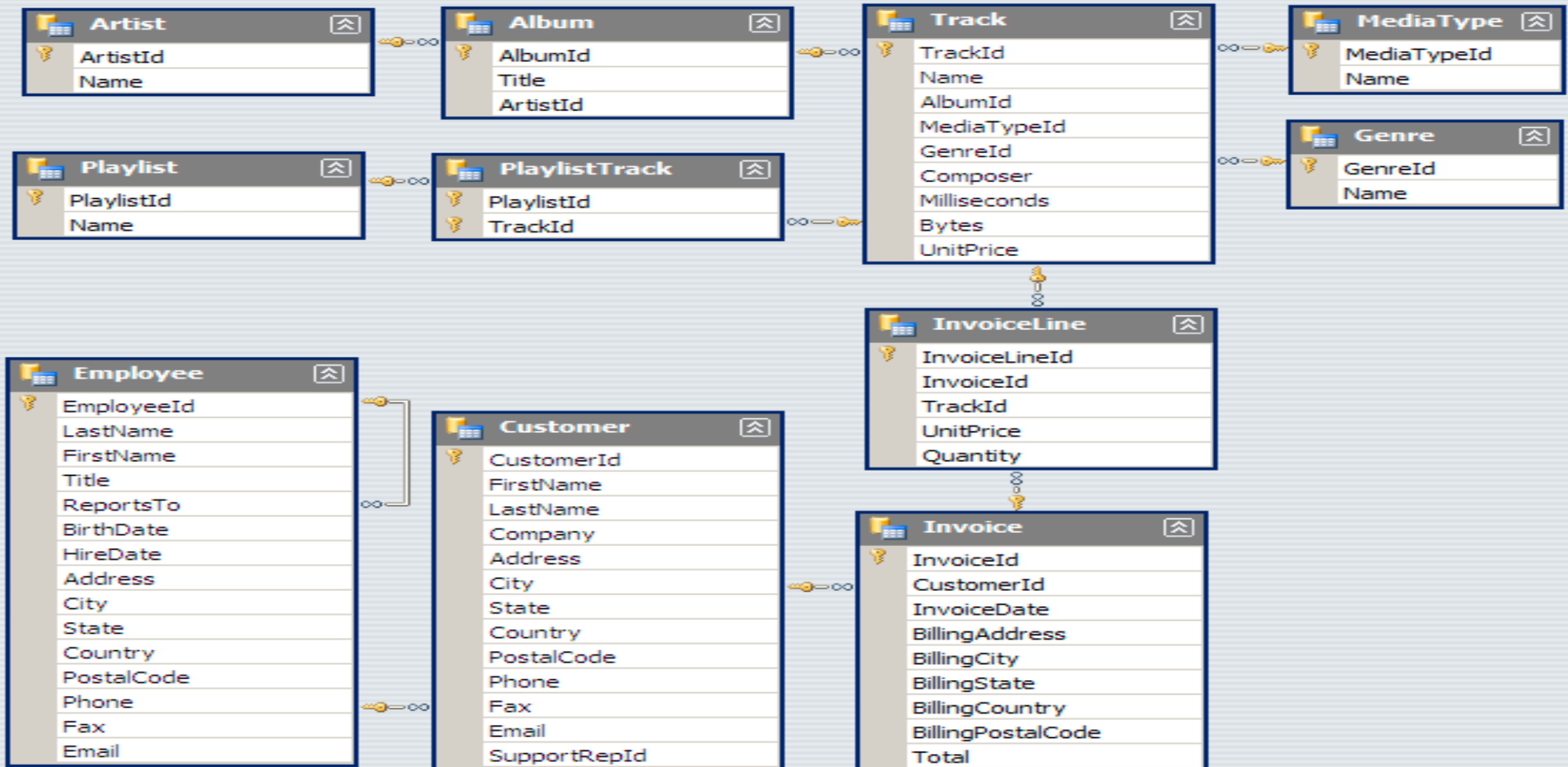
The background of the slide is a dark, textured surface with a pattern of faint, golden-brown musical notes and staves. The notes are scattered across the frame, creating a sense of movement and rhythm. The text is centered and stands out prominently against this background.

SQL DATA ANALYSIS PROJECT

**PROJECT BY
MEHDI HASSAN**

MUSIC DATABASE SCHEMA



1. Who is the senior most employee based on job title?

Query:

```
select employee_id, concat(first_name," ",last_name) as name,  
title, levels from employee  
order by levels desc limit 1;
```

Output:

employee_id	name	title	levels
9	Mohan Madan	Senior General Manager	L7

PROJECT BY
MEHDI HASSAN

2. What are the top 5 countries with the most Invoices?

Query:

```
select billing_country,count(invoice_id) as number_of_invoices from invoice  
group by billing_country order by number_of_invoices desc limit 5;
```

Output:

billing_country	number_of_invoices
USA	131
Canada	76
Brazil	61
France	50
Germany	41

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MEHDI HASSAN

3. What are the top 3 values of the total invoice?

Query:

```
select total from invoice order by total desc limit 3;
```

Output:

total
24
20
20

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MEHDI HASSAN

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 total. Return both the city name & sum of all invoice totals.

Query:

```
select billing_city, sum(total) as invoice_total from invoice  
group by billing_city order by invoice_total desc limit 1;
```

Output:

billing_city	invoice_total
Prague	276

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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.

Query:

```
select c.customer_id, concat(first_name," ",last_name) as customer_name, sum(total) as total_money_spent
from customer c join invoice i on c.customer_id = i.customer_id
group by c.customer_id, customer_name order by total_money_spent desc limit 1;
```

Output:

customer_id	customer_name	total_money_spent
5	Frantisek Winchester	146

PROJECT BY
MEHDI HASSAN

6. 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.

Query:

```
select distinct email,first_name,last_name,g.name from customer c
join invoice i 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 genre g on g.genre_id=t.genre_id
where g.name = "Rock" order by email;
```

Output:

email	first_name	last_name	name
aaronmitchell@yahoo.ca	Aaron	Mitchell	Rock
alero@uol.com.br	Alexandre	Rocha	Rock
astrid.gruber@apple.at	Astrid	Gruber	Rock
bjorn.hansen@yahoo.no	Björn	Hansen	Rock
camille.bernard@yahoo.fr	Camille	Bernard	Rock
daan_peeters@apple.be	Daan	Peeters	Rock
diego.gutierrez@yahoo.ar	Diego	Gutiérrez	Rock
dmiller@comcast.com	Dan	Miller	Rock
.			
.			
.			
tgoyer@apple.com	Tim	Goyer	Rock
vstevens@yahoo.com	Victor	Stevens	Rock
wyatt.girard@yahoo.fr	Wyatt	Girard	Rock

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7. Lets 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.

Query:

```
select ar.artist_id,ar.name,count(ar.artist_id) as track_count from artist ar
join album al on ar.artist_id=al.artist_id
join track t on t.album_id = al.album_id
join genre g on g.genre_id=t.genre_id
where g.name = "Rock"
group by ar.artist_id,ar.name order by track_count desc limit 10;
```

Output:

artist_id	name	track_count
22	Led Zeppelin	114
150	U2	112
58	Deep Purple	92
90	Iron Maiden	81
118	Pearl Jam	54
152	Van Halen	52
51	Queen	45
142	The Rolling Stones	41
76	Creedence Clearwater Revival	40
52	Kiss	35

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8. 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 longest songs listed first.

Query:

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

Output:

name	milliseconds
Occupation / Precipice	5286953
Through a Looking Glass	5088838
Greetings from Earth Pt. 1	2960293
The Man With Nine Lives	2956998
Battlestar Galactica Pt. 2	2956081
.	
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.	
22 Acacia Avenue	395572
The Unforgiven II	395520
The Shortest Straw	395389
Concerto for Clarinet in A Major K. 622: II. Adagio	394482

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9. Find how much amount spent by each customer on artists? Write a query to return customer name, artist name and total spent.

Query:

```
select concat(first_name," ",last_name) as customer_name,ar.name as artist_name,
sum(il.unit_price*quantity) as total_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 t.track_id = il.track_id
join album a on a.album_id=t.album_id
join artist ar on ar.artist_id =a.artist_id
group by customer_name, artist_name order by total_spent desc;
```

Output:

customer_name	artist_name	total_spent
Hugh O'Reilly	Queen	28
Wyatt Girard	Frank Sinatra	24
François Tremblay	The Who	20
Helena Holm	Red Hot Chili Peppers	20
Aaron Mitchell	James Brown	20
Robert Brown	Creedence Clearwater Revival	20
.	.	.
Roberto Almeida	Rush	1
Manoj Pareek	U2	1

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10. We want to find out the most popular music Genre for each country. We determine the most popular genre as the genre with highest amount of purchases. Write a query that returns each country along with the top Genre.

Query:

```
with cte as (select i.billing_country as country,g.name as genre_name, count(g.genre_id) as total_number_of_purchase,
row_number() over(partition by i.billing_country order by count(g.genre_id) desc) as rnk
  from Invoice i join invoice_line il on i.invoice_id=il.invoice_id
join track t on t.track_id=il.track_id
join genre g on g.genre_id=t.genre_id
group by billing_country,g.name order by country,total_number_of_purchase desc)
select cte.country,cte.genre_name, cte.total_number_of_purchase from cte where rnk=1
order by cte.country;
```

Output:

country	genre_name	total_number_of_purchase
Argentina	Alternative & Punk	17
Australia	Rock	34
Austria	Rock	39
Belgium	Rock	26
Brazil	Rock	203
Canada	Rock	326
.	.	.
.	.	.
.	.	.
Sweden	Rock	60
United Kingdom	Rock	146
USA	Rock	544

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11. Write a query that determines the customer that has spent the most on music for each country. Write a query that returns the country along with the top customer and how much they spent.

Query:

```
with cte as (select c.country as country,concat(first_name," ",last_name) as customer,sum(quantity*t.unit_price) as total_spent,
row_number() over(partition by c.country order by sum(quantity*t.unit_price) desc) as rnk
  from customer c join invoice i 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
 group by c.country,customer)
select cte.country,customer,total_spent from cte where rnk=1;
```

Output:

country	customer	total_spent
Argentina	Diego Guti��rrez	39
Australia	Mark Taylor	82
Austria	Astrid Gruber	69
Belgium	Daan Peeters	61
Brazil	Lu��s Gon��salves	110
Canada	Fran��ois Tremblay	101
	.	
	.	
	.	
Sweden	Joakim Johansson	76
United Kingdom	Phil Hughes	89
USA	Jack Smith	98

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