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

```sql
select * from employee
ORDER by levels DESC
limit 1
```

Q2: Which countries has the most invoices ?

```sql
select COUNT(*) as c , billing_country
from invoice
group by billing_country
order by c DESC
```

Q3:What are top 3 values of total invoice ?

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

```sql
--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 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

--Q5:Who is the best customer ? The customer who has spent the most money will be declared as the best
--customer.
--Write a query that returns the person who has spent the most money.

select customer.customer_id, customer.first_name, customer.last_name, SUM(invoice.total)as total
from customer
join invoice on customer.customer_id = invoice.customer_id
group by customer.customer_id
order by total desc
limit 1

--Q6: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 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;
```

```sql
--Q7.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 rockk 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
order by number_of_songs desc
limit 10;

--Q8.Return all the track names that havea 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;
```

```sql
--Q9.Find how much amount spent by each customer on each 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 1
    order by 3 desc
    limit 1
 )
 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 1,2,3,4
 order by 5 desc;
```

```sql
--Q10.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 maximun number of purchases is shared return all Genres.

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


--Q11.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. For countries
--where the top amount spent is shared, provide all customers awho spent this amount

with recursive
    customer_with_country AS (
        select customer.customer_id,first_name,last_name,billing_country,Sum (total) As total_spending
        from invoice
        join customer on customer.customer_id = invoice.customer_id
        group by 1,2,3,4
        order by 2,3 desc),

        country_max_spending as (
             select billing_country,max(total_spending)as max_spending
             from customer_with_country
             group by billing_country)

select cc.billing_country, cc.total_spending, cc.first_name, cc.last_name, cc.customer_id
from customer_with_country cc
join country_max_spending ms
on cc.billing_country = ms.billing_country
where cc.total_spending = ms.max_spending
order by 1;
```