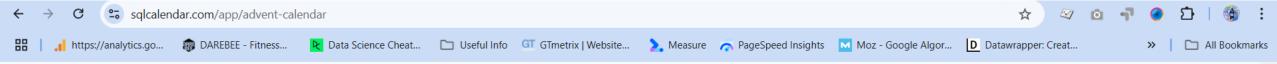
SQL Advent Calendar

2 Dec 2024 to 25 Dec 2024
Daily SQL challenges leading up to Christmas
Completed by Chanpreet Singh





Complete daily SQL challenges to light up the calendar!

A new challenge will be unlocked every day at 12PM EST.

The questions are of random difficulty, so feel free to tackle them **in order** or **mix and match**!



Day 1 of SQL Advent Calendar

Today's Question:

A ski resort company want to know which customers rented ski equipment for more than one type of activity (e.g., skiing and snowboarding). List the customer names and the number of distinct activities they rented equipment for.

Table name: rentals

rental_id	customer_name	activity	rental_date
1	Emily	Skiing	2024-01-01
2	Michael	Snowboarding	2024-01-02
3	Emily	Snowboarding	2024-01-03
4	Sarah	Skiing	2024-01-01
5	Michael	Skiing	2024-01-02
6	Michael	Snowtubing	2024-01-02
6	Michael	Snowtubing	2024-01-02

Question level of difficulty: Medium



Write your SQL query here o

```
1  select customer_name, COUNT(DISTINCT activity) as activity_count
2  from rentals
3  group by customer_name
4  having activity_count > 1;
5
6
```

Is your query correct?

Emily	2	
Michael	3	

Day 2 of SQL Advent Calendar

Today's Question:

Santa wants to know which gifts weigh more than 1 kg. Can you list them?

Table name: gifts

gift_name	recipient	weight_kg
Toy Train	John	2.5
Chocolate Box	Alice	0.8
Teddy Bear	Sophia	1.2
Board Game	Liam	0.9

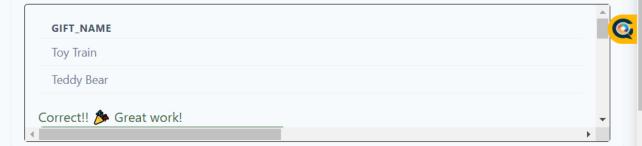
Question level of difficulty: Easy



Write your SQL query here ①

```
select gift_name
   from gifts
3 where weight_kg > 1;
```

Is your query correct?



Day 3 of SQL Advent Calendar

Today's Question:

You're trying to identify the most calorie-packed candies to avoid during your holiday binge. Write a query to rank candies based on their calorie count within each category. Include the candy_name, candy_category, calories, and rank (rank_in_category) within the category.

Table name: candy_nutrition

candy_id	candy_name	calories	candy_category
1	Candy Cane	200	Sweets
2	Chocolate Bar	250	Chocolate
3	Gingerbread Cookie	150	Baked Goods
4	Lollipop	100	Sweets
5	Dark Chocolate Truffle	180	Chocolate
6	Marshmallow	900	Sweets
7	Sugar Cookie	140	Baked Goods

Question level of difficulty: Hard



Write your SQL query here ①

- select candy_name, candy_category, calories,
- RANK() OVER(partition by candy_category order by calories DESC) as rank_
- from candy_nutrition;

Is your query correct?

CANDY_NAME	CANDY_CATEGORY	CALORIES	RANK_IN_CATEGORY
Gingerbread Cookie	Baked Goods	150	1
Sugar Cookie	Baked Goods	140	2
Chocolate Bar	Chocolate	250	1
Dark Chocolate Truffle	Chocolate	180	2

Day 4 of SQL Advent Calendar

Today's Question:

You're planning your next ski vacation and want to find the best regions with heavy snowfall. Given the tables resorts and snowfall, find the average snowfall for each region and sort the regions in descending order of average snowfall. Return the columns region and average_snowfall.

Table name: ski_resorts

resort_id	resort_name	region
1	Snowy Peaks	Rocky Mountains
2	Winter Wonderland	Wasatch Range
3	Frozen Slopes	Alaska Range
4	Powder Paradise	Rocky Mountains

Table name: snowfall

resort_id	snowfall_inches
1	60
2	45
3	75

Write your SQL query here ①

```
select sr.region, avg(s.snowfall_inches) as average_snowfall
from ski_resorts sr

JOIN snowfall s ON s.resort_id = sr.resort_id

GROUP BY sr.region
ORDER BY average_snowfall DESC;
```

Is your query correct?

REGION		AVERAGE_SNOWFALL		Î
Alaska Range		75		
Rocky Mountains		∕ 57.5		
Wasatch Range	•	45	I	•
4				•

Day 5 of SQL Advent Calendar

Today's Question:

This year, we're celebrating Christmas in the Southern Hemisphere! Which beaches are expected to have temperatures above 30°C on Christmas Day?

Table name: beach_temperature_predictions

beach_name	country	expected_temperature_c	date
Bondi Beach	Australia	32	2024- 12-24
Copacabana Beach	Brazil	28	2024- 12-24
Clifton Beach	South Africa	31	2024- 12-25
Brighton Beach	New Zealand	25	2024- 12-25

Question level of difficulty: Easy



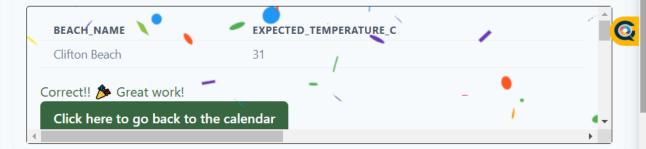




Write your SQL query here ①

```
select beach_name, expected_temperature_c
from beach_temperature_predictions
where expected_temperature_c > 30 AND date = '2024-12-25';
```

Is your query correct?



Day 6 of SQL Advent Calendar

Today's Question:

Scientists are tracking polar bears across the Arctic to monitor their migration patterns and caloric intake. Write a query to find the top 3 polar bears that have traveled the longest total distance in December 2024. Include their bear_id, bear_name, and total_distance_traveled in the results.

Table name: polar_bears

bear_id	bear_name	age
1	Snowball	10
2	Frosty	7
3	Iceberg	15
4	Chilly	5

Table name: tracking

tracking_id	bear_id	distance_km	date
1	1	25	2024-12-01
2	2	40	2024-12-02
3	1	30	2024-12-03

Write your SQL query here ①

```
select p.bear_id, p.bear_name, SUM(t.distance_km) as total_distance_trav
from polar_bears p

JOIN tracking t ON p.bear_id = t.bear_id

WHERE strftime('%Y-%m', t.date) = '2024-12'

ORDER BY total_distance_traveled DESC

LIMIT 3;
```

Is your query correct?

EAR_ID	BEAR_NAME	TOTAL_DISTANCE_TRAVELED	
	Snowball	300	
rect!! 🥕 Gr	eat work!		

Day 7 of SQL Advent Calendar

Today's Question:

The owner of a winter market wants to know which vendors have generated the highest revenue overall. For each vendor, calculate the total revenue for all their items and return a list of the top 2 vendors by total revenue. Include the vendor_name and total_revenue in your results.

Table name: vendors

vendor_id	vendor_name	market_location
1	Cozy Crafts	Downtown Square
2	Sweet Treats	Central Park
3	Winter Warmers	Downtown Square

Table name: sales

sale_id	vendor_id	item_name	quantity_sold	price_per_unit
1	1	Knitted Scarf	15	25
2	2	Hot Chocolate	50	3.5
3	3	Wool Hat	20	18

Write your SQL query here ①

```
select v.vendor_name, SUM(s.quantity_sold * s.price_per_unit) as total_r
from vendors v

JOIN sales s ON v.vendor_id = s.vendor_id

GROUP BY v.vendor_name

ORDER BY total_revenue DESC

LIMIT 2;
```

Is your query correct?

VENDOR_NAME	<u> </u>	TOTAL_REVENUE	
Cozy Crafts	/	525	1
-			
Winter Warmers		360	

Day 8 of SQL Advent Calendar

Today's Question:

You are managing inventory in Santa's workshop. Which gifts are meant for "good" recipients? List the gift name and its weight.

Table name: gifts

gift_id	gift_name	recipient_type	weight_kg
1	Toy Train	good	2.5
2	Lumps of Coal	naughty	1.5
3	Teddy Bear	good	1.2
4	Chocolate Bar	good	0.3
5	Board Game	naughty	1.8

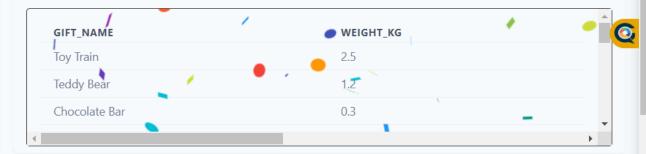
Question level of difficulty: Easy



Write your SQL query here ①

```
select gift_name, weight_kg
from gifts
where recipient_type = 'good';
```

Is your query correct?



Day 9 of SQL Advent Calendar

Today's Question:

A community is hosting a series of festive feasts, and they want to ensure a balanced menu. Write a query to identify the top 3 most calorie-dense dishes (calories per gram) served for each event. Include the dish_name, event_name, and the calculated calorie density in your results.

Table name: events

event_id	event_name
1	Christmas Eve Dinner
2	New Years Feast
3	Winter Solstice Potluck

Table name: menu

dish_id	dish_name	event_id	calories	weight_g
1	Roast Turkey	1	3500	5000
2	Chocolate Yule Log	1	2200	1000
3	Cheese Fondue	2	1500	800
4	Holiday Fruitcake	3	4000	1200

Write your SQL query here ①

```
WITH CalorieDensity AS

(SELECT m.dish_name, e.event_name, (m.calories / m.weight_g) AS calorie_
FROM events e

JOIN menu m ON m.event_id = e.event_id),
RankedDishes AS(SELECT dish_name, event_name, calorie_density,

RANK() OVER(PARTITION BY event_name ORDER BY calorie_density DESC) AS ra
FROM CalorieDensity)
SELECT dish_name, event_name, calorie_density
FROM RankedDishes
WHERE rank <= 3
ORDER BY event_name, rank:</pre>
```

Is your query correct?

DISH_NAME	EVENT_NAME	CALORIE_DENSITY
Chocolate Yule Log	Christmas Eve Dinner	-2
Roast Turkey	Christmas Eve Dinner	0
Cheese Fondue	New Years Feast	1
		•

Day 10 of SQL Advent Calendar

Today's Question:

You are tracking your friends' New Year's resolution progress. Write a query to calculate the following for each friend: number of resolutions they made, number of resolutions they completed, and success percentage (% of resolutions completed) and a success category based on the success percentage:

- Green: If success percentage is greater than 75%.
- Yellow: If success percentage is between 50% and 75% (inclusive).
- **Red**: If success percentage is less than 50%.

Table name: resolutions

resolution_id	friend_name	resolution	is_completed
1	Alice	Exercise daily	1
2	Alice	Read 20 books	0
3	Bob	Save money	0
4	Bob	Eat healthier	1
5	Charlie	Travel more	1
6	Charlie	Learn a new skill	1
7	Diana	Volunteer monthly	1

Write your SQL query here 1

```
select friend_name, COUNT(resolution) AS no_of_resolutions,
SUM(is_completed) AS completed,
(SUM(is_completed)/ COUNT(resolution)*100) || " " || '%' AS success_perce
CASE WHEN (SUM(is_completed)/ COUNT(resolution)*100) > 75 THEN 'Green'
WHEN (SUM(is_completed)/ COUNT(resolution)*100) BETWEEN 50 AND 75 THEN 'Y
ELSE 'Red'
END AS success_category
FROM resolutions
group by friend_name;
```

Is your query correct?

Alice 2 Bob 2	1	0 %	Red
Bob 2			
	1	0 %	Red
Charlie 2	2	100 %	Green

Day 11 of SQL Advent Calendar

Today's Question:

You are preparing holiday gifts for your family. Who in the family_members table are celebrating their birthdays in December 2024? List their name and birthday.

Table name: family_members

member_id	name	relationship	birthday
1	Dawn	Sister	2024-12-24
2	Bob	Father	2024-05-20
3	Charlie	Brother	2024-12-25
4	Diana	Mother	2024-03-15

Question level of difficulty: Easy



Write your SQL query here ①

```
SELECT name, birthday from family_members
WHERE strftime('%Y-%m', birthday) = '2024-12';
```

Is your query correct?

NAME	BIRTHDAY		
Dawn	2024-12-24		
Charlie	2024-12-25	♦ 1	
orrect!! 🥕 Great work!			

Day 12 of SQL Advent Calendar

Today's Question:

A collector wants to identify the top 3 snow globes with the highest number of figurines. Write a guery to rank them and include their globe_name, number of figurines, and material.

Table name: snow_globes

globe_id	globe_name	volume_cm3	material
1	Winter Wonderland	500	Glass
2	Santas Workshop	300	Plastic
3	Frozen Forest	400	Glass
4	Holiday Village	600	Glass

Table name: figurines

figurine_id	globe_id	figurine_type
1	1	Snowman
2	1	Tree
3	2	Santa Claus
4	2	FIf

Write your SQL query here ①

```
WITH globe_rank AS(select sg.globe_name,
count(f.figurine_id) as no_of_figurines, sg.material,
RANK() OVER(ORDER BY count(f.figurine_id) DESC) as rank
from snow_globes sg
JOIN figurines f ON sg.globe_id = f.globe_id
GROUP BY globe_name)
select globe_name, no_of_figurines, material
from globe_rank
where rank <=3;
```

Is your query correct?

GLOBE_NAME	NO_OF_FIG	URI <mark>NES</mark>		MATERIAL	_
Holiday Village	5		_	Glass	
Santas Workshop	, •	•	/	Plastic	
Winter Wonderland	2			Glass	•
					+

Day 13 of SQL Advent Calendar

Today's Question:

We need to make sure Santa's sleigh is properly balanced. Find the total weight of gifts for each recipient.

Table name: gifts

gift_id	gift_name	recipient	weight_kg
1	Toy Train	John	2.5
2	Chocolate Box	Alice	0.8
3	Teddy Bear	Sophia	1.2
4	Board Game	John	0.9

Question level of difficulty: Medium



Write your SQL query here ①

select recipient, SUM(weight_kg) AS total_weight
from gifts
group by recipient
order by total_weight DESC;

Is your query correct?



Day 14 of SQL Advent Calendar

Today's Question:

Which ski resorts had snowfall greater than 50 inches?

Table name: snowfall

resort_name	location	snowfall_inches
Snowy Peaks	Colorado	60
Winter Wonderland	Utah	45
Frozen Slopes	Alaska	75

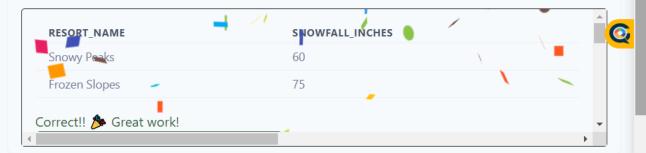
Question level of difficulty: Easy



Write your SQL query here ①

```
select resort_name, snowfall_inches from snowfall
where snowfall_inches > 50
group by resort_name
order by snowfall_inches;
```

Is your query correct?



Day 15 of SQL Advent Calendar

Today's Question:

A family reunion is being planned, and the organizer wants to identify the three family members with the most children. Write a query to calculate the total number of children for each parent and rank them. Include the parent's name and their total number of children in the result.

Table name: family_members

member_id	name	age
1	Alice	30
2	Bob	58
3	Charlie	33
4	Diana	55
5	Eve	5
6	Frank	60
7	Grace	32
8	Hannah	8
9	lan	12
10	Jack	3

Write your SQL query here ①

```
WITH parentRank AS (select fm.name, count(pcr.child_id) AS tot_children,
RANK() OVER (ORDER BY count(pcr.child_id) DESC) AS p_rank
from family_members fm
join parent_child_relationships pcr ON pcr.parent_id = fm.member_id
GROUP BY fm.name)
select name, tot_children, p_rank from parentRank
where p_rank <= 3;</pre>
```

Is your query correct?

NAME	TOT CHILDREN	-\	D DANK	-, 🗅
NAME	TOT_CHILDREN	- 1 [^]	P_RANK , *	
Grace	2	_	1	
Frank	2		1	
Diana	2	•	1	
4				+

Day 16 of SQL Advent Calendar

Today's Question:

As the owner of a candy store, you want to understand which of your products are selling best. Write a query to calculate the total revenue generated from each candy category.

Table name: candy_sales

sale_id	candy_name	quantity_sold	price_per_unit	category
1	Candy Cane	20	1.5	Sweets
2	Chocolate Bar	10	2	Chocolate
3	Lollipop	5	0.75	Sweets
4	Dark Chocolate Truffle	8	2.5	Chocolate
5	Gummy Bears	15	1.2	Sweets
6	Chocolate Fudge	12	3	Chocolate

Question level of difficulty: Medium



Write your SQL query here ①

select category, SUM(quantity_sold*price_per_unit) AS total_revenue
from candy_sales
group by category
order by total_revenue DESC;

Is your query correct?



Day 17 of SQL Advent Calendar

Today's Question:

The Grinch is planning out his pranks for this holiday season. Which pranks have a difficulty level of "Advanced" or "Expert"? List the prank name and location (both in descending order).

Table name: grinch_pranks

prank_id	prank_name	location	difficulty
1	Stealing Stockings	Whoville	Beginner
2	Christmas Tree Topple	Whoville Town Square	Advanced
3	Present Swap	Cindy Lous House	Beginner
4	Sleigh Sabotage	Mount Crumpit	Expert
5	Chimney Block	Mayors Mansion	Expert

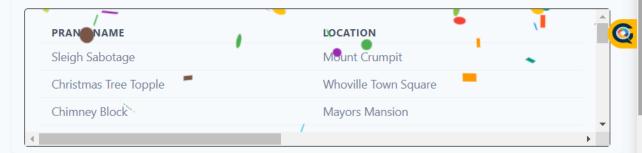
Question level of difficulty: Easy



Write your SQL query here o

```
select prank_name, location
from grinch_pranks
where difficulty in ('Advanced', 'Expert')
ORDER BY prank_name DESC, location DESC;
```

Is your query correct?



Day 18 of SQL Advent Calendar

Today's Question:

A travel agency is promoting activities for a "Summer Christmas" party. They want to identify the top 2 activities based on the average rating. Write a query to rank the activities by average rating.

Table name: activities

activity_id	activity_name
1	Surfing Lessons
2	Jet Skiing
3	Sunset Yoga

Table name: activity_ratings

	rating_id	activity_id	rating
	1	1	4.7
	2	1	4.8
	3	1	4.9
	4	2	4.6
	5	2	4 7
← Back to	Advent Calendar		

Write your SQL query here ①

```
WITH ranked_activity AS

(SELECT a.activity_name, avg(ar.rating) as avg_rating,

RANK() OVER (ORDER BY avg(ar.rating) DESC) AS ranking

FROM activities a

JOIN activity_ratings ar ON ar.activity_id = a.activity_id

GROUP BY a.activity_name)

SELECT activity_name, avg_rating, ranking

FROM ranked_activity

WHERE ranking <= 2;</pre>
```

Is your query correct?

ACTIVITY_NAME	AVG_RATING	RANKING	1
Sunset Yoga	4.82	1 - 1	
Surfing Lessons	4.8	2	
orrect!! 🏂 Great work! 🖊 /	•		

Day 19 of SQL Advent Calendar

Today's Question:

Scientists are studying the diets of polar bears. Write a query to find the maximum amount of food (in kilograms) consumed by each polar bear in a single meal December 2024. Include the bear_name and biggest_meal_kg, and sort the results in descending order of largest meal consumed.

Table name: polar_bears

bear_id	bear_name	age
1	Snowball	10
2	Frosty	7
3	Iceberg	15

Table name: meal_log

log_id	bear_id	food_type	food_weight_kg	date
1	1	Seal	30	2024-12- 01
2	2	Fish	15	2024-12- 02
3	1_	Fich	10	2024-12-

Write your SQL query here ①

```
select pb.bear_name, MAX(ml.food_weight_kg) as biggest_meal_kg
from polar_bears pb

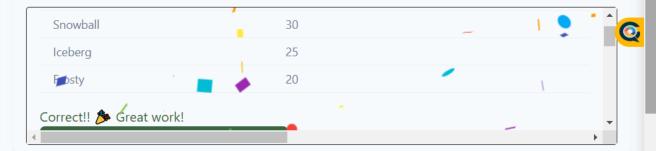
JOIN meal_log ml ON ml.bear_id = pb.bear_id

WHERE date BETWEEN '2024-12-01' AND '2024-12-31'

GROUP BY pb.bear_name

ORDER BY biggest_meal_kg DESC;
```

Is your query correct?



Day 20 of SQL Advent Calendar

Today's Question:

We are looking for cheap gifts at the market. Which vendors are selling items priced below \$10? List the unique (i.e. remove duplicates) vendor names.

Table name: vendors

vendor_id	vendor_name	market_location
1	Cozy Crafts	Downtown Square
2	Sweet Treats	Central Park
3	Winter Warmers	Downtown Square

Table name: item_prices

item_id	vendor_id	item_name	price_usd
1	1	Knitted Scarf	25
2	2	Hot Chocolate	5
3	2	Gingerbread Cookie	3.5
4	3	Wool Hat	18
5	3	Santa Pin	2

Write your SQL query here ①

1 select distinct(v.vendor_name)
2 from vendors v
3 join item_prices i ON i.vendor_id = v.vendor_id
4 where i.price_usd < 10;</pre>

Is your query correct?

VENDOR_NAME	Î
Sweet Treats	
Winter Warmers	
Correct!! 🏂 Great work!	•

Day 21 of SQL Advent Calendar

Today's Question:

Santa needs to optimize his sleigh for Christmas deliveries. Write a query to calculate the total weight of gifts for each recipient type (good or naughty) and determine what percentage of the total weight is allocated to each type. Include the recipient_type, total_weight, and weight_percentage in the result.

Table name: gifts

gift_id	gift_name	recipient_type	weight_kg
1	Toy Train	good	2.5
2	Lumps of Coal	naughty	1.5
3	Teddy Bear	good	1.2
4	Chocolate Bar	good	0.3
5	Board Game	naughty	1.8

Question level of difficulty: Hard







Write your SQL query here ①

```
SELECT
    recipient_type,
    SUM(weight_kg) AS total_weight,
    100.0*SUM(weight_kg)/(SELECT SUM(weight_kg) FROM gifts) AS weight_pe
FROM
    gifts
GROUP BY
    recipient_type;
```

Is your query correct?



Day 22 of SQL Advent Calendar

Today's Question:

We are hosting a gift party and need to ensure every guest receives a gift. Using the guests and guest_gifts tables, write a query to identify the guest(s) who have not been assigned a gift (i.e. they are not listed in the guest_gifts table).

Table name: guests

guest_id	guest_name
1	Cindy Lou
2	The Grinch
3	Max the Dog
4	Mayor May Who

Table name: guest_gifts

	gift_id	guest_id	gift_name
	1	1	Toy Train
	2	1	Plush Bear
	3	2	Bag of Coal
	4	2	Sleigh Rell
← Back to	Advent Calendar		

Write your SQL query here ①

```
select guest_name
from guests g

LEFT join guest_gifts gg ON g.guest_id = gg.guest_id

where gg.guest_id IS NULL
```

Is your query correct?



Day 23 of SQL Advent Calendar

Today's Question:

The Grinch tracked his weight every day in December to analyze how it changed daily. Write a query to return the weight change (in pounds) for each day, calculated as the difference from the previous day's weight.

Table name: grinch_weight_log

log_id	day_of_month	weight
1	1	250
2	2	248
3	3	249
4	4	247
5	5	246
6	6	248

Question level of difficulty: Medium



Write your SQL query here ①

```
select day_of_month,
weight - (LAG(weight) OVER(order by day_of_month)) as weight_change
from grinch_weight_log
order by day_of_month;
```

Is your query correct?

DAY_OF_MONTH	WEIGHT_CHANGE	7	
1		١	
2	-2	•	
3	1		•
		+	

Day 24 of SQL Advent Calendar

Today's Question:

Santa is tracking how many presents he delivers each night leading up to Christmas. He wants a running total to see how many gifts have been delivered so far on any given night. Using the deliveries table, calculate the cumulative sum of gifts delivered, ordered by the delivery date.

Table name: deliveries

delivery_date	gifts_delivered
2024-12-20	120
2024-12-21	150
2024-12-22	200
2024-12-23	300
2024-12-24	500

Question level of difficulty: Hard







Write your SQL query here ①

- select delivery_date,
- SUM(gifts_delivered) OVER(ORDER BY delivery_date) AS gifts_cum_sum
- FROM deliveries;

Is your query correct?

			_
DELIVERY_DATE	GIFTS_CUM_SUM		
2024-12-20	120		
2024-12-21	270		
2024-12-22	470		
		>	Ť

