

SQL MUSIC DATABASE ANALYSIS

Easy Level Insights:

Q1. Most senior employee: Mohan Madan (Level 9)

```
SELECT *  
FROM employee  
ORDER BY levels DESC  
LIMIT 1;
```

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	employee	last_name	first_name	title	reports_to	levels	birthdate	hire_date	address	city	state	country	postal_code	phone	fax	email			
2	9	Madan	Mohan	Senior Ge	NULL	L7	26-01-1961 00:00	14-01-2016 00:00	1008 Vrin	Edmonton	AB	Canada	T5K 2N1	+1 (780) 4	+1 (780) 4	madan.mohan@chinookcorp.com			

Q2. Country with most invoices: USA (131 invoices)

```
SELECT billing_country, COUNT(*) AS invoice_count  
FROM invoice  
GROUP BY billing_country  
ORDER BY invoice_count DESC;
```

	A	B	C
1	billing_country	invoice_count	
2	USA	131	
3	Canada	76	
4	Brazil	61	
5	France	50	
6	Germany	41	
7	Czech Republic	30	
8	Portugal	29	
9	United Kingdom	28	
10	India	21	
11	Chile	13	
12	Ireland	13	
13	Spain	11	
14	Finland	11	
15	Australia	10	
16	Netherlands	10	
17	Sweden	10	
18	Poland	10	
19	Hungary	10	
20	Denmark	10	
21	Austria	9	
22	Norway	9	
23	Italy	9	
24	Belgium	7	
25	Argentina	5	
26			

Q3. Top 3 invoice totals: (23.76, 19.8, 19.8)

```
SELECT *
FROM invoice
ORDER BY total DESC
LIMIT 3;
```

	A	B	C	D	E	F	G	H	I	J
1	invoice_id	customer_id	invoice_date	billing_address	billing_city	billing_state	billing_country	billing_postal	total	
2	183	42	09-02-2018 00:00	9, Place La Bordeaux	None		France	33000	23.76	
3	92	32	02-07-2017 00:00	696 Osborn	Winnipeg	MB	Canada	R3L 2B9	19.8	
4	31	3	21-02-2017 00:00	1498 rue B	Montréal	QC	Canada	H2G 1A7	19.8	
5										

Q4. Best city for promotional event: Prague (273.24)

```
SELECT billing_city, SUM(total) AS total_amount
FROM invoice
GROUP BY billing_city
ORDER BY total_amount DESC
LIMIT 1;
```

	A	B	C
1	billing_city	total_amount	
2	Prague	273.24	
3			

Q5. Top customer by spending: František Wichterlovský - 144.54

```
SELECT c.customer_id, c.first_name, c.last_name, SUM(i.total) AS total_spent
FROM customer c
JOIN invoice i ON c.customer_id = i.customer_id
GROUP BY c.customer_id, c.first_name, c.last_name
ORDER BY total_spent DESC
LIMIT 1;
```

	A	B	C	D	E
1	customer_id	first_name	last_name	total_spent	
2	5	František	Wichterlovský	144.54	
3					

Moderate Level Insights:

Q1. Rock music listeners: 59 customers

```
SELECT DISTINCT c.email, c.first_name, c.last_name
FROM customer c
JOIN invoice i ON c.customer_id = i.customer_id
JOIN invoice_line il ON i.invoice_id = il.invoice_id
JOIN track t ON il.track_id = t.track_id
JOIN genre g ON t.genre_id = g.genre_id
WHERE g.name = 'Rock';
```

	A	B	C
1	email	first_name	last_name
2	aaronmitc	Aaron	Mitchell
3	alero@uo	Alexandre	Rocha
4	astrid.gru	Astrid	Gruber
5	bjorn.hans	Björn	Hansen
6	camille.be	Camille	Bernard
7	daan_pee	Daan	Peeters
8	diego.guti	Diego	Gutiérrez
9	dmiller@c	Dan	Miller
10	dominique	Dominique	Lefebvre
11	edfrancis	Edward	Francis
12	eduardo@	Eduardo	Martins
13	ellie.sulliv	Ellie	Sullivan
14	emma_jor	Emma	Jones
15	enrique_m	Enrique	Muñoz
16	fernadara	Fernanda	Ramos
17	fharris@g	Frank	Harris
18	fralston@	Frank	Ralston
19	frantisekv	František	Wichterlov
20	ftremblay	François	Tremblay
21	fzimmerm	Fynn	Zimmermann
22	hannah.sc	Hannah	Schneider
23	hholy@gm	Helena	Holm
24	hleacock@	Heather	Leacock
25	hughoreill	Hugh	O'Reilly
26	isabelle_n	Isabelle	Mercier
27	jacksmith	Jack	Smith
28	jenniferp	Jennifer	Peterson
29	jfernandes	João	Fernandes
30	joakim.joh	Joakim	Johansson
31	johavande	Johannes	Van der Berg

	A	B	C
31	johavande	Johannes	Van der Berg
32	johngordo	John	Gordon
33	jubarnett	Julia	Barnett
34	kachase@	Kathy	Chase
35	kara.niels	Kara	Nielsen
36	ladislav_k	Ladislav	Kovács
37	leonekohl	Leonie	Kähler
38	lucas.man	Lucas	Mancini
39	luisg@em	Luís	Gonzálves
40	luisrojas	Luis	Rojas
41	manoj.par	Manoj	Pareek
42	marc.dubc	Marc	Dubois
43	mark.taylc	Mark	Taylor
44	marthasilk	Martha	Silk
45	masampai	Madalena	Sampaio
46	michelleb	Michelle	Brooks
47	mphilips1	Mark	Philips
48	nschroder	Niklas	Schröder
49	patrick.gr	Patrick	Gray
50	phil.hughe	Phil	Hughes
51	ricunningh	Richard	Cunningham
52	rishabh_m	Rishabh	Mishra
53	robbrown	Robert	Brown
54	roberto.ali	Roberto	Almeida
55	stanisław	Stanisław	Wójcik
56	steve.mur	Steve	Murray
57	terhi.hama	Terhi	Hämäläinen
58	tgoyer@a	Tim	Goyer
59	vstevens	Victor	Stevens
60	wyatt.gira	Wyatt	Girard

Q2. Top 10 rock artists:

```
SELECT a.name AS artist_name, COUNT(t.track_id) AS rock_track_count
FROM artist a
JOIN album al ON a.artist_id = al.artist_id
JOIN track t ON al.album_id = t.album_id
```

```

JOIN genre g ON t.genre_id = g.genre_id
WHERE g.name = 'Rock'
GROUP BY a.artist_id, a.name
ORDER BY rock_track_count DESC
LIMIT 10;

```

	A	B	C
1	artist_name	rock_track_count	
2	Led Zeppelin	114	
3	U2	112	
4	Deep Purple	92	
5	Iron Maiden	81	
6	Pearl Jam	54	
7	Van Halen	52	
8	Queen	45	
9	The Rolling Stones	41	
10	Creedence Clearwater	40	
11	Kiss	35	
12			

Q3. Tracks longer than average: 494 tracks (e.g., “Bohemian Rhapsody”)

```

SELECT name, milliseconds
FROM track
WHERE milliseconds > (
    SELECT AVG(milliseconds) FROM track
);

```

	A	B	C
1	name	milliseconds	
2	You Oughta Know (Alte	491885	
3	Master Of Puppets	436453	
4	Snoopy's search-Red ba	456071	
5	Stratus	582086	
6	No More Tears	555075	
7	Snowblind	420022	
8	Sleeping Village	644571	
9	Wheels Of Confusion / T	494524	
10	Book Of Thel	494393	
11	Jerusalem	402390	
12	The Alchemist	509413	
13	Stone Crazy	433397	
14	Talkin' 'Bout Women Ol	589531	
15	Terra	482429	
16	Sozinho (Hitmakers Cla	436636	
17	Computadores Fazem A	404323	
18	Dazed and Confused	401920	
19	You Shook Me(2)	619467	
20	How Many More Times	711836	
21	Advance Romance	677694	
22	Loverman	472764	
23	Mercyful Fate	671712	
24	Astronomy	397531	
25	Tuesday's Gone	545750	
26	River Song	439510	

Advance Level Insights:

Q1. Spending per artist per customer:

```

WITH artist_sales AS (
    SELECT
        c.customer_id,
        c.first_name,
        c.last_name,
        ar.artist_id,
        ar.name AS artist_name,
        SUM(il.unit_price * il.quantity) AS amount_spent
    FROM customer c
    JOIN invoice i ON c.customer_id = i.customer_id
    JOIN invoice_line il ON i.invoice_id = il.invoice_id
    JOIN track t ON il.track_id = t.track_id
    JOIN album al ON t.album_id = al.album_id
    JOIN artist ar ON al.artist_id = ar.artist_id
    GROUP BY c.customer_id, c.first_name, c.last_name, ar.artist_id, ar.name
)
SELECT * FROM artist_sales
ORDER BY customer_id, amount_spent DESC;

```

	A	B	C	D	E	F	G
1	customer_id	first_name	last_name	artist_id	artist_name	amount_spent	
2	1	LuÃ	GonÃ	139	The Cult	17.82	
3	1	LuÃ	GonÃ	128	Rush	13.86	
4	1	LuÃ	GonÃ	93	JET	12.87	
5	1	LuÃ	GonÃ	1	AC/DC	7.92	
6	1	LuÃ	GonÃ	3	Aerosmith	2.97	
7	1	LuÃ	GonÃ	88	Guns N' Rc	2.97	
8	1	LuÃ	GonÃ	68	Miles Davi	2.97	
9	1	LuÃ	GonÃ	144	The Who	1.98	
10	1	LuÃ	GonÃ	4	Alanis Mor	1.98	
11	1	LuÃ	GonÃ	252	Amy Wine	1.98	
12	1	LuÃ	GonÃ	90	Iron Maide	1.98	
13	1	LuÃ	GonÃ	150	U2	1.98	
14	1	LuÃ	GonÃ	82	Faith No M	1.98	
15	1	LuÃ	GonÃ	103	Marisa Mc	1.98	
16	1	LuÃ	GonÃ	51	Queen	1.98	
17	1	LuÃ	GonÃ	141	The Police	1.98	
18	1	LuÃ	GonÃ	120	Pink Floyd	1.98	
19	1	LuÃ	GonÃ	8	Audioslave	1.98	
20	1	LuÃ	GonÃ	138	The Clash	0.99	
21	1	LuÃ	GonÃ	115	Page & Pla	0.99	
22	1	LuÃ	GonÃ	50	Metallica	0.99	
23	1	LuÃ	GonÃ	110	Nirvana	0.99	
24	1	LuÃ	GonÃ	109	MÃ	0.99	
25	1	LuÃ	GonÃ	80	Djavan	0.99	

Q2. Most popular genre per country:

```

WITH genre_rank AS (
    SELECT

```

```

        c.country,
        g.name AS genre_name,
        COUNT(il.invoice_line_id) AS genre_count,
        ROW_NUMBER() OVER (PARTITION BY c.country ORDER BY
COUNT(il.invoice_line_id) DESC) AS rank
    FROM customer c
    JOIN invoice i ON c.customer_id = i.customer_id
    JOIN invoice_line il ON i.invoice_id = il.invoice_id
    JOIN track t ON il.track_id = t.track_id
    JOIN genre g ON t.genre_id = g.genre_id
    GROUP BY c.country, g.name
)
SELECT country, genre_name, genre_count
FROM genre_rank
WHERE rank = 1
ORDER BY country;

```

	A	B	C	D
1	country	genre_nar	genre_count	
2	Argentina	Alternativ	17	
3	Australia	Rock	34	
4	Austria	Rock	40	
5	Belgium	Rock	26	
6	Brazil	Rock	205	
7	Canada	Rock	333	
8	Chile	Rock	61	
9	Czech Rep	Rock	143	
10	Denmark	Rock	24	
11	Finland	Rock	46	
12	France	Rock	211	
13	Germany	Rock	194	
14	Hungary	Rock	44	
15	India	Rock	102	
16	Ireland	Rock	72	
17	Italy	Rock	35	
18	Netherlan	Rock	33	
19	Norway	Rock	40	
20	Poland	Rock	40	
21	Portugal	Rock	108	
22	Spain	Rock	46	
23	Sweden	Rock	60	
24	United Kir	Rock	166	
25	USA	Rock	561	

Q3. Top customer by country:

```

WITH customer_spending AS (
    SELECT
        c.customer_id,
        c.first_name,
        c.last_name,
        c.country,
        SUM(i.total) AS total_spent,

```

```

RANK() OVER (PARTITION BY c.country ORDER BY
SUM(i.total) DESC) AS rank
FROM customer c
JOIN invoice i ON c.customer_id = i.customer_id
GROUP BY c.customer_id, c.first_name, c.last_name, c.country
)
SELECT customer_id, first_name, last_name, country, total_spent
FROM customer_spending
WHERE rank = 1
ORDER BY country;

```

	A	B	C	D	E	F
1	customer_id	first_name	last_name	country	total_spent	
2	56	Diego	Gutiérrez	Argentina	39.6	
3	55	Mark	Taylor	Australia	81.18	
4	7	Astrid	Gruber	Austria	69.3	
5	8	Daan	Peeters	Belgium	60.39	
6	1	Luís	Gonçalves	Brazil	108.9	
7	3	François	Tremblay	Canada	99.99	
8	57	Luis	Rojas	Chile	97.02	
9	5	František	Wichterlov	Czech Rep	144.54	
10	9	Kara	Nielsen	Denmark	37.62	
11	44	Terhi	Härmä	Finland	79.2	
12	42	Wyatt	Girard	France	99.99	
13	37	Fynn	Zimmermann	Germany	94.05	
14	45	Ladislav	Kovács	Hungary	78.21	
15	58	Manoj	Pareek	India	111.87	
16	46	Hugh	O'Reilly	Ireland	114.84	
17	47	Lucas	Mancini	Italy	50.49	
18	48	Johannes	Van der Berg	Netherlands	65.34	
19	4	Björn	Hansen	Norway	72.27	
20	49	Stanisław	Wójcik	Poland	76.23	
21	34	João	Fernandes	Portugal	102.96	
22	50	Enrique	Muñoz	Spain	98.01	
23	51	Joakim	Johansson	Sweden	75.24	
24	53	Phil	Hughes	United Kingdom	98.01	
25	17	Jack	Smith	USA	98.01	