Joining Tables of Data

1.Write a query to find the top 10 countries for Rockbuster in terms of customer numbers.

```
SELECT ctry.country,
COUNT (cus.customer_id) AS count_of_customers
FROM customer AS cus
INNER JOIN address AS addr ON cus.address_id = addr.address_id
INNER JOIN city AS cty ON addr.city_id =cty.city_id
INNER JOIN country AS ctry ON cty.country_id = ctry.country_id
GROUP BY ctry.country
ORDER BY count_of_customers DESC
LIMIT 10;
```

Query | Query History

```
1  SELECT ctry.country,
2  COUNT (cus.customer_id) AS count_of_customers
3  FROM customer AS cus
4  INNER JOIN address AS addr ON cus.address_id = addr.address_id
5  INNER JOIN city AS cty ON addr.city_id =cty.city_id
6  INNER JOIN country AS ctry ON cty.country_id = ctry.country_id
7  GROUP BY ctry.country
8  ORDER BY count_of_customers DESC
9  LIMIT 10;
10
11
```

Data Output | Messages | Notifications

	country character varying (50)	count_of_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

To find top 10 countries in terms of customer numbers, we need to group customers by country and then find the number of customers in each country and select the top 10 countries with highest customer numbers. Since country information is not there in customer table, I linked customer, address, city and country tables using inner join and fetched country data and grouped customers by country and sorted with count of customers descending and limited the result to top 10

2.Write a query to identify the top 10 cities that fall within the top 10 countries you identified in step 1.

```
SELECT cty.city,
    ctry.country,
```

```
COUNT (cus.customer_id) AS count_of_customers
FROM customer AS cus
INNER JOIN address AS addr ON cus.address_id = addr.address_id
INNER JOIN city AS cty ON addr.city_id = cty.city_id
INNER JOIN country AS ctry ON cty.country_id = ctry.country_id
WHERE country IN ('India','China','United States','Japan', 'Mexico','Brazil',
'Russian Federation','Philippines','Turkey', 'Indonesia')
GROUP BY cty.city,
        ctry.country
ORDER BY count_of_customers DESC
LIMIT 10;
```

Query | Query History

```
1  SELECT cty.city,
2         ctry.country,
3  COUNT (cus.customer_id) AS count_of_customers
4  FROM customer AS cus
5  INNER JOIN address AS addr ON cus.address_id = addr.address_id
6  INNER JOIN city AS cty ON addr.city_id = cty.city_id
7  INNER JOIN country AS ctry ON cty.country_id = ctry.country_id
8  WHERE country IN ('India','China','United States','Japan', 'Mexico','Brazil',
9  'Russian Federation','Philippines','Turkey', 'Indonesia')
10 GROUP BY cty.city,
11          ctry.country
12 ORDER BY count_of_customers DESC
13 LIMIT 10;
```

Data Output | Messages | Notifications

Showing rows: 1 to 10 | Page No:

	city character varying (50)	country character varying (50)	count_of_customers bigint
1	Aurora	United States	2
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

To find top 10 cities within top 10 countries in terms of customer numbers, we need to group customers by city and country and then find the number of customers in each group and select the top 10 cities. Since city and country information is not there in customer table, I linked customer, address, city and country tables using inner join and fetched city and country data. Then I used WHERE clause with IN operator to filter for countries identified in step 1 and grouped customers by city and country and sorted with count of customers descending and limited the result to top 10

3. Write a query to find the top 5 customers from the top 10 cities who've paid the highest total amounts to Rockbuster.

```
SELECT customer.customer_id,
 customer.first_name,
 customer.last_name,
 ctry.country,
 cty.city,
SUM (pay.amount) AS total_amount_paid
FROM customer
INNER JOIN payment AS pay ON customer.customer_id= pay.customer_id
INNER JOIN address AS addr ON customer.address_id = addr.address_id
INNER JOIN city AS cty ON addr.city_id = cty.city_id
INNER JOIN country AS ctry ON cty.country_id = ctry.country_id
WHERE
cty.city IN('Aurora','Atlixco','Xintai','Adoni','Dhule (Dhulia','Kurashiki',
'Pingxiang','Sivas','Celaya','So Leopoldo')
AND ctry.country IN ('India','China','United States','Japan', 'Mexico','Brazil',
'Russian Federation','Philippines','Turkey', 'Indonesia')
GROUP BY customer.customer_id, customer.first_name,
customer.last_name,cty.city,ctry.country
ORDER BY total_amount_paid DESC
```

LIMIT 5;

Query | Query History

```
SELECT cus.customer_id,
 cus.first_name,
 cus.last_name,
 ctry.country,
 cty.city,
SUM (pay.amount) AS total_amount_paid
FROM customer cus
INNER JOIN payment AS pay ON cus.customer_id= pay.customer_id
INNER JOIN address AS addr ON cus.address_id = addr.address_id
INNER JOIN city AS cty ON addr.city_id = cty.city_id
INNER JOIN country AS ctry ON cty.country_id = ctry.country_id
WHERE
cty.city IN('Aurora','Atlixco','Xintai','Adoni','Dhule (Dhulia','Kurashiki',
'Pingxiang','Sivas','Celaya','So Leopoldo')
AND ctry.country IN ('India','China','United States','Japan', 'Mexico','Brazil',
'Russian Federation','Philippines','Turkey', 'Indonesia')
GROUP BY cus.customer_id, cus.first_namae,
```

Data Output | Messages | Notifications

Showing rows: 1 to 5 | Page No: 1

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