.customer_id,
13 irst_name,
14 ast_name,
15 ity,
16 ountry
17 ING city IN ('Aurora','Acua','Citrus Heights','Iwaki','Ambattur','Shanwei','So Leopoldo','Teboksary','Tianjin','Cianjur')
18 ER BY "total amount paid" DESC
19 IT 5
```

Data OutputMessagesNotifications

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