



MUSIC STORE

DATA ANALYSIS PROJECT

Presentation By

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ABOUT MUSIC STORE



Objective:

To gain insights into the music store's performance by identifying

- Popular genres, artists, tracks, and albums
- Revenue contributions from different categories
- Loyal customer behaviors
- Key trends and patterns to inform business strategies

Key Analysis:

- Popularity Metrics: Determine which genres, artists, tracks, and albums are the most popular among customers.

- Revenue Analysis: Identify which categories generate the highest revenue and understand the factors driving sales.

- Customer Loyalty: Analyze customer purchase patterns to identify loyal customers and their preferences.

- Business Optimization: Provide actionable insights to help improve business operations, marketing strategies, and customer engagement.

By leveraging data from all relevant tables, this project aims to provide a detailed understanding of the music store's performance, helping to make data-driven decisions to enhance overall business growth and customer satisfaction.

NUMBER OF TABLES

11

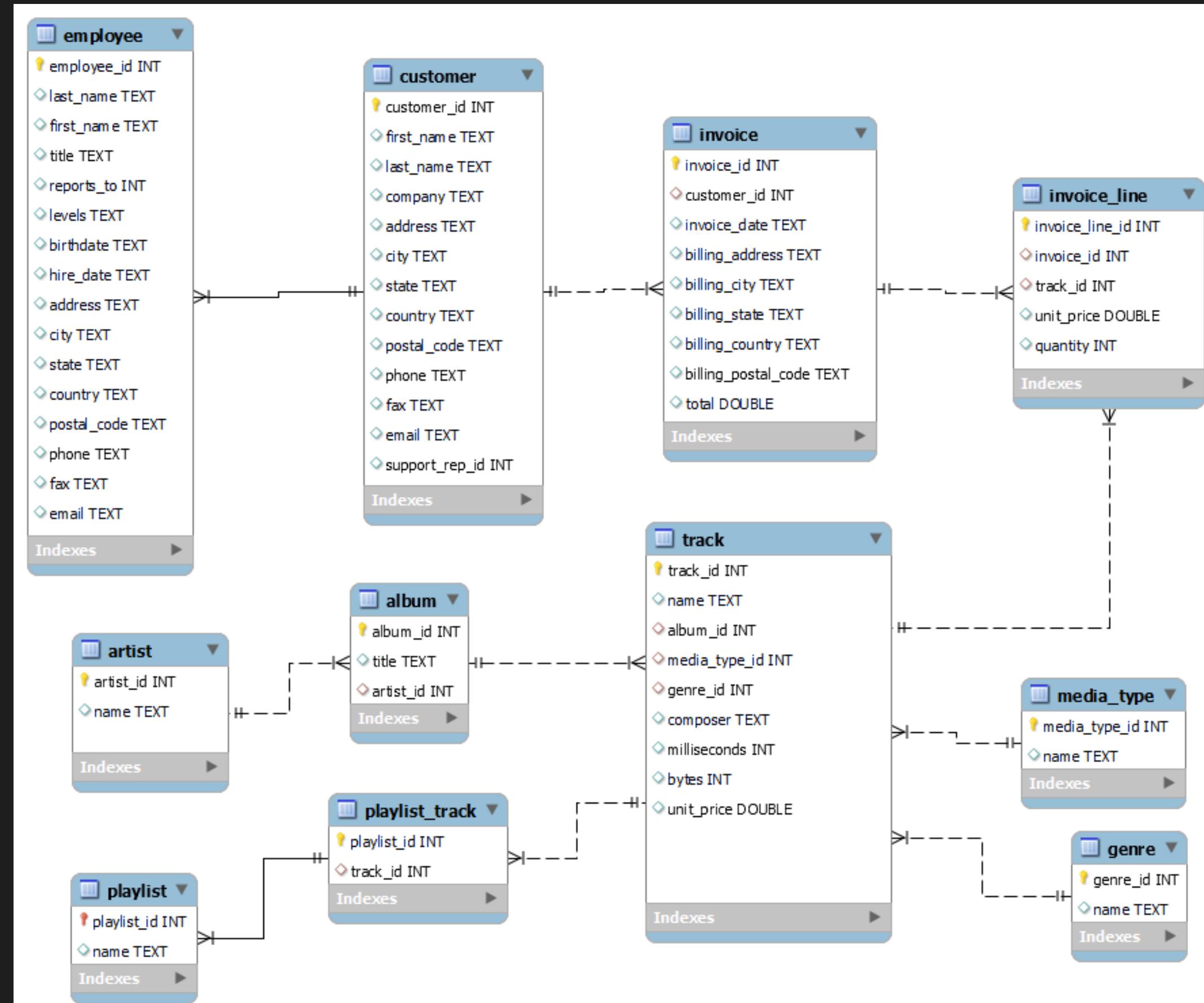


MYSQL DATABASE SCHEMA

CODE



OUTPUT





Music Store Data Analysis

1. WHO IS THE SENIOR MOST EMPLOYEE BASED ON JOB TITLE?

CODE

```
SELECT
*
FROM
EMPLOYEE
ORDER BY LEVELS DESC
LIMIT 1;
```



OUTPUT

	employee_id	last_name	first_name	title	reports_to	levels	birthdate	hire_date	address	city	state	country
▶	9	Madan	Mohan	Senior General Manager	NULL	L7	26-01-1961 00:00	14-01-2016 00:00	1008 Vrinda Ave MT	Edmonton	AB	Canada





Music Store Data Analysis

2. WHICH COUNTRIES HAVE THE MOST INVOICES?

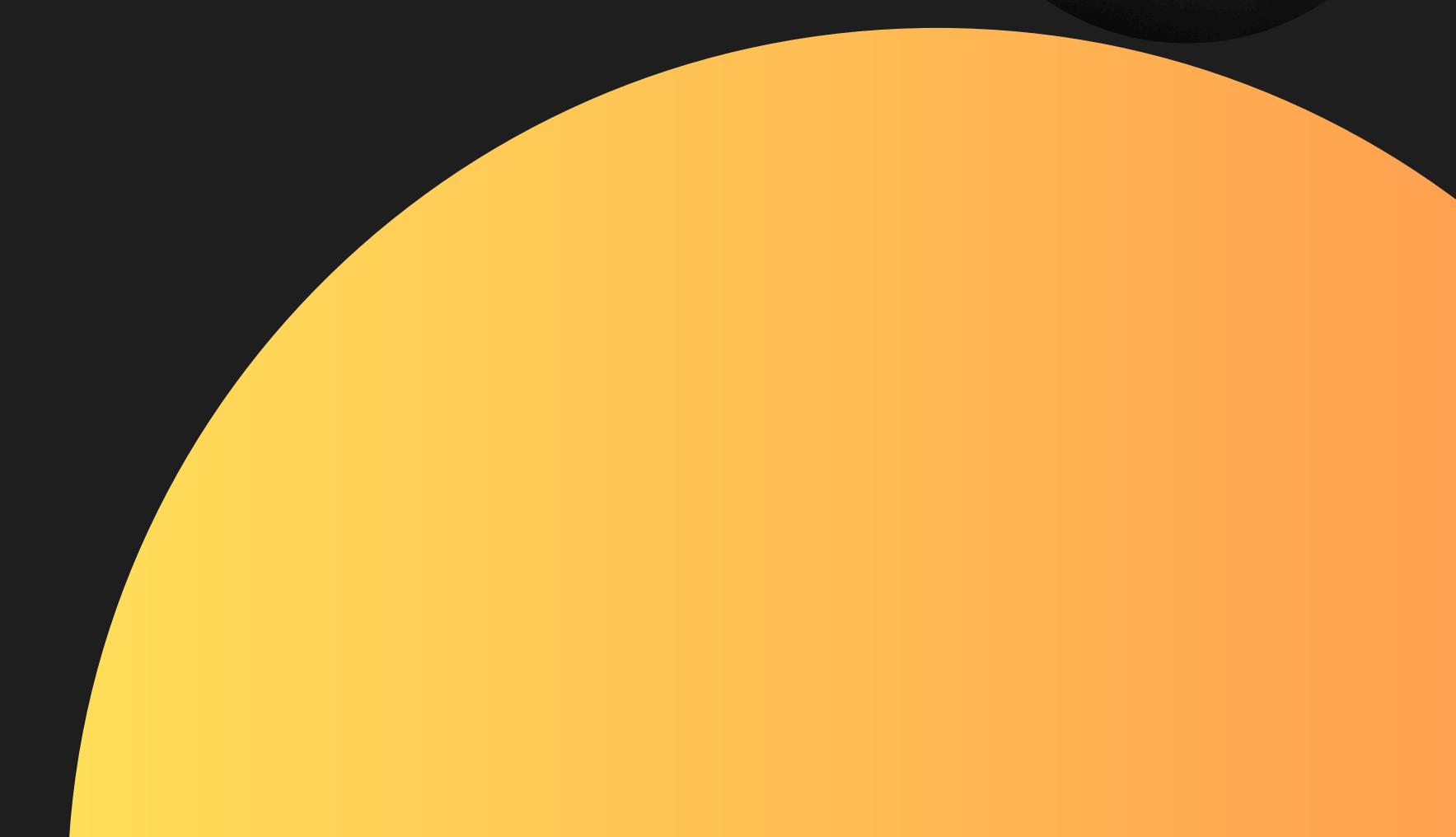
CODE

```
SELECT  
    BILLING_COUNTRY, COUNT(*) AS MOST_INVOICES_COUNTRY  
FROM  
    INVOICE  
GROUP BY BILLING_COUNTRY  
ORDER BY MOST_INVOICES_COUNTRY DESC;
```



OUTPUT

BILLING_COUNTRY	MOST_INVOICES_COUNTRY
USA	131
Canada	76
Brazil	61
France	50
Germany	41
Czech Republic	30
Portugal	29
United Kingdom	28
India	21
Ireland	13
Chile	13
Finland	11





Music Store Data Analysis

3. WHAT ARE TOP 3 VALUES OF TOTAL INVOICE?

CODE

```
SELECT  
    TOTAL  
FROM  
    INVOICE  
ORDER BY TOTAL DESC  
LIMIT 3;
```

OUTPUT

	TOTAL
▶	23.759999999999998
	19.8
	19.8





Music Store Data Analysis

4. DETERMINE THE BEST CITY FOR A PROMOTIONAL MUSIC FESTIVAL BY FINDING THE CITY WITH THE HIGHEST TOTAL INVOICE REVENUE.
WRITE A QUERY TO RETURN THE CITY NAME AND THE SUM OF ALL INVOICE TOTALS.

CODE

```
SELECT  
    BILLING_CITY, ROUND(SUM(TOTAL), 2) AS INVOICE_TOTAL  
FROM  
    INVOICE  
GROUP BY BILLING_CITY  
ORDER BY INVOICE_TOTAL DESC;
```



OUTPUT

BILLING_CITY	INVOICE_TOTAL
Prague	273.24
Mountain View	169.29
London	166.32
Berlin	158.4
Paris	151.47
São Paulo	129.69
Dublin	114.84
Delhi	111.87
São José dos Campos	108.9
Brasília	106.92
Lisbon	102.96
Bordeaux	99.99





Music Store Data Analysis

5. FIND THE BEST CUSTOMER BY TOTAL SPENDING. WRITE A QUERY TO RETURN THE CUSTOMER WHO SPENT THE MOST MONEY.

CODE

```
SELECT  
    C.CUSTOMER_ID, C.FIRST_NAME, C.LAST_NAME, ROUND(SUM(TOTAL),2) AS MONEY_SPENT  
FROM  
    CUSTOMER AS C  
    JOIN  
    INVOICE AS I ON C.CUSTOMER_ID = I.CUSTOMER_ID  
GROUP BY C.CUSTOMER_ID  
ORDER BY MONEY_SPENT DESC LIMIT 1;
```



OUTPUT

	CUSTOMER_ID	FIRST_NAME	LAST_NAME	MONEY_SPENT
▶	5	František	Wichterlová	144.54





Music Store Data Analysis

6. RETURN EMAIL, FIRST NAME, LAST NAME, AND GENRE OF ALL ROCK MUSIC LISTENERS, ORDERED ALPHABETICALLY BY EMAIL.

CODE



```
SELECT DISTINCT
    C.EMAIL, C.FIRST_NAME, C.LAST_NAME
FROM
    CUSTOMER AS C
    JOIN
    INVOICE AS I ON C.CUSTOMER_ID = I.CUSTOMER_ID
    JOIN
    INVOICE_LINE AS IL ON I.INVOICE_ID = IL.INVOICE_ID
WHERE
    TRACK_ID IN (SELECT
                    TRACK_ID
                FROM
                    TRACK AS T
                    JOIN
                    GENRE AS G ON T.GENRE_ID = G.GENRE_ID
                WHERE
                    G.NAME LIKE 'Rock')
ORDER BY EMAIL;
```

	EMAIL	FIRST_NAME	LAST_NAME
▶	aaronmitchell@yahoo.ca	Aaron	Mitchell
	alero@uol.com.br	Alexandre	Rocha
	astrid.gruber@apple.at	Astrid	Gruber
	bjorn.hansen@yahoo.no	Bjørn	Hansen
	camille.bernard@yahoo.fr	Camille	Bernard
	daan_peeters@apple.be	Daan	Peeters
	diego.gutierrez@yahoo.ar	Diego	Gutiérrez
	dmiller@comcast.com	Dan	Miller
	dominiquelefrevre@gmail.com	Dominique	Lefebvre
	edfrancis@yahoo.ca	Edward	Francis
	eduardo@woodstock.com.br	Eduardo	Martins
	ellie.sullivan@shaw.ca	Ellie	Sullivan

OUTPUT





Music Store Data Analysis

7. RETURN THE TOP 10 ROCK ARTISTS AND THEIR TRACK COUNT

CODE



```
SELECT
    A.ARTIST_ID, A.NAME, COUNT(A.ARTIST_ID) AS TOTAL_TRACK_COUNT
FROM
    TRACK AS T
    JOIN
    ALBUM AS AB ON AB.ALBUM_ID = T.ALBUM_ID
    JOIN
    ARTIST AS A ON A.ARTIST_ID = AB.ARTIST_ID
    JOIN
    GENRE AS G ON G.GENRE_ID = T.GENRE_ID
WHERE
    G.NAME LIKE 'Rock'
GROUP BY A.ARTIST_ID
ORDER BY TOTAL_TRACK_COUNT DESC
LIMIT 10;
```

OUTPUT

	ARTIST_ID	NAME	TOTAL_TRACK_COUNT
▶	1	AC/DC	18
	3	Aerosmith	15
	8	Audioslave	14
	22	Led Zeppelin	14
	4	Alanis Morissette	13
	5	Alice In Chains	12
	23	Frank Zappa & Captain Beefheart	9
	2	Accept	4





Music Store Data Analysis

8. RETURN TRACK NAMES AND LENGTHS LONGER THAN AVERAGE, ORDERED BY LENGTH DESCENDING.

CODE

```
SELECT  
    NAME, MILLISECONDS AS LENGTH_OF_SONG  
FROM  
    TRACK  
WHERE  
    MILLISECONDS > (SELECT  
        AVG(MILLISECONDS) AS AVG_LENGTH  
    FROM  
        TRACK)  
ORDER BY LENGTH_OF_SONG DESC;
```



OUTPUT

	NAME	LENGTH_OF_SONG
▶	How Many More Times	711836
	Advance Romance	677694
	Sleeping Village	644571
	You Shook Me(2)	619467
	Talkin' 'Bout Women Obviously	589531
	Stratus	582086
	No More Tears	555075
	The Alchemist	509413
	Wheels Of Confusion / The Straightener	494524
	Book Of Thel	494393
	You Oughta Know (Alternate)	491885
	Terra	482429





Music Store Data Analysis

9. RETURN CUSTOMER NAME, ARTIST NAME, AND TOTAL AMOUNT SPENT BY EACH CUSTOMER.

CODE

```
SELECT  
    C.FIRST_NAME AS Customer_First_Name,  
    C.LAST_NAME AS Customer_Last_Name,  
    AR.NAME AS Artist_Name,  
    ROUND(SUM(IL.UNIT_PRICE * IL.QUANTITY), 2) AS Total_Spent  
  
FROM  
    CUSTOMER AS C  
        JOIN INVOICE AS I ON C.CUSTOMER_ID = I.CUSTOMER_ID  
        JOIN INVOICE_LINE AS IL ON I.INVOICE_ID = IL.INVOICE_ID  
        JOIN TRACK AS T ON IL.TRACK_ID = T.TRACK_ID  
        JOIN ALBUM AS AL ON T.ALBUM_ID = AL.ALBUM_ID  
        JOIN ARTIST AS AR ON AL.ARTIST_ID = AR.ARTIST_ID  
  
GROUP BY AR.ARTIST_ID , C.CUSTOMER_ID  
  
ORDER BY Total_Spent DESC , C.FIRST_NAME , C.LAST_NAME , AR.NAME;
```



OUTPUT

	Customer_First_Name	Customer_Last_Name	Artist_Name	Total_Spent
▶	Steve	Murray	AC/DC	17.82
	Jennifer	Peterson	Aerosmith	14.85
	Mark	Taylor	Aerosmith	14.85
	Fernanda	Ramos	Antônio Carlos Jobim	13.86
	Leonie	Kähler	Audioslave	13.86
	Edward	Francis	Alanis Morissette	12.87
	Emma	Jones	Alanis Morissette	12.87
	João	Fernandes	Alanis Morissette	12.87
	Victor	Stevens	Alice In Chains	11.88
	Kathy	Chase	AC/DC	10.89
	Phil	Hughes	AC/DC	10.89
	Stanisław	Wąsik	Buddy Guy	10.89





Music Store Data Analysis

10. FIND MOST POPULAR MUSIC GENRE, BY COUNTRY AND ITS COUNT

CODE

```
WITH PURCHASE_CTE AS (
    SELECT
        COUNTRY,
        G.NAME AS GENRE_NAME,
        COUNT(*) AS PURCHASE_COUNT,
        RANK() OVER (PARTITION BY COUNTRY ORDER BY COUNT(*) DESC) AS RANK_NUM
    FROM
        INVOICE AS I
    JOIN CUSTOMER AS C ON I.CUSTOMER_ID = C.CUSTOMER_ID
    JOIN INVOICE_LINE AS IL ON I.INVOICE_ID = IL.INVOICE_ID
    JOIN TRACK AS T ON IL.TRACK_ID = T.TRACK_ID
    JOIN GENRE AS G ON T.GENRE_ID = G.GENRE_ID
    GROUP BY
        COUNTRY, G.NAME
)
SELECT
    COUNTRY,
    GENRE_NAME AS TOP_GENRE, PURCHASE_COUNT
FROM
    PURCHASE_CTE
WHERE
    Rank_NUM = 1
ORDER BY
    COUNTRY;
```

OUTPUT

	COUNTRY	TOP_GENRE	PURCHASE_COUNT
▶	Argentina	Rock	1
	Australia	Rock	18
	Austria	Rock	6
	Belgium	Rock	5
	Brazil	Rock	26
	Canada	Rock	57
	Chile	Rock	7
	Czech Republic	Rock	14
	Denmark	Rock	6
	Finland	Rock	6
	France	Rock	26
	Germany	Rock	28



Music Store Data Analysis

11. TOP MUSIC SPENDERS BY COUNTRY WISE ALONG WITH TOTAL SPENDING

CODE

```
WITH CUSTOMER_CTE AS (
    SELECT
        C.CUSTOMER_ID,
        FIRST_NAME,
        LAST_NAME,
        BILLING_COUNTRY,
        ROUND(SUM(I.TOTAL),2) AS TOTAL_SPENDING,
        ROW_NUMBER() OVER(PARTITION BY BILLING_COUNTRY ORDER BY SUM(I.TOTAL) DESC) AS ROW_NO
    FROM
        INVOICE AS I
    JOIN CUSTOMER AS C ON C.CUSTOMER_ID = I.CUSTOMER_ID
    GROUP BY
        C.CUSTOMER_ID,FIRST_NAME,LAST_NAME,BILLING_COUNTRY
)
SELECT * FROM CUSTOMER_CTE WHERE ROW_NO =1 ORDER BY BILLING_COUNTRY;
```

OUTPUT

	CUSTOMER_ID	FIRST_NAME	LAST_NAME	BILLING_COUNTRY	TOTAL_SPENDING	ROW_NO
▶	56	Diego	Gutiérrez	Argentina	39.6	1
	55	Mark	Taylor	Australia	81.18	1
	7	Astrid	Gruber	Austria	69.3	1
	8	Daan	Peeters	Belgium	60.39	1
	1	Luís	Gonçalves	Brazil	108.9	1
	3	François	Tremblay	Canada	99.99	1
	57	Luis	Rojas	Chile	97.02	1
	5	František	Wichterlová	Czech Republic	144.54	1
	9	Kara	Nielsen	Denmark	37.62	1
	44	Terhi	Hämäläinen	Finland	79.2	1
	42	Wyatt	Girard	France	99.99	1
	27	Eugen	Zimmermann	Germany	94.95	1



CONCLUSION

Music Sales Analysis

- High sales activity in USA (131 invoices)
- Top invoice value: \$23.75
- Prague City: Highest spending city (\$273.24)

Top Spenders & Customer Preferences

- Top spender: Frantiaiek Wichterlovai (\$144.54)
- Most popular genre: Rock (AC/DC with 18 tracks)
- Canada leads in Rock purchases (57)

Recommendations

- **Targeted Promotions:** Offer discounts or bundles for Rock fans in Canada.
- **High-Spender Incentives:** Reward programs or loyalty benefits for top spenders like Frantiaiek Wichterlovai.
- **Location-Based Marketing:** Promote music based on local preferences (e.g., highlight Rock in Canada, explore Prague's tastes).
- **Artist/Genre Insights:** Analyze correlations between artists and genres to suggest complementary purchases.



THANK YOU

