/\* Question Set 1 - Easy \*/

/\* 1. Who is the senior most employee based on jon title? \*/

select \* from employee

order by levels desc

limit 1;

/\* 2. Which countries have the most invoices? \*/

select billing\_country, count(\*) as most\_invoices from invoice

group by billing\_country

order by most\_invoices desc;

/\* 3. What are top 3 values of total invoice? \*/

select total from invoice

order by total desc

limit 3;

/\* 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. \*/

select billing\_city, sum(total) as invoice\_total from invoice

group by billing\_city

order by sum(total) desc

limit 1;

/\* 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. \*/

select customer.customer\_id,customer.first\_name,customer.last\_name,sum(invoice.total) from customer

inner join invoice

on customer.customer\_id=invoice.customer\_id

group by customer.customer\_id,customer.first\_name

order by sum(invoice.total) desc

limit 1;

/\* Question Set 2 - Moderate \*/

/\* 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 customer.email, customer.first\_name, customer.last\_name,genre.name from customer

inner join invoice

on customer.customer\_id=invoice.customer\_id

inner join invoice\_line

on invoice.invoice\_id=invoice\_line.invoice\_id

inner join track

on invoice\_line.track\_id=track.track\_id

inner join genre

on track.genre\_id=genre.genre\_id

where genre.name='Rock'

order by customer.email;

/\* 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 \* from artist;

select artist.name, count(track.track\_id) as total\_track from artist

inner join album

on artist.artist\_id=album.artist\_id

inner join track

on album.album\_id=track.album\_id

inner join genre

on track.genre\_id=genre.genre\_id

where genre.name like 'Rock'

group by artist.name

order by count(track\_id) desc

limit 10;

/\* 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 \* from track;

select name, milliseconds from track

where milliseconds>(select avg(milliseconds) as average\_song\_length from track)

order by milliseconds desc;

/\* Question Set 3 - Advance \*/

/\* Q1. 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 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;

/\* Q2. 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 return each country along

with the top Genre. For countries where the maximum 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

/\* Q3: 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 who spent this amount. \*/

/\* Steps to Solve: Similar to the above question. There are two parts in question-

first find the most spent on music for each country and second filter the data for respective customers. \*/

WITH Customter\_with\_country AS (

SELECT customer.customer\_id,first\_name,last\_name,billing\_country,SUM(total) AS total\_spending,

ROW\_NUMBER() OVER(PARTITION BY billing\_country ORDER BY SUM(total) DESC) AS RowNo

FROM invoice

JOIN customer ON customer.customer\_id = invoice.customer\_id

GROUP BY 1,2,3,4

ORDER BY 4 ASC,5 DESC)

SELECT \* FROM Customter\_with\_country WHERE RowNo <= 1