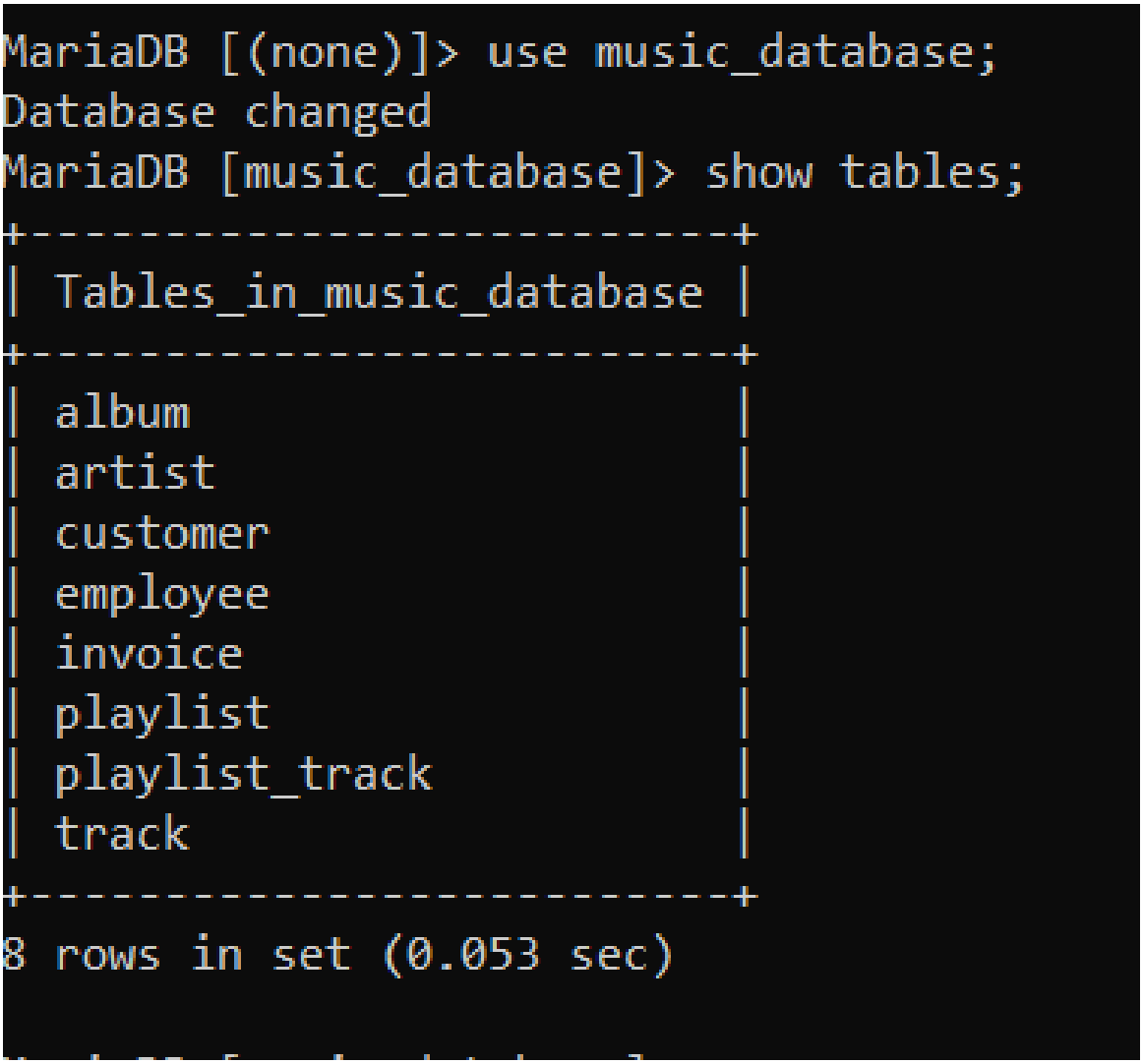
SQL PROJECT

First we have created the database and then created the tables. the name of the database is "music_database" .



- **Describe the tables…. We have 8 tables.**

```
MariaDB [music_database]> desc artist;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| artist_id | int(11)     | NO   | PRI | NULL    |       |
| name      | varchar(20) | YES  |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
2 rows in set (0.093 sec)

MariaDB [music_database]> desc album;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| album_id  | int(11)     | NO   | PRI | NULL    |       |
| title     | varchar(20) | YES  |     | NULL    |       |
| artist_id | int(11)     | YES  | MUL | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
3 rows in set (0.017 sec)

MariaDB [music_database]> desc customer;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| cust_id | int(11)     | NO   | PRI | NULL    |       |
| name    | varchar(20) | YES  |     | NULL    |       |
| city    | varchar(20) | YES  |     | NULL    |       |
| emp_id  | int(11)     | YES  | MUL | NULL    |       |
+---------+-------------+------+-----+---------+-------+
4 rows in set (0.021 sec)

MariaDB [music_database]> desc employee;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| emp_id | int(11)     | NO   | PRI | NULL    |       |
| name   | varchar(20) | YES  |     | NULL    |       |
| title  | varchar(20) | YES  |     | NULL    |       |
| dob    | date        | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
4 rows in set (0.019 sec)
```

```
MariaDB [music_database]> desc invoice;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| inv_id  | int(11)     | YES  |     | NULL    |       |
| date    | date        | YES  |     | NULL    |       |
| city    | varchar(20) | YES  |     | NULL    |       |
| total   | int(11)     | YES  |     | NULL    |       |
| cust_id | int(11)     | YES  | MUL | NULL    |       |
+---------+-------------+------+-----+---------+-------+
5 rows in set (0.019 sec)

MariaDB [music_database]> desc playlist;
+-------+-------------+------+-----+---------+-------+
| Field | Type        | Null | Key | Default | Extra |
+-------+-------------+------+-----+---------+-------+
| p_id  | int(11)     | NO   | PRI | NULL    |       |
| name  | varchar(20) | YES  |     | NULL    |       |
+-------+-------------+------+-----+---------+-------+
2 rows in set (0.017 sec)

MariaDB [music_database]> desc playlist_track;
+-------+---------+------+-----+---------+-------+
| Field | Type    | Null | Key | Default | Extra |
+-------+---------+------+-----+---------+-------+
| p_id  | int(11) | YES  | MUL | NULL    |       |
| t_id  | int(11) | YES  | MUL | NULL    |       |
+-------+---------+------+-----+---------+-------+
2 rows in set (0.015 sec)

MariaDB [music_database]> desc track;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| t_id     | int(11)     | NO   | PRI | NULL    |       |
| name     | varchar(20) | YES  |     | NULL    |       |
| composer | varchar(20) | YES  |     | NULL    |       |
| album_id | int(11)     | YES  | MUL | NULL    |       |
+----------+-------------+------+-----+---------+-------+
4 rows in set (0.013 sec)
```

 # Tables:-

```
MariaDB [music_database]> select * from artist;
+-----------+-----------+
| artist_id | name      |
+-----------+-----------+
|         1 | sonal     |
|         2 | Buddy Guy |
|         3 | shan      |
|         4 | sunidhi   |
|         5 | divya     |
|         6 | shreya    |
|         7 | hardy     |
|         8 | shekhar   |
|         9 | kk        |
|        10 | honey     |
+-----------+-----------+
10 rows in set (0.012 sec)

MariaDB [music_database]> select * from album;
+----------+-----------+-----------+
| album_id | title     | artist_id |
+----------+-----------+-----------+
|       11 | chidiya   |         5 |
|       12 | simba     |         8 |
|       13 | ssssss    |         1 |
|       14 | blue eyes |        10 |
|       15 | dheere    |        10 |
|       16 | zara      |         3 |
|       17 | hosana    |         9 |
|       18 | khkhkh    |         9 |
+----------+-----------+-----------+
8 rows in set (0.002 sec)

MariaDB [music_database]> select * from customer;
+---------+---------+----------+--------+
| cust_id | name    | city     | emp_id |
+---------+---------+----------+--------+
|       1 | Daan    | Reno     |    888 |
|       2 |  Smith  | Tucson   |    666 |
|       3 | Gray    | Vienne   |    333 |
|       4 | pqr     | Boston   |    333 |
|       5 | Ramos   | New York |    555 |
|       6 | Ramosss | New York |    111 |
|       7 | Brooks  | New York |    222 |
|       8 | Stevens | New York |    222 |
+---------+---------+----------+--------+
8 rows in set (0.002 sec)
```

```
MariaDB [music_database]> select * from playlist;
+------+---------------------+
| p_id | name                |
+------+---------------------+
|    1 | Heavy Metal Classic |
|    2 | Brazilian Music     |
|    3 | Classical           |
|    4 | Audiobooks          |
|    5 | Audiobooks          |
|    6 | Classical           |
+------+---------------------+
6 rows in set (0.007 sec)

MariaDB [music_database]> select * from playlist_track;
+------+------+
| p_id | t_id |
+------+------+
|    6 |    6 |
|    5 |    1 |
|    1 |    3 |
|    2 |    3 |
|    3 |    4 |
|    2 |    5 |
|    3 |    1 |
|    5 |    1 |
+------+------+
8 rows in set (0.002 sec)

MariaDB [music_database]> select * from invoice;
+--------+------------+----------------+---------+---------+
| inv_id | date       | city           | total   | cust_id |
+--------+------------+----------------+---------+---------+
|     11 | 2023-11-21 | Tucson         |   23456 |       4 |
|     22 | 2024-02-28 | Tucson         |    6434 |       7 |
|     33 | 2023-11-21 | Porto          |   23456 |       3 |
|     22 | 2024-02-28 | Paris          |   64345 |       6 |
|     66 | 2023-11-21 | Tucson         |  667886 |       3 |
|     55 | 2024-02-28 | Rio de Janeiro | 6434544 |       6 |
+--------+------------+----------------+---------+---------+
6 rows in set (0.002 sec)
```

```
MariaDB [music_database]> select * from track;
+------+-----------------+----------------------+----------+
| t_id | name            | composer             | album_id |
+------+-----------------+----------------------+----------+
|    1 | Fast As a Shark | Angus Young, Malcolm |       14 |
|    2 | Let's Get It Up | AC/DC                |       16 |
|    3 | Rag Doll        | AC/DC                |       16 |
|    4 | Overdose        | Steven Tyler         |       18 |
|    5 | C.O.D.          | Steven Tyler         |       12 |
|    6 | Amazing         | AC/DC                |       13 |
+------+-----------------+----------------------+----------+
6 rows in set (0.002 sec)
```

Queries:-

1) **Display name and title of all the employees.**

```
MariaDB [music_database]> select name , title from employee;
+---------+---------------------+
| name    | title               |
+---------+---------------------+
| xyz     | manager             |
| pqr     | supplier            |
| abc     | manager             |
| NULL    | ssskkk              |
| def     | weyt                |
| mno     | Sales Support Agent |
| King    | IT Staff            |
| Johnson | Sales Support Agent |
+---------+---------------------+
8 rows in set (0.002 sec)
```

2) Retrieve employee id of all employee from customer table without any repeats.

```
MariaDB [music_database]> select distinct emp_id from customer;
+--------+
| emp_id |
+--------+
|    111 |
|    222 |
|    333 |
|    555 |
|    666 |
|    888 |
+--------+
6 rows in set (0.007 sec)
```

3) Which cities have the most invoices?

```
MariaDB [music_database]> select count(*) as c,city from invoice group by city order by c desc;
+---+---------------+
| c | city          |
+---+---------------+
| 3 | Tucson        |
| 1 | Paris         |
| 1 | Rio de Janeiro |
| 1 | Porto         |
+---+---------------+
4 rows in set (0.018 sec)
```

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.**

```
MariaDB [music_database]> select city ,sum(total) AS InvoiceTotal from invoice group by city order by InvoiceTotal desc limit 1;
+----------------+--------------+
| city           | InvoiceTotal |
+----------------+--------------+
| Rio de Janeiro |      6434544 |
+----------------+--------------+
1 row in set (0.003 sec)
```

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.**

```
MariaDB [music_database]> select customer.cust_id,name,sum(total)as total_spending from customer join invoice on customer.cust_id = invoice.cust_id group by customer.cust_id order by total_spending desc limit 1;
+---------+---------+----------------+
| cust_id | name    | total_spending |
+---------+---------+----------------+
|       6 | Ramosss |        6498889 |
+---------+---------+----------------+
1 row in set (0.011 sec)
```

6) **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.**

```
MariaDB [music_database]> 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 GROUP BY artist.artist_id order by number_of_songs desc limit 4;
+-----------+---------+----------------+
| artist_id | name    | number_of_songs |
+-----------+---------+----------------+
|         3 | shan    |              2 |
|         9 | kk      |              1 |
|        10 | honey   |              1 |
|         8 | shekhar |              1 |
+-----------+---------+----------------+
4 rows in set (0.005 sec)
```

7) **Display the position of occurrence of the string “ing” in track names.**

```
MariaDB [music_database]> select name, instr('ing', name) as position from track where name like '%ing%' ;
+---------+----------+
| name    | position |
+---------+----------+
| Amazing |        0 |
+---------+----------+
1 row in set (0.000 sec)
```

8) Display the name of the weekday for the date of birth of invoices.

```
MariaDB [music_database]> select dayname(date) from invoice;
+---------------+
| dayname(date) |
+---------------+
| Tuesday       |
| Wednesday     |
| Tuesday       |
| Wednesday     |
| Tuesday       |
| Wednesday     |
+---------------+
6 rows in set (0.000 sec)
```

9) Display the values of name column in upper case of artist.

```
MariaDB [music_database]> select upper(name) from artist;
+-------------+
| upper(name) |
+-------------+
| SONAL       |
| BUDDY GUY   |
| SHAN        |
| SUNIDHI     |
| DIVYA       |
| SHREYA      |
| HARDY       |
| SHEKHAR     |
| KK          |
| HONEY       |
+-------------+
10 rows in set (0.000 sec)
```

10) display 3 characters from 3rd place from the column city of invoice.

```
MariaDB [music_database]> select mid(city,3,3) from invoice;
+---------------+
| mid(city,3,3) |
+---------------+
| cso           |
| cso           |
| rto           |
| ris           |
| cso           |
| o d           |
+---------------+
6 rows in set (0.001 sec)
```

11) Update artist id of hardy to 76.

```
MariaDB [music_database]> update artist set artist_id=76 where name="hardy";
Query OK, 1 row affected (0.006 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [music_database]> select * from artist;
+-----------+-----------+
| artist_id | name      |
+-----------+-----------+
|         1 | sonal     |
|         2 | Buddy Guy |
|         3 | shan      |
|         4 | sunidhi   |
|         5 | divya     |
|         6 | shreya    |
|         8 | shekhar   |
|         9 | kk        |
|        10 | honey     |
|        76 | hardy     |
+-----------+-----------+
10 rows in set (0.000 sec)
```

12) Add a column salary .

```
MariaDB [music_database]> alter table employee add salary int;
Query OK, 0 rows affected (0.017 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [music_database]> desc employee;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| emp_id | int(11)     | NO   | PRI | NULL    |       |
| name   | varchar(20) | YES  |     | NULL    |       |
| title  | varchar(20) | YES  |     | NULL    |       |
| dob    | date        | YES  |     | NULL    |       |
| salary | int(11)     | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
5 rows in set (0.021 sec)
```

13) Set value as 50000 to salary column by default value.

```
MariaDB [music_database]> alter table employee alter column salary set default 50000;
Query OK, 0 rows affected (0.004 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

14) Display null name value from track.

```
MariaDB [music_database]> select * from track where name is null;
Empty set (0.001 sec)
```

15) Find the total amount of all invoices.

```
MariaDB [music_database]> select sum(total) from invoice;
+-------------+
| sum(total) |
+-------------+
|    7220121 |
+-------------+
1 row in set (0.000 sec)
```

16) Find the highest amount for each of the city of the invoice.

```
MariaDB [music_database]> select city,max(total) from invoice group by city;
+---------------+------------+
| city          | max(total) |
+---------------+------------+
| Paris         |      64345 |
| Porto         |      23456 |
| Rio de Janeiro |    6434544 |
| Tucson        |     667886 |
+---------------+------------+
4 rows in set (0.001 sec)
```

17) Display all the information for those customers between customer id 2 to 6 .

```
MariaDB [music_database]> select * from customer where cust_id between 2 and 6;
+---------+---------+----------+--------+
| cust_id | name    | city     | emp_id |
+---------+---------+----------+--------+
|       2 |  Smith  | Tucson   |    666 |
|       3 | Gray    | Vienne   |    333 |
|       4 | pqr     | Boston   |    333 |
|       5 | Ramos   | New York |    555 |
|       6 | Ramosss | New York |    111 |
+---------+---------+----------+--------+
5 rows in set (0.003 sec)
```

18) Display all the employees , who are either title manager or not had an id above 1.

```
MariaDB [music_database]> select * from employee where title ="manager" or not emp_id >1;
+--------+------+---------+------------+--------+
| emp_id | name | title   | dob        | salary |
+--------+------+---------+------------+--------+
|    111 | xyz  | manager | 2024-02-13 |   NULL |
|    333 | abc  | manager | 2024-06-27 |   NULL |
+--------+------+---------+------------+--------+
2 rows in set (0.000 sec)
```

19) Retrieve top 5 records from invoice.

```
MariaDB [music_database]> SELECT * FROM customer LIMIT 5;
+---------+--------+----------+--------+
| cust_id | name   | city     | emp_id |
+---------+--------+----------+--------+
|       1 | Daan   | Reno     |    888 |
|       2 |  Smith | Tucson   |    666 |
|       3 | Gray   | Vienne   |    333 |
|       4 | pqr    | Boston   |    333 |
|       5 | Ramos  | New York |    555 |
+---------+--------+----------+--------+
5 rows in set (0.001 sec)
```

20) Delete the all record from playlist track table.

```
MariaDB [music_database]> truncate table playlist_track;
Query OK, 0 rows affected (0.085 sec)

MariaDB [music_database]> select * from playlist_track;
Empty set (0.001 sec)
```