

STRATASCRATCH EXERCISES

Write a query that returns the number of unique users per client per month

SELECT

DISTINCT(EXTRACT(MONTH FROM time_id)) AS month,

client_id,

COUNT (DISTINCT user_id) AS num_users

from fact_events

GROUP BY month, client_id

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Interview Question Date: March 2021

Apple Dell Microsoft Easy ID 2024

Data Engineer Data Scientist BI Analyst Data Analyst

Write a query that returns the number of unique users per client per month

Table: fact_events

Hints Expected Output

fact_events

id	time_id	user_id	customer_id	client_id	event_type	event_id
1	2020-02-28	3668-QPYBK	Sendit	desktop	message sent	3
2	2020-02-28	7892-POOKP	Connectix	mobile	file received	2

```

1 select
2   DISTINCT(EXTRACT(MONTH FROM time_id)) AS month,
3   client_id,
4   COUNT (DISTINCT user_id) AS num
5 from fact_events
6 GROUP BY month, client_id
    
```

Use `⌘ + Enter` to run query
 Highlight some code to execute selection only
 Run Code
 Solved

Output
 View the output in a separate browser tab

Execution time: 0.02957 seconds

Your Solution:

month	client_id	num
2	mobile	9

Write a query that will calculate the number of shipments per month. The unique key for one shipment is a combination of shipment_id and sub_id. Output the year_month in format YYYY-MM and the number of shipments in that month.

select

```
    DISTINCT(TO_CHAR(shipment_date, 'YYYY-MM')) AS year_month,
    COUNT (CONCAT(shipment_id, sub_id)) AS unique_key
```

from amazon_shipment

GROUP BY year_month;

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PostgreSQL

<

Number of Shipments Per Month

>

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Easy

ID 2056

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Data Engineer

Data Scientist

BI Analyst

Data Analyst

Software Engineer

Write a query that will calculate the number of shipments per month. The unique key for one shipment is a combination of shipment_id and sub_id. Output the year_month in format YYYY-MM and the number of shipments in that month.

Table: amazon_shipment

Hints

Expected Output

amazon_shipment

Preview

shipment_id	sub_id	weight	shipment_date
101	1	10	2021-08-30
101	2	20	2021-09-01
101	3	10	2021-09-05

```

1 select
2     DISTINCT(TO_CHAR(shipment_date, 'YYYY-MM')) AS year_month,
3     COUNT (CONCAT(shipment_id, sub_id)) AS unique_key
4 from amazon_shipment
5 GROUP BY year_month;
```

highlight some code to execute selection only

Output

View the output in a separate browser tab

Execution time: 0.03821 seconds

Your Solution:

year_month	unique_key
2021-09	6
2021-08	3

You have been asked to find the 5 most lucrative products in terms of total revenue for the first half of 2022 (from January to June inclusive).

Output their IDs and the total revenue.

select

product_id,

SUM(cost_in_dollars*units_sold) AS Revenue

from online_orders

WHERE

EXTRACT(YEAR FROM date)='2022' AND EXTRACT(MONTH FROM date)<7

GROUP BY product_id

ORDER BY Revenue DESC

LIMIT 5

Question

Your Submissions

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00:00

Data Engineer

Data Scientist

BI Analyst

Data Analyst

You have been asked to find the 5 most lucrative products in terms of total revenue for the first half of 2022 (from January to June inclusive).

Output their IDs and the total revenue.

Table: online_orders

Hints

Expected Output

online_orders

Preview

product_id: int

promotion_id: int

cost_in_dollars: int

customer_id: int

date: datetime

units_sold: int

```

1 select
2   product_id,
3   SUM(cost_in_dollars*units_sold) AS Revenue
4 from online_orders
5 WHERE
6   EXTRACT(YEAR FROM date)='2022' AND EXTRACT(MONTH FROM date)<7
7 GROUP BY product_id
8 ORDER BY Revenue DESC
9 LIMIT 5

```

Execution time: 0.01827 seconds

product_id	revenue
2	207
3	201
5	199
1	65
6	56

Find the average number of bathrooms and bedrooms for each city's property types. Output the result along with the city name and the property type.

```
select
  city,
  property_type,
  avg (bathrooms) AS n_bathrooms,
  avg (bedrooms) AS n_bedrooms
from airbnb_search_details
GROUP BY property_type,city
ORDER BY city
```

Question

Your Submissions

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00:00

Data Engineer

Data Scientist

BI Analyst

Data Analyst

Find the average number of bathrooms and bedrooms for each city's property types. Output the result along with the city name and the property type.

Table: airbnb_search_details

Hints

Expected Output

airbnb_search_details

Preview

id:	int
price:	float
property_type:	varchar
room_type:	varchar
amenities:	varchar
accommodates:	int
bathrooms:	int
bed_type:	varchar

```

1 select
2   city,
3   property_type,
4   avg (bathrooms) AS n_bathrooms,
5   avg (bedrooms) AS n_bedrooms
6 from airbnb_search_details
7 GROUP BY property_type,city
8 ORDER BY city
```

Use `⌘` + Enter to run query

Highlight some code to execute selection only

Run Code

Solved

Output

View the output in a separate browser tab

Execution time: 0.01600 seconds

city	property_type	n_bathrooms	n_bedrooms
Boston	House	1	1
Boston	Apartment	1	1

Find the most profitable company from the financial sector. Output the result along with the continent.

```
select
  company,
  continent
from forbes_global_2010_2014
WHERE sector='Financials'
ORDER BY PROFITS DESC
limit 1
```

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00:00

Find the most profitable company from the financial sector. Output the result along with the continent.

Table: forbes_global_2010_2014

Hints
Expected Output

forbes_global_2010_2014 Preview

company:	varchar
sector:	varchar
industry:	varchar
continent:	varchar
country:	varchar
marketvalue:	float
sales:	float
profits:	float
assets:	float
rank:	int
forbeswebpage:	varchar

```

1 select
2   company,
3   continent
4 from forbes_global_2010_2014
5 WHERE sector='Financials'
6 ORDER BY PROFITS DESC
7 limit 1

```

Use `⌘` + Enter to run query
Highlight some code to execute selection only
Run Code
Solved

Output [View the output in a separate browser tab](#)

Execution time: 0.04049 seconds

Your Solution:

company	continent
ICBC	Asia

Find how many times each artist appeared on the Spotify ranking list
 Output the artist name along with the corresponding number of occurrences.
 Order records by the number of occurrences in descending order.

select

artist,

COUNT (position)

from spotify_worldwide_daily_song_ranking

GROUP BY artist

ORDER BY COUNT (position) DESC

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MS SQL Server
Find how many times each artist appeared on the Spotify ranking

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Find how many times each artist appeared on the Spotify ranking list
 Output the artist name along with the corresponding number of occurrences.
 Order records by the number of occurrences in descending order.

Table: spotify_worldwide_daily_song_ranking

[Hints](#)
[Expected Output](#)

[Preview](#)

id	position	trackname	artist	streams	url
303651	52	Heart Won't Forget	Matoma	28047	https://oper
85559	160	Someone In The Crowd - From "La La Land"	Emma Stone	17134	https://oper

```

1 select
2   artist,
3   COUNT (position)
4 from spotify_worldwide_daily_song_ranking
5 GROUP BY artist
6 ORDER BY COUNT (position) DESC
  
```

Use `⌘ + Enter` to run query
 Highlight some code to execute selection only

[Run Code](#) [Solved](#)

Output [View the output in a separate browser tab](#)

Execution time: 0.01961 seconds

artist	
Kendrick Lamar	9
Ed Sheeran	5

Write a query that calculates the difference between the highest salaries found in the marketing and engineering departments. Output just the absolute difference in salaries.

select

```
(select
  MAX(salary)
from db_employee
JOIN db_dept ON db_employee.department_id=db_dept.id
WHERE department IN ('marketing')
)-(select
  MAX(salary)
from db_employee
JOIN db_dept ON db_employee.department_id=db_dept.id
WHERE department IN ('engineering')) AS value
```

Data Engineer Data Scientist BI Analyst Data Analyst ML Engineer

Write a query that calculates the difference between the highest salaries found in the marketing and engineering departments. Output just the absolute difference in salaries.

Tables: db_employee, db_dept

Hints

Expected Output

db_employee

Preview

id:	int
first_name:	varchar
last_name:	varchar
salary:	int
department_id:	int

db_dept

Preview

```
1 select
2
3
4 (select
5   MAX(salary)
6   from db_employee
7   JOIN db_dept ON db_employee.department_id=db_dept.id
8   WHERE department IN ('marketing')
9 )-(select
10   MAX(salary)
11   from db_employee
12   JOIN db_dept ON db_employee.department_id=db_dept.id
13   WHERE department IN ('engineering')) AS value
```

Use `⌘` + Enter to run query
Highlight some code to execute selection only

Run Code

Solved

Output

[View the output in a separate browser tab](#)

Execution time: 0.02175 seconds

Your Solution:

value

2400