

1. Provide the **name** of the **sales\_rep** in each **region** with the largest amount of **total\_amt\_usd** sales. You will need to join the two tables!

SELECT s.name rep\_name, r.name region\_name, SUM(o.total\_amt\_usd) total\_amt

FROM sales\_reps s

JOIN accounts a

ON a.sales\_rep\_id = s.id

JOIN orders o

ON o.account\_id = a.id

JOIN region r

ON r.id = s.region\_id

GROUP BY 1,2

ORDER BY 3 DESC;

SELECT region\_name, MAX(total\_amt) total\_amt

FROM(SELECT s.name rep\_name, r.name region\_name, SUM(o.total\_amt\_usd) total\_amt

FROM sales\_reps s

JOIN accounts a

ON a.sales\_rep\_id = s.id

JOIN orders o

ON o.account\_id = a.id

JOIN region r

ON r.id = s.region\_id

GROUP BY 1, 2) t1

GROUP BY 1;

SELECT t3.rep\_name, t3.region\_name, t3.total\_amt

FROM(SELECT region\_name, MAX(total\_amt) total\_amt

FROM(SELECT s.name rep\_name, r.name region\_name, SUM(o.total\_amt\_usd) total\_amt

FROM sales\_reps s

JOIN accounts a

ON a.sales\_rep\_id = s.id

JOIN orders o

ON o.account\_id = a.id

JOIN region r

ON r.id = s.region\_id

GROUP BY 1, 2) t1

GROUP BY 1) t2

JOIN (SELECT s.name rep\_name, r.name region\_name, SUM(o.total\_amt\_usd) total\_amt

FROM sales\_reps s

JOIN accounts a

ON a.sales\_rep\_id = s.id

JOIN orders o

ON o.account\_id = a.id

JOIN region r

ON r.id = s.region\_id

GROUP BY 1,2

ORDER BY 3 DESC) t3

ON t3.region\_name = t2.region\_name AND t3.total\_amt = t2.total\_amt;

CTE:

WITH t1 AS (

**SELECT** s.**name** rep\_name, r.**name** region\_name, **SUM**(o.total\_amt\_usd) total\_amt

**FROM** sales\_reps s

**JOIN** accounts a

**ON** a.sales\_rep\_id = s.**id**

**JOIN** orders o

**ON** o.account\_id = a.**id**

**JOIN** region r

**ON** r.**id** = s.region\_id

**GROUP** **BY** 1,2

**ORDER** **BY** 3 **DESC**),

t2 **AS** (

**SELECT** region\_name, **MAX**(total\_amt) total\_amt

**FROM** t1

**GROUP** **BY** 1)

**SELECT** t1.rep\_name, t1.region\_name, t1.total\_amt

**FROM** t1

**JOIN** t2

**ON** t1.region\_name = t2.region\_name **AND** t1.total\_amt = t2.total\_amt;

1. For the region with the largest (sum) of sales **total\_amt\_usd**, how many **total** (count) orders were placed?

SELECT r.name, COUNT(o.total) total\_orders

FROM sales\_reps s

JOIN accounts a

ON a.sales\_rep\_id = s.id

JOIN orders o

ON o.account\_id = a.id

JOIN region r

ON r.id = s.region\_id

GROUP BY r.name

HAVING SUM(o.total\_amt\_usd) = (

SELECT MAX(total\_amt)

FROM (SELECT r.name region\_name, SUM(o.total\_amt\_usd) total\_amt

FROM sales\_reps s

JOIN accounts a

ON a.sales\_rep\_id = s.id

JOIN orders o

ON o.account\_id = a.id

JOIN region r

ON r.id = s.region\_id

GROUP BY r.name) sub);

With CTE:

WITH t1 AS (

**SELECT** r.**name** region\_name, **SUM**(o.total\_amt\_usd) total\_amt

**FROM** sales\_reps s

**JOIN** accounts a

**ON** a.sales\_rep\_id = s.**id**

**JOIN** orders o

**ON** o.account\_id = a.**id**

**JOIN** region r

**ON** r.**id** = s.region\_id

**GROUP** **BY** r.**name**),

t2 **AS** (

**SELECT** **MAX**(total\_amt)

**FROM** t1)

**SELECT** r.**name**, **COUNT**(o.total) total\_orders

**FROM** sales\_reps s

**JOIN** accounts a

**ON** a.sales\_rep\_id = s.**id**

**JOIN** orders o

**ON** o.account\_id = a.**id**

**JOIN** region r

**ON** r.**id** = s.region\_id

**GROUP** **BY** r.**name**

**HAVING** **SUM**(o.total\_amt\_usd) = (**SELECT** \* **FROM** t2);

1. **How many accounts** had more **total** purchases than the account **name** which has bought the most **standard\_qty** paper throughout their lifetime as a customer?

**SELECT** a.**name** account\_name, **SUM**(o.standard\_qty) total\_std, **SUM**(o.total) total

**FROM** accounts a

**JOIN** orders o

**ON** o.account\_id = a.**id**

**GROUP** **BY** 1

**ORDER** **BY** 2 **DESC**

**LIMIT** 1;

**SELECT** a.**name**

**FROM** orders o

**JOIN** accounts a

**ON** a.**id** = o.account\_id

**GROUP** **BY** 1

**HAVING** **SUM**(o.total) > (**SELECT** total

**FROM** (**SELECT** a.**name** act\_name, **SUM**(o.standard\_qty) tot\_std, **SUM**(o.total) total

**FROM** accounts a

**JOIN** orders o

**ON** o.account\_id = a.**id**

**GROUP** **BY** 1

**ORDER** **BY** 2 **DESC**

**LIMIT** 1) sub);

**SELECT** **COUNT**(\*)

**FROM** (**SELECT** a.**name**

**FROM** orders o

**JOIN** accounts a

**ON** a.**id** = o.account\_id

**GROUP** **BY** 1

**HAVING** **SUM**(o.total) > (**SELECT** total

**FROM** (**SELECT** a.**name** act\_name, **SUM**(o.standard\_qty) tot\_std, **SUM**(o.total) total

**FROM** accounts a

**JOIN** orders o

**ON** o.account\_id = a.**id**

**GROUP** **BY** 1

**ORDER** **BY** 2 **DESC**

**LIMIT** 1) inner\_tab)

) counter\_tab;

With CTE:

WITH t1 AS (

**SELECT** a.**name** account\_name, **SUM**(o.standard\_qty) total\_std, **SUM**(o.total) total

**FROM** accounts a

**JOIN** orders o

**ON** o.account\_id = a.**id**

**GROUP** **BY** 1

**ORDER** **BY** 2 **DESC**

**LIMIT** 1),

t2 **AS** (

**SELECT** a.**name**

**FROM** orders o

**JOIN** accounts a

**ON** a.**id** = o.account\_id

**GROUP** **BY** 1

**HAVING** **SUM**(o.total) > (**SELECT** total **FROM** t1))

**SELECT** **COUNT**(\*)

**FROM** t2;

1. For the customer that spent the most (in total over their lifetime as a customer) **total\_amt\_usd**, how many **web\_events** did they have for each channel?

**SELECT** a.**id**, a.**name**, **SUM**(o.total\_amt\_usd) tot\_spent

**FROM** orders o

**JOIN** accounts a

**ON** a.**id** = o.account\_id

**GROUP** **BY** a.**id**, a.**name**

**ORDER** **BY** 3 **DESC**

**LIMIT** 1;

**SELECT** a.**name**, w.channel, **COUNT**(\*)

**FROM** accounts a

**JOIN** web\_events w

**ON** a.**id** = w.account\_id **AND** a.**id** = (**SELECT** **id**

**FROM** (**SELECT** a.**id**, a.**name**, **SUM**(o.total\_amt\_usd) tot\_spent

**FROM** orders o

**JOIN** accounts a

**ON** a.**id** = o.account\_id

**GROUP** **BY** a.**id**, a.**name**

**ORDER** **BY** 3 **DESC**

**LIMIT** 1) inner\_table)

**GROUP** **BY** 1, 2

**ORDER** **BY** 3 **DESC**;

With CTE:

WITH t1 AS (

**SELECT** a.**id**, a.**name**, **SUM**(o.total\_amt\_usd) tot\_spent

**FROM** orders o

**JOIN** accounts a

**ON** a.**id** = o.account\_id

**GROUP** **BY** a.**id**, a.**name**

**ORDER** **BY** 3 **DESC**

**LIMIT** 1)

**SELECT** a.**name**, w.channel, **COUNT**(\*)

**FROM** accounts a

**JOIN** web\_events w

**ON** a.**id** = w.account\_id **AND** a.**id** = (**SELECT** **id** **FROM** t1)

**GROUP** **BY** 1, 2

**ORDER** **BY** 3 **DESC**;

My Answer:

select sub2.acct, sub2.channel, sub2.counts

from

(select a.name acct, sum(total\_amt\_usd)

from accounts a

join orders o

on o.account\_id = a.id

group by 1

order by 2 desc

limit 1) sub1

join

(select a.name acct, w.channel channel, count(w.id) counts

from accounts a

join web\_events w

on a.id = w.account\_id

group by a.name, w.channel) sub2

on sub1.acct = sub2.acct

order by counts desc;

1. What is the lifetime average amount spent in terms of **total\_amt\_usd** for the top 10 total spending **accounts**?

**SELECT** **AVG**(tot\_spent)

**FROM** (**SELECT** a.**id**, a.**name**, **SUM**(o.total\_amt\_usd) tot\_spent

**FROM** orders o

**JOIN** accounts a

**ON** a.**id** = o.account\_id

**GROUP** **BY** a.**id**, a.**name**

**ORDER** **BY** 3 **DESC**

**LIMIT** 10) temp;

CTE:

WITH t1 AS (

**SELECT** a.**id**, a.**name**, **SUM**(o.total\_amt\_usd) tot\_spent

**FROM** orders o

**JOIN** accounts a

**ON** a.**id** = o.account\_id

**GROUP** **BY** a.**id**, a.**name**

**ORDER** **BY** 3 **DESC**

**LIMIT** 10)

**SELECT** **AVG**(tot\_spent)

**FROM** t1;

1. What is the lifetime average amount spent in terms of **total\_amt\_usd**, including only the companies that spent more per order, on average, than the average of all orders.

**SELECT** **AVG**(o.total\_amt\_usd) avg\_all

**FROM** orders o

**SELECT** o.account\_id, **AVG**(o.total\_amt\_usd)

**FROM** orders o

**GROUP** **BY** 1

**HAVING** **AVG**(o.total\_amt\_usd) > (**SELECT** **AVG**(o.total\_amt\_usd) avg\_all

**FROM** orders o);

**SELECT** **AVG**(avg\_amt)

**FROM** (**SELECT** o.account\_id, **AVG**(o.total\_amt\_usd) avg\_amt

**FROM** orders o

**GROUP** **BY** 1

**HAVING** **AVG**(o.total\_amt\_usd) > (**SELECT** **AVG**(o.total\_amt\_usd) avg\_all

**FROM** orders o)) temp\_table;

CTE:

WITH t1 AS (

**SELECT** **AVG**(o.total\_amt\_usd) avg\_all

**FROM** orders o

**JOIN** accounts a

**ON** a.**id** = o.account\_id),

t2 **AS** (

**SELECT** o.account\_id, **AVG**(o.total\_amt\_usd) avg\_amt

**FROM** orders o

**GROUP** **BY** 1

**HAVING** **AVG**(o.total\_amt\_usd) > (**SELECT** \* **FROM** t1))

**SELECT** **AVG**(avg\_amt)

**FROM** t2;

My answers:

select avg(name\_avg)

from (

select a.name as names, avg(o.total\_amt\_usd) as name\_avg

from orders o

join accounts a

on o.account\_id = a.id

group by names

having avg(o.total\_amt\_usd) >

(select avg(total\_amt\_usd)

from orders o)) temp;