Project-2
Music store data analysis by SQL

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01 Who is the senior most employee based on job title?

```sql
select * from employee
order by levels desc
limit 1
```

employee_id	last_name	first_name	title	reports_to
[PK] character varying (50)	character	character	character varying (50)	character varying (30)

02 Which country has the most Invoices?

```sql
select count(*) as c, billing_country
from invoice
group by billing_country
order by c des
```

c bigint	billing_country character varying (30)
131	USA
76	Canada
61	Brazil

03 What are top 3 Values of total invoice?

```sql
Select total from invoice
order by total desc
limit 3
```

total double precision 🔒
23.759999999999998
19.8
19.8

04 Which city has the best customers?

```sql
select sum(total) as invoice_total, billing_city from invoice
group by billing_city
order by invoice_total desc
limit 3
```

invoice_total double precision 🔒	billing_city character varying (30) 🔒
273.2400000000007	Prague
169.29	Mountain View
166.32	London

05

Who is the best customer?

```sql
select customer.customer_id, customer.first_name, customer.last_name,
sum(invoice.total) as t from customer
join invoice on customer.customer_id = invoice.customer_id
group by customer.customer_id
order by t desc
limit 5
```

customer_id [PK] integer	first_name character		last_name character		t double precision
5	R		Madhav		144.54000000000002
6	Helena	...	Holý		128.7
46	Hugh	...	O'Reilly		114.83999999999997
58	Manoj	...	Pareek		111.86999999999999
1	Luís		Gonçalves		108.89999999999998

06 Write query to return the email, first name, last name and genre of al Rock Music listeners.

```sql
select distinct email, first_name, last_name from customer
join invoice on customer.customer_id = invoice.customer_id
join invoice_line on invoice.invoice_id = invoice_line.invoice_id
where track_id in(
    select track_id from track
    join genre on track.genre_id = genre.genre_id
    where genre.name like 'Rock'
)
order by email;
```

email character varying (50)	first_name character	last_name character
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
dominiquelefebvre@gmail.c...	Dominique	Lefebvre

07 Lets invite the artists who have written the most rock music in our dataset

```sql
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
order by number_of_songs desc
Limit 10;
```

artist_id [PK] character varying (50)	name character varying (120)	number_of_songs bigint
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

08 We want to find out the most popular music genre for each country

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

name character varying (150) 🔒	milliseconds 🔒 integer
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
Battlestar Galactica, Pt. 1	2952702
Murder On the Rising Star	2935894
Battlestar Galactica, Pt. 3	2927802
Take the Celestra	2927677

09 Find how much amount spent by each customer on artist?

```sql
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 1
    order by 3 desc
    limit 1
)

select cs.customer_id, cs.first_name, cs.last_name, bsa.artist_name, sum(il.unit_price*il.quantity)as amount_spent
from invoice i
join customer cs on cs.customer_id = i.customer_id
join invoice_line il on il.invoice_id = i.invoice_id
join track tr on tr.track_id = il.track_id
join album alb on alb.album_id = tr.album_id
join best_selling_artist bsa on bsa.artist_id = alb.artist_id
group by 1,2,3,4
order by 5 desc;
```

customer_id integer	first_name character	last_name character	artist_name character varying (120)	amount_spent double precision
46	Hugh	O'Reilly	Queen	27.719999999999985
38	Niklas	Schröder	Queen	18.81
3	François	Tremblay	Queen	17.82
34	João	Fernandes	Queen	16.830000000000002
53	Phil	Hughes	Queen	11.88
41	Marc	Dubois	Queen	11.88
47	Lucas	Mancini	Queen	10.89
33	Ellie	Sullivan	Queen	10.89
20	Dan	Miller	Queen	3.96

10 We want to find out the most popular music genre for each country

```sql
with popular_genre as(
    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 2,3,4
    order by 2 asc, 1 desc
)
select *from popular_genre where RowNo<=1
```

purchases bigint	country character varying (50)	name character varying (120)	genre_id character varying (50)	rowno bigint
17	Argentina	Alternative & Punk	4	1
34	Australia	Rock	1	1
40	Austria	Rock	1	1
26	Belgium	Rock	1	1
205	Brazil	Rock	1	1
333	Canada	Rock	1	1
61	Chile	Rock	1	1
143	Czech Republic	Rock	1	1