

Databases & SQL for Analysts

3.7: Joining Tables of Data

ANSWERS

1.
 - 1)

```
--TOP 10 Countries for Rockbuster in terms of customer number.
SELECT a.country,
       COUNT(d.customer_id)AS customer_numaber
FROM country AS a
INNER JOIN city AS b
  ON a.country_id=b.country_id
INNER JOIN address AS c
  ON b.city_id=c.city_id
INNER JOIN customer AS d
  ON c.address_id=d.address_id
GROUP BY 1
ORDER BY 2 DESC
LIMIT 10
```

	country character varying (50) 🔒	customer_numaber 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

- 2) To find out the Countries with number of customers, we need to find out the connections between each table. The table schema shows there 4 tables need to be connected to get the result. Country table has the connected id as country_id to link the city table, and city table has the city_id to link the address table, and finally, address table has the address_id to link with the customer table.



To have the top 10 lists we need to use the order by descending order, and then limit 10 from all results to show the first 10 countries who has customer numbers from the most to the least.

2.

1) --TOP 10 Countries of Cities for Rockbuster in terms of customer numbers.

```
SELECT
    city,
    COUNT(customer_id)AS number_of_customer
FROM customer AS a
INNER JOIN address AS b
    ON a.address_id=b.address_id
INNER JOIN city AS c
    ON b.city_id=c.city_id
INNER JOIN country AS 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 1
ORDER BY 2 DESC
LIMIT 10
```

	city character varying (50) 	number_of_customer bigint 
1	Aurora	2
2	Shimoga	1
3	Aparecida de Goinia	1
4	Emeishan	1
5	Pontianak	1
6	Tarsus	1
7	Atlixco	1
8	Zalantun	1
9	Rio Claro	1
10	Tokat	1

- 2) We queried the top 10 Countries from the first step, then we just use the same way to find out the top 10 cities in these 10 countries which means we put those 10 countries in 'Where' condition to filter that all cities' names only in these 10 countries.

3.

```
--TOP 5 customers in TOP 10 Cities with the most rental payment.
SELECT e.customer_id,
       first_name,
       last_name,
       city,
       country,
       SUM(amount)AS total_amount
FROM   country AS a
INNER JOIN city AS b
       ON a.country_id=b.country_id
INNER JOIN address AS c
       ON b.city_id=c.city_id
INNER JOIN customer AS e
       ON c.address_id=e.address_id
INNER JOIN payment AS f
       ON e.customer_id=f.customer_id
WHERE  city IN('Aurora',
               'Shimoga',
               'Aparecida de Goinia',
               'Emeishan',
               'Pontianak',
               'Tarsus',
               'Atlixco',
               'Zalantun',
               'Rio Claro',
               'Tokat')

GROUP BY 1,
         2,
         3,
         4,
         5

ORDER BY 6 DESC
LIMIT 5
```

	customer_id integer	first_name character varying (45)	last_name character varying (45)	city character varying (50)	country character varying (50)	total_amount numeric
1	566	Casey	Mena	Tokat	Turkey	130.68
2	84	Sara	Perry	Atlixco	Mexico	128.7
3	506	Leslie	Seward	Pontianak	Indonesia	123.72
4	389	Alan	Kahn	Emeishan	China	119.75
5	537	Clinton	Buford	Aurora	United States	98.76