

# SQL Advent Calendar - 2024 - credits to @DawnChoo on LinkedIn.

## DAY 1:

### 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

Question level of difficulty: Medium 

Code:

```
SELECT
    customer_name,
    COUNT(DISTINCT(activity)) AS activities_count
FROM rentals
GROUP BY customer_name
HAVING activities_count >= 2
ORDER BY activities_count ASC;
```

Output:

CUSTOMER_NAME	ACTIVITIES_COUNT
Emily	2
Michael	3

## DAY 2:

### 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   

Code:

```
SELECT gift_name
FROM gifts
WHERE weight_kg > 1;
```

Output:

GIFT_NAME
Toy Train
Teddy Bear

## DAY 3:

### 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 

Code:

```
SELECT
    candy_name,
    candy_category AS category,
    calories,
    RANK() OVER (PARTITION BY candy_category
                 ORDER BY calories DESC)
                 AS rank_in_category
FROM candy_nutrition;
```

Output:

CANDY_NAME	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
Marshmallow	Sweets	900	1
Candy Cane	Sweets	200	2
Lollipop	Sweets	100	3

## DAY 4:

### 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
4	55

Question level of difficulty: Medium 🧑‍🎄 🧑‍🎄 🧑‍🎄

Code:

```

SELECT
    sr.region,
    AVG(sf.snowfall_inches) AS average_snowfall
FROM ski_resorts sr
INNER JOIN snowfall sf
ON sr.resort_id = sf.resort_id
GROUP BY sr.region
ORDER BY average_snowfall DESC;

```

Output:

REGION	AVERAGE_SNOWFALL
Alaska Range	75
Rocky Mountains	57.5
Wasatch Range	45

## DAY 5:

### 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   

Code:

```
SELECT
    beach_name as beaches,
    expected_temperature_c as temperature
FROM beach_temperature_predictions
WHERE temperature > 30
    AND date = '2024-12-25';
```

Output:

BEACHES	TEMPERATURE
Clifton Beach	31

*DAY 6:*

## 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
4	3	50	2024-12-04
5	2	35	2024-12-05
6	4	20	2024-12-06
7	3	55	2024-12-07
8	1	45	2024-12-08

**Question level of difficulty:** Hard



Code:

```
SELECT
    pb.bear_id,
    pb.bear_name,
    SUM(tk.distance_km) AS total_distance_traveled
FROM polar_bears pb
INNER JOIN tracking tk
ON pb.bear_id = tk.bear_id
WHERE strftime('%Y', tk.date) = '2024'
    AND strftime('%m', tk.date) = '12'
GROUP BY pb.bear_id, pb.bear_name
ORDER BY total_distance_traveled DESC
LIMIT 3;
```

Output:

BEAR_ID	BEAR_NAME	TOTAL_DISTANCE_TRAVELED
3	Iceberg	105
1	Snowball	100
2	Frosty	75