

Easy, intermediate, advanced and expert SQL interview questions



Dawn Choo

Learning SQL?

Have an interview coming up?

Just want to keep your SQL skills sharp?

**Try out these SQL questions
that get increasingly
difficult!**



1

Music streaming services

You have two tables: **tracks** and **user_activity**.

- The **tracks** table stores information about music tracks.
- The **user_activity** table records user interactions with tracks.
 - The **activity_type** column represents different ways users can interact with tracks and stores values such as *listen*, like, share, or playlist_add.
 - The **activity_value** column represents the quantity of the activity. For *listen* activities, it represents the duration listened in seconds. For other activities, it stores the value 1.

SAMPLE DATA

tracks

track_id	title	artist_name	duration_seconds	release_date	genre
1	Shape of You	Ed Sheeran	233	2017-01-06	Pop
2	Blinding Lights	The Weeknd	200	2019-11-29	Synth-pop
3	Dance Monkey	Tones and I	209	2019-05-10	Electropop

user_activity

activity_id	user_id	track_id	activity_type	activity_date	activity_value
1	101	1	listen	2023-08-18	220
2	101	1	like	2023-08-18	1
3	102	2	listen	2023-08-19	195
4	102	2	share	2023-08-19	1
5	103	3	listen	2023-08-20	209
6	103	1	playlist_add	2023-08-20	1

1

Music streaming services

EASY QUESTION

List the top 5 tracks by total listen duration, showing the track title, artist name, and total listen duration in hours.

INTERMEDIATE QUESTION

For each genre, find the artist with the most liked track.

Display the genre, artist name, track title, and number of likes.

ADVANCED QUESTION

Find pairs of tracks that are often listened to together in the same day by the same user. Display the pairs of track titles, their artists, and the count of users who listened to both tracks on the same day.

EXPERT QUESTION

Identify potential "super-spreader" users and tracks for a viral marketing campaign to maximize reach and engagement.

2

Course enrollments

You have three tables: **students**, **courses**, and **enrollments**.

- The **students** table stores information about individual students.
- The **courses** table contains details about available courses.
- The **enrollments** table records the relationship between students and courses.

SAMPLE DATA

students

student_id	first_name	last_name	email	date_of_birth	registration_date
1	John	Doe	johndoe@email.com	1995-03-15	2023-01-10
2	Jane	Smith	janesmith@email.com	1998-07-22	2023-02-05
3	Michael	Johnson	michaelj@email.com	1997-11-30	2023-01-25

courses

course_id	course_name	instructor_name	category	difficulty_level	duration_weeks	price
101	Introduction to Python	Dr. Alan Turing	Programming	Beginner	8	199.99
102	Advanced Data Science	Dr. Ada Lovelace	Data Science	Advanced	12	299.99
103	Web Development Fundamentals	Prof. Tim Berners-Lee	Web Development	Intermediate	10	249.99

enrollments

enrollment_id	student_id	course_id	enrollment_date	completion_date	final_grade
1001	1	101	2023-01-15	2023-03-10	92
1002	2	102	2023-02-10	2023-05-05	88
1003	3	103	2023-02-01	2023-04-12	95

2

Course enrollments

EASY QUESTION

What is the average duration (in weeks) of all courses?

INTERMEDIATE QUESTION

Find the top 5 most popular courses each month based on the number of enrollments, including the course name and enrollment count.

ADVANCED QUESTION

Calculate the month-over-month growth rate of new student registrations for the past year.

EXPERT QUESTION

We have a hypothesis that students with higher grades are more likely to sign-up for another course. How would you prove or disprove this hypothesis?

SUPER EXPERT QUESTION

Identify patterns in student performance across different courses and the factors that influence them. Recommend strategies for implementing a personalized learning path system to improve overall student success rates.

3 Video game tournaments

You have three tables: **tournaments**, **teams**, and **matches**.

- The **tournaments** table stores information about e-sports tournaments.
- The **teams** table contains details about esports teams.
- The **matches** table records individual matches within tournaments, including a unique match ID.

SAMPLE DATA

tournaments

tournament_id	tournament_name	game_title	start_date	end_date	total_prize_pool	region
1	The International 2023	Dota 2	2023-10-12	2023-10-29	40018195	Southeast Asia
2	LoL Worlds 2023	League of Legends	2023-10-10	2023-11-19	2225000	South Korea
3	PGL CS:GO Major Copenhagen 2024	Counter-Strike: Global Offensive	2024-03-17	2024-03-31	1250000	Denmark

teams

team_id	team_name	country	foundation_year
1	Team Liquid	Netherlands	2000
2	T1	South Korea	2003
3	Fnatic	United Kingdom	2004

matches

match_id	tournament_id	match_date	team1_id	team2_id	winning_team_id	match_duration_minutes	viewer_count
1	1	2023-10-15	1	3	1	45	1250000
2	2	2023-10-11	2	3	2	38	1750000
3	3	2024-03-20	1	2	2	52	980000

3 Video game tournaments

EASY QUESTION

List the names of all tournaments for the game "League of Legends" along with their total prize pools.

INTERMEDIATE QUESTION

Find the top 5 teams with the highest win rates in tournaments.

ADVANCED QUESTION

For each tournament, calculate the average match duration and viewer count, along with the percentage difference from the overall averages across all tournaments.

EXPERT QUESTION

Identify potential "rivalry" team pairs based on their frequency of matches against each other and closeness of their performance. Provide recommendations to leadership on how we might use "rivalry" to improve viewership.

4 Restaurant reviews

You have two tables: **restaurants** and **reviews**.

- The **restaurants** table stores information about different restaurants.
- The **reviews** table contains details about user reviews for these restaurants.

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SAMPLE DATA

restaurants

restaurant_id	name	cuisine	city	country	opening_date
1	La Petite Maison	French	New York	USA	2018-03-15
2	Sushi Royale	Japanese	Tokyo	Japan	2015-11-20
3	Taj Spice	Indian	London	UK	2019-07-01

reviews

review_id	restaurant_id	user_id	rating	review_date	price_range	visit_type
1	1	101	5	2023-08-10	\$\$\$	Dinner
2	1	102	4	2023-08-11	\$\$\$	Lunch
3	2	103	5	2023-08-12	\$\$\$\$	Dinner
4	3	104	4	2023-08-13	\$\$	Takeout
5	2	105	5	2023-08-14	\$\$\$\$	Special Occasion

4

Restaurant reviews

EASY QUESTION

Which countries has the most number of restaurants that opened in 2023?

INTERMEDIATE QUESTION

Calculate the average rating for each cuisine type.

ADVANCED QUESTION

For each city, find the “top rated restaurant” with the highest average rating each month. How often do we see the the “top rated restaurant” change month-over-month?

EXPERT QUESTION

Identify emerging food trends and recommend cities for new restaurant openings based on cuisine popularity, rating trends, and market saturation.

Had fun with these questions?

Drop your answers in the comments
below!



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