



RETRO STUDIOS

EST. 1980

Digital Music Store Analysis



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Objective

This project will help us to understand how to analyze the music playlist database. we can examine the dataset with SQL and help the store to understand Business Growth by answering simple questions.



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SQL PROJECT- MUSIC STORE DATA ANALYSIS

Question Set 1

1. Who is the senior most employee based on job title?
2. Which countries have the most Invoices?
3. What are top 3 values of total invoice?
4. Which city has the best customers? We would like to throw a promotional Music Festival in the city we made the most money. Write a query that returns one city that has the highest sum of invoice totals. Return both the city name & sum of all invoice totals
5. Who is the best customer? The customer who has spent the most money will be declared the best customer. Write a query that returns the person who has spent the most money



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Question Set 2

1. Write query to return the email, first name, last name, & Genre of all Rock Music listeners. Return your list ordered alphabetically by email starting with A
2. Let's invite the artists who have written the most rock music in our dataset. Write a query that returns the Artist name and total track count of the top 10 rock bands
3. Return all the track names that have a song length longer than the average song length. Return the Name and Milliseconds for each track. Order by the song length with the longest songs listed first



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Question Set 3

1. Find how much amount spent by each customer on artists?
Write a query to return customer name, artist name and total spent
2. We want to find out the most popular music Genre for each country. We determine the most popular genre as the genre with the highest amount of purchases. Write a query that returns each country along with the top Genre. For countries where the maximum number of purchases is shared return all Genres



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Solutions set 1

--Q1: who is the senior most employee based on job title?--

```
select top 1 * from emp
order by levels desc
```

emp_id	last_name	first_name	title	reports_to	levels	birthdate	hire_date	address	city	states	country	postal_code	phone_number	fax	email
9	Madan	Mohan	Senior General Manager		L7	1961-01-26 00:00:00.000	2016-01-14 00:00:00.000	1008 Virinda Ave MT	Edmonton	AB	Canada	T5K 2N1	+1 (780) 428-9452	+1 (780) 428-3457	madan.m



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--Q2:which country have more invoices--

```
select * from invoice
```

```
select count(*) as coun,billing_country  
from invoice  
group by billing_country  
order by coun desc
```

	coun	billing_country
1	131	USA
2	76	Canada
3	61	Brazil
4	50	France
5	41	Germany
6	30	Czech Repu...
7	29	Portugal

✓ Query executed successfully.



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-- Q3: what are the top 3 values of total invoice--

```
select top 3 * from invoice
order by total desc
```

	invoice_id	customer_id	invoice_date	billing_address	billing_city	billing_state	billing_country	billing_postal	total
1	183	42	2018-02-09 00:00:00.000	9, Place Louis Barthou	Bordeaux	None	France	33000	23.76
2	31	3	2017-02-21 00:00:00.000	1498 rue Bélanger	Montréal	QC	Canada	H2G 1A7	19.8
3	362	29	2019-05-24 00:00:00.000	796 Dundas Street West	Toronto	ON	Canada	M6J 1V1	19.8



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/*Q4: Which city has the best customers? We would like to throw a promotional Music Festival in the city we made the most money. Write a query that returns one city that has the highest sum of invoice totals.
Return both the city name & sum of all invoice totals*/

```
select sum(total) as invoice_total, billing_city
from invoice
group by billing_city
order by invoice_total desc
```

	invoice_total	billing_city
1	273.24	Prague
2	169.29	Mountain View
3	166.32	London
4	158.4	Berlin
5	151.47	Paris
6	129.69	SÃo Paulo
7	114.84	Dublin
8	111.87	Delhi
9	108.9	SÃo JosÃ dos Campos
10	106.92	BrasÃlia
11	102.96	Lisbon
12	99.99	MontrÃal
13	99.99	Bordeaux
14	98.01	Madrid
15	98.01	Redmond
16	97.02	Santiago
17	94.05	Concord

✓ Query executed successfully.



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/*Q5: Who is the best customer? The customer who has spent the most money will be declared the best customer.

Write a query that returns the person who has spent the most money.*/

-- here we join two tables(customer table and Invoice table) to obtain the result

--

```
select customer.customer_id,customer.first_name,customer.last_name,SUM(
invoice.total) as tot
```

```
from customer
```

```
join invoice on customer.customer_id=invoice.customer_id
```

```
group by customer.customer_id,customer.first_name,customer.last_name
```

```
order by tot
```

	customer_id	first_name	last_name	tot
1	14	Mark	Philips	29.7
2	9	Kara	Nielsen	37.62
3	56	Diego	Gutiérrez	39.6
4	29	Robert	Brown	40.59
5	47	Lucas	Mancini	50.49
6	19	Tim	Goyer	54.45
7	10	Eduardo	Martins	60.39
8	8	Daan	Peeters	60.39
9	31	Martha	Silk	62.37
10	41	Marc	Dubois	64.35
11	48	Johannes	Van der Berg	65.34
12	15	Jennifer	Peterson	66.33
13	23	John	Gordon	66.33
14	52	Emma	Jones	68.31
15	11	Alexandre	Rocha	69.3
16	32	Aaron	Mitchell	70.29
17	24	Frank	Delano	71.28

✓ Query executed successfully.



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Set-2

Q1: Write query to return the email, first name, last name, & Genre of all Rock Music listeners.

Return your list ordered alphabetically by email starting with A */

```
select distinct email,first_name,last_name
from customer
join invoice on invoice.customer_id=customer.customer_id
join invoice_line on invoice_line.invoice_id=invoice.invoice_id
join track on track.track_id=invoice_line.track_id
join genre on genre.genre_id=track.track_id
where genre.name like 'rock'
order by email
```

	email	first_name	last_name
1	aaronmitchell@yahoo.ca	Aaron	Mitchell
2	johavanderberg@yahoo.nl	Johannes	Van der Berg
3	kachase@hotmail.com	Kathy	Chase
4	phil.hughes@gmail.com	Phil	Hughes
5	stanisÅ,aw.wÅ¸jcik@wp.pl	StanisÅ,aw	WÅ¸jcik
6	steve.murray@yahoo.uk	Steve	Murray
7	terhi.hamalainen@apple.fi	Terhi	HÅ¸mÅ¸inen
8	wyatt.girard@yahoo.fr	Wyatt	Girard



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/*Q2: Let's invite the artists who have written the most rock music in our dataset. Write a query that returns the Artist name and total track count of the top 10 rock bands */

```
select artist.artist_id,artist.name,count(artist.artist_id) as  
number_of_songs  
from track  
join album on album.album_id=track.album_id  
join artist on artist.artist_id=album.artist_id  
join genre on genre.genre_id=track.genre_id  
where genre.name like 'rock'  
group by artist.artist_id,artist.name  
order by number_of_songs desc
```

	artist_id	name	number_of_songs
1	22	Led Zeppelin	113
2	150	U2	112
3	58	Deep Purple	89
4	90	Iron Maiden	81
5	118	Pearl Jam	54
6	152	Van Halen	46
7	51	Queen	45
8	142	The Rolling Stones	41
9	76	Creedence Clearwater Revival	40
10	52	Kiss	35
11	84	Foo Fighters	33
12	127	Red Hot Chili Peppers	31
13	100	Lenny Kravitz	30



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/* Q3: Return all the track names that have a song length longer than the average song length.
Return the Name and Milliseconds for each track. Order by the song length with the longest songs listed first*/

```
select name,milliseconds
from track
where milliseconds >(select avg(milliseconds) as
avg_track_length from track)
order by milliseconds desc
```

	name	milliseconds
1	Occupation / Precipice	5286953
2	Through a Looking Glass	5088838
3	Greetings from Earth, Pt. 1	2960293
4	The Man With Nine Lives	2956998
5	Battlestar Galactica, Pt. 2	2956081
6	Battlestar Galactica, Pt. 1	2952702
7	Murder On the Rising Star	2935894
8	Battlestar Galactica, Pt. 3	2927802
9	Take the Celestra	2927677
10	Fire In Space	2926593
11	The Long Patrol	2925008
12	The Magnificent Warriors	2924716
13	The Living Legend, Pt. 1	2924507
14	The Gun On Ice Planet Zero, Pt. 2	2924341
15	The Hand of God	2924007
16	Experiment In Terra	2923548
17	Wings of the Gods, Pt. 2	2922281

✔ Query executed successfully.



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/*Q1: We want to find out the most popular music Genre for each country. We determine the most popular genre as the genre with the highest amount of purchases.
Write a query that returns each country along with the top Genre.
For countries where the maximum number of purchases is shared return all Genres.
Steps to Solve: There are two parts in question- first most popular music genre and second need data at country level.*/

```
SELECT
    COUNT(invoice_line.quantity) AS purchases,
    customer.country,
    genre.name,
    genre.genre_id,
    ROW_NUMBER() OVER(PARTITION BY customer.country ORDER BY
COUNT(invoice_line.quantity) DESC) AS rowno
FROM
    invoice_line
JOIN
    invoice ON invoice.invoice_id = invoice_line.invoice_id
JOIN
    customer ON customer.customer_id = invoice.customer_id
JOIN
    track ON track.track_id = invoice_line.track_id
JOIN
    genre ON genre.genre_id = track.genre_id
GROUP BY
    customer.country, genre.name, genre.genre_id
ORDER BY
    customer.country ASC, purchases DESC
)
```



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/* Q2. Find how much amount spent by each customer on artists? Write a query to return

customer name, artist name and total spent*/

```
with best_selling_artist as (  
  select artist.artist_id as artist_id, artist.name as artist_name,  
         sum(invoice_line.unit_price*invoice_line.quantity) as total_sales  
  from invoice_line  
 join track on track.track_id=invoice_line.track_id  
 join album on album.album_id= track.album_id  
 join artist on artist.artist_id= album.artist_id  
 group by artist.artist_id,artist.name  
 order by total_sales desc  
)  
select c.customer_id,c.first_name,c.last_name,bsa.artist_name ,  
       sum(il.unit_price*il.quantity) as amount_spent  
from invoice i  
join customer c on c.customer_id=i.customer_id  
join invoice_line il on il.invoice_id=i.invoice_id  
join track t on t.track_id=il.track_id  
join album alb on alb.album_id=t.album_id  
join best_selling_artist bsa on bsa.artist_id=alb.artist_id  
group by c.customer_id,c.first_name,c.last_name,bsa.artist_name  
order by amount_spent ;
```



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