SQL Project

ONLINE MUSIC STORE MANAGEMENT SYSTEM

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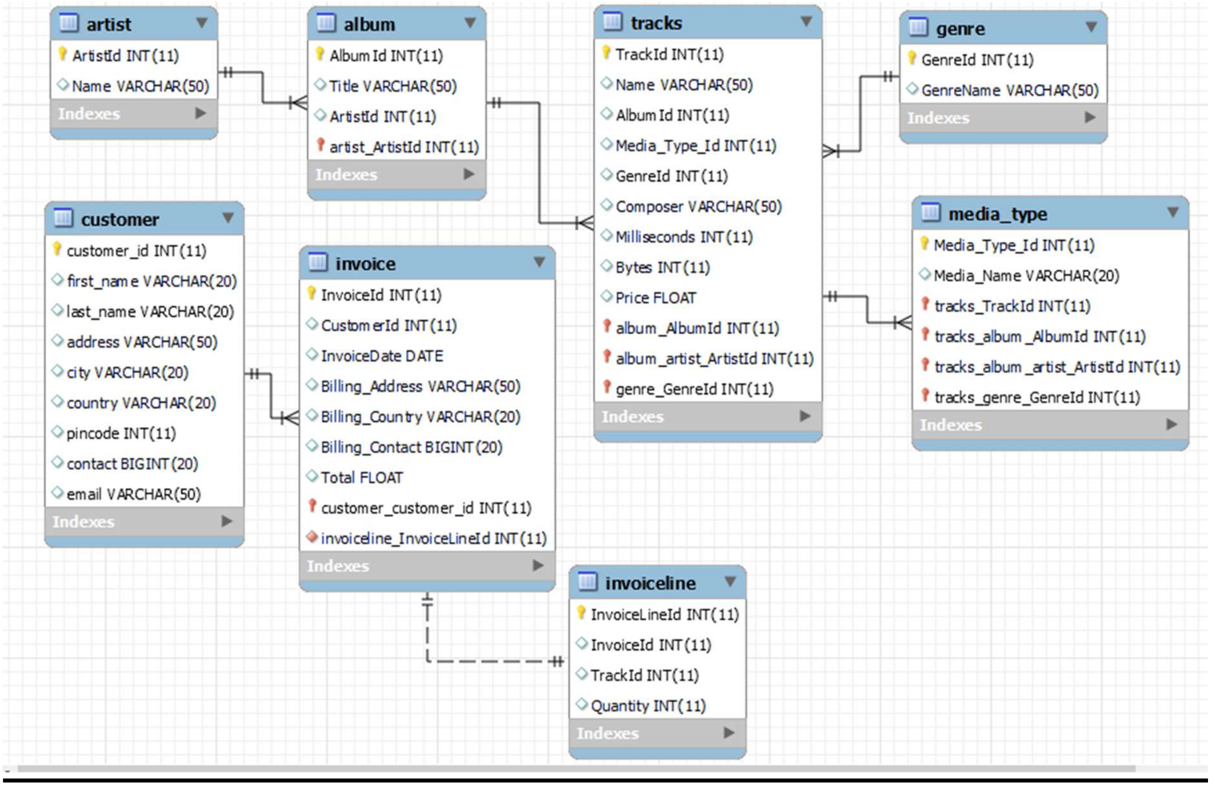
1. Objective

The objective of this SQL project is to design and implement a comprehensive database for an **Online Music Store Management System**.

The application has to store databases of Customers along with the invoice and invoiceline as well as artists, albums and tracks along with their genre and media type. This database is created by the backend of the Music Store where in after the customer selects the track or album to purchase, customer is asked to fill the details and the customer information gets entered in the database and an invoice of the purchase is generated. The functionality is to create, insert and make queries based on joins, subqueries with the use of aggregate functions, having, group by, where, order by clauses, etc…

The project aims to enhance the overall efficiency and organization of the music store by providing a centralized and well-structured database.

2.ER Diagram



Each rectangle represents an entity. Lines between the entities represent the relationships of primary keys and foreign keys of the respective tables.

The ER diagram showcases the relationships between the different tables, such as Artist, Album, Track, MediaType, Genre, Customer, InvoiceLine and Invoice as per the scope of the project.

3.Table Description

a. Artist Table

Field	Type	Null	Key	Default	Extra
ArtistId	int(11)	NO	PRI	NULL	
Name	varchar(50)	YES		NULL	

b. Album Table

Field	Type	Null	Key	Default	Extra
AlbumId	int(11)	YES	PRI	NULL	
Title	varchar(50)	YES		NULL	
ArtistId	int(11)	YES		NULL	

c. Tracks Table

Field	Type	Null	Key	Default	Extra
TrackId	int(11)	NO	PRI	NULL	
Name	varchar(50)	YES		NULL	
AlbumId	int(11)	YES		NULL	
Media_Type_Id	int(11)	YES		NULL	
GenreId	int(11)	YES		NULL	
Composer	varchar(50)	YES		NULL	
Milliseconds	int(11)	YES		NULL	
Bytes	int(11)	YES		NULL	
Price	float	YES		NULL	

d. Genre Table

Field	Type	Null	Key	Default	Extra
GenreId	int(11)	NO	PRI	NULL	
GenreName	varchar(50)	YES		NULL	

e. Media Type Table

Field	Type	Null	Key	Default	Extra
Media_Type_Id	int(11)	NO	PRI	NULL	
Media_Name	varchar(20)	YES		NULL	

f. Customer Table

Field	Type	Null	Key	Default	Extra
customer_id	int(11)	NO	PRI	NULL	
first_name	varchar(20)	YES		NULL	
last_name	varchar(20)	YES		NULL	
address	varchar(50)	YES		NULL	
city	varchar(20)	YES		NULL	
country	varchar(20)	YES		NULL	

pincode	int(11)	YES		NULL	
contact	bigint(20)	YES		NULL	
email	varchar(50)	YES		NULL	

g. Invoice Line Table

Field	Type	Null	Key	Default	Extra
InvoiceLineId	int(11)	NO	PRI	NULL	
InvoiceId	int(11)	YES		NULL	
TrackId	int(11)	YES		NULL	
Quantity	int(11)	YES		NULL	

h. Invoice Table

Field	Type	Null	Key	Default	Extra
InvoiceId	int(11)	NO	PRI	NULL	
CustomerId	int(11)	YES		NULL	
InvoiceDate	date	YES		NULL	
Billing_Address	varchar(50)	YES		NULL	
Billing_Country	varchar(20)	YES		NULL	
Billing_Contact	bigint(20)	YES		NULL	
Total	float	YES		NULL	

4. SQL Commands

```
create database online_music_store;
use online_music_store;


/*For Artist Table*/
create table Artist (
        ArtistId INT primary key,
        Name VARCHAR(50)
);
insert into Artist (ArtistId, Name) values (1, 'AC/DC');
insert into Artist (ArtistId, Name) values (2, 'Aerosmith');
insert into Artist (ArtistId, Name) values (3, 'Led Zeppelin');
insert into Artist (ArtistId, Name) values (4, 'Maroon 5');
insert into Artist (ArtistId, Name) values (5, 'Taylor Swift');
insert into Artist (ArtistId, Name) values (6, 'Christina Aguilera');
insert into Artist (ArtistId, Name) values (7, 'BTS');
insert into Artist (ArtistId, Name) values (8, 'Blackpink');
insert into Artist (ArtistId, Name) values (9, 'Queen');
insert into Artist (ArtistId, Name) values (10, 'Sam Smith');

/*For Album Table*/
create table Album (
        AlbumId INT PRIMARY KEY,
        Title VARCHAR(50),
        ArtistId INT
);
insert into Album (AlbumId, Title, ArtistId) values (156, 'Hands All Over', 4);
insert into Album (AlbumId, Title, ArtistId) values (208, 'The Tortured Poets', 5);
insert into Album (AlbumId, Title, ArtistId) values (257, 'HighWay to Hell', 1);
insert into Album (AlbumId, Title, ArtistId) values (296, 'Get a Grip', 2);
insert into Album (AlbumId, Title, ArtistId) values (94, 'Prescence', 3);
insert into Album (AlbumId, Title, ArtistId) values (95, 'Born Pink', 8);
insert into Album (AlbumId, Title, ArtistId) values (96, 'Face Yourself', 7);
insert into Album (AlbumId, Title, ArtistId) values (285, 'Love Goes',10);
insert into Album (AlbumId, Title, ArtistId) values (139, 'Liberation', 6);
insert into Album (AlbumId, Title, ArtistId) values (224, 'A Night at the Opera', 9);

/*For Tracks Table*/
create table Tracks (
    TrackId INT PRIMARY KEY,

    Name VARCHAR(50),

    AlbumId INT,

    Media_Type_Id INT,

    GenreId INT,

    Composer VARCHAR(50),

    Milliseconds INT,

    Bytes INT,

    Price float

);

insert into Tracks (TrackId,
Name,AlbumId,Media_Type_Id,GenreId,Composer,Milliseconds,Bytes,Price) values
(1,'Misery',156,1,6,'Adam Levine,James Valentine',200000,124000000,10.50);

insert into Tracks (TrackId,
Name,AlbumId,Media_Type_Id,GenreId,Composer,Milliseconds,Bytes,Price) values
(2,'Walk All Over You', 256,1,2 ,'AC/DC',1900000, 23450000,5.00);

insert into Tracks (TrackId,
Name,AlbumId,Media_Type_Id,GenreId,Composer,Milliseconds,Bytes,Price) values
(3,'Pink Venom', 95,3,9 ,'Jennie, Lisa, Rose, Jisoo',2360000, 12450000,13.00);

insert into Tracks (TrackId,
Name,AlbumId,Media_Type_Id,GenreId,Composer,Milliseconds,Bytes,Price) values
(4,'Dancing with A Stranger', 285,4 ,10, 'Sam Smith',1940000, 2349999,17.50);

insert into Tracks (TrackId,
Name,AlbumId,Media_Type_Id,GenreId,Composer,Milliseconds,Bytes,Price) values
(5, 'DNA', 96, 9,5, 'BTS', 10000000,2500000,20.99);

insert into Tracks (TrackId,
Name,AlbumId,Media_Type_Id,GenreId,Composer,Milliseconds,Bytes,Price) values
(6,'Fortnight',208,3,13,'Taylore Swift',1950000,2450000,50.00);

insert into Tracks (TrackId,
Name,AlbumId,Media_Type_Id,GenreId,Composer,Milliseconds,Bytes,Price) values
(7, 'Crazy',296,2,8,'Steve Tyler', 1760000,5439000,7.00);

insert into Tracks (TrackId,
Name,AlbumId,Media_Type_Id,GenreId,Composer,Milliseconds,Bytes,Price) values
(8, 'For your Life', 94, 1,15, 'Led Zepplin',54320000,12340000,5.00);
```

```
insert into Tracks (TrackId,
Name,AlbumId,Media_Type_Id,GenreId,Composer,Milliseconds,Bytes,Price) values
(9, 'Bohemian Rhapsody',224,4,25,'Freddy Mercury, Roger Taylor',32123400,
56430000,12.50);

insert into Tracks (TrackId,
Name,AlbumId,Media_Type_Id,GenreId,Composer,Milliseconds,Bytes,Price) values
(10,'Dreamers',139,5,12,'Christina Aguilera',3456000,1230000,10.00);

insert into Tracks (TrackId,
Name,AlbumId,Media_Type_Id,GenreId,Composer,Milliseconds,Bytes,Price) values
(11,'Hard to Love',95,1,9,'Blackpink',124500,987000,15.00);

insert into Tracks (TrackId,
Name,AlbumId,Media_Type_Id,GenreId,Composer,Milliseconds,Bytes,Price) values
(12,'Mic Drop',96,3,15,'BTS',45678,1234355,25.00);

insert into Tracks (TrackId,
Name,AlbumId,Media_Type_Id,GenreId,Composer,Milliseconds,Bytes,Price) values
(13,'Give a little more',156,4,17,'Adam Levine',657763,45667657,18.00);

insert into Tracks (TrackId,
Name,AlbumId,Media_Type_Id,GenreId,Composer,Milliseconds,Bytes,Price) values
(14,'Go Go',96,4,9,'BTS',124500,987000,23.50);

insert into Tracks (TrackId,
Name,AlbumId,Media_Type_Id,GenreId,Composer,Milliseconds,Bytes,Price) values
(15,'Shut Down',95,3,15,'Blackpink',345768,7867456,21.50);
```

/*For Genre Table*/

```
create table Genre (

        GenreId INT PRIMARY KEY,

        GenreName VARCHAR(50)

);

insert into Genre (GenreId, GenreName) values (1, 'Rock');

insert into Genre (GenreId, GenreName) values (2, 'Jazz');

insert into Genre (GenreId, GenreName) values (3, 'Metal');

insert into Genre (GenreId, GenreName) values (4, 'Alternative & Punk');

insert into Genre (GenreId, GenreName) values (5, 'Rock And Roll');

insert into Genre (GenreId, GenreName) values (6, 'Blues');
insert into Genre (GenreId, GenreName) values (7, 'Latin');
insert into Genre (GenreId, GenreName) values (8, 'Reggae');
insert into Genre (GenreId, GenreName) values (9, 'Pop');
insert into Genre (GenreId, GenreName) values (10, 'Soundtrack');
insert into Genre (GenreId, GenreName) values (11, 'Comedy');
insert into Genre (GenreId, GenreName) values (12, 'Bossa Nova');
insert into Genre (GenreId, GenreName) values (13, 'Easy Listening');
insert into Genre (GenreId, GenreName) values (14, 'Heavy Metal');
insert into Genre (GenreId, GenreName) values (15, 'R&B/Soul');
insert into Genre (GenreId, GenreName) values (16, 'Electronica/Dance');
insert into Genre (GenreId, GenreName) values (17, 'World');
insert into Genre (GenreId,GenreName) values (18, 'Hip Hop/Rap');
insert into Genre (GenreId, GenreName) values (19, 'Science Fiction');
insert into Genre (GenreId, GenreName) values (20, 'TV Shows');
insert into Genre (GenreId, GenreName) values (21, 'Sci Fi & Fantasy');
insert into Genre (GenreId, GenreName) values (22, 'Drama');
insert into Genre (GenreId,GenreName) values (23, 'Alternative');
insert into Genre (GenreId, GenreName) values (24, 'Classical');
insert into Genre (GenreId,GenreName) values (25, 'Opera');

/*For Media Type Table*/
create table Media_Type (
        Media_Type_Id INT PRIMARY KEY,
        Media_Name VARCHAR(20)
);

insert into Media_Type (Media_Type_Id,Media_Name) values (1, 'MPEG audio file');
insert into Media_Type (Media_Type_Id,Media_Name) values (2, 'Protected AAC Audio file');
insert into Media_Type (Media_Type_Id,Media_Name) values (3, 'Protected MPEG-4 video file');

insert into Media_Type (Media_Type_Id,Media_Name) values (4, 'Purchased AAC audio file');

insert into Media_Type (Media_Type_Id, Media_Name) values (5, 'AAC audio file');
```

/*For Customer Table*/

```
create table Customer

(

customer_id int primary key,

first_name varchar(20),

last_name varchar(20),

address varchar(50),

city varchar(20),

country varchar(20),

pincode int,

contact bigint,

email varchar(50)

);


insert into Customer(customer_id, first_name, last_name, address, city, country, pincode, contact, email)values(1,'Sanjana','Joshi','203, GE Gardens,Kanjur Marg','Mumbai','India',400089,2454985888,'ssjoshi@gmail.com');

insert into Customer(customer_id, first_name, last_name, address, city, country, pincode, contact, email)values(2,'Ehtesham','Ali','106, New Al Safiya','Dubai','UAE',100023,4561235601,'jssampat@gmail.com');

insert into Customer(customer_id, first_name, last_name, address, city, country, pincode, contact, email)values(3,'Ranjit','Adhikary','9099, Hansen Drive, Pleasonton','California','USA',329991,9834672874,'radhikary@gmail.com');

insert into Customer(customer_id, first_name, last_name, address, city, country, pincode, contact, email)values(4,'Malati','Rao','7, Century Apartments, Ghatkopar','Mumbai','India',400078,6736422123,'mrao@gmail.com');
insert into Customer(customer_id, first_name, last_name, address, city, country,
pincode, contact, email)values(5,'John','Smith','7, Diamond Street, near Harrods',
'London','UK',10001,8293748919,'johnsmith@gmail.com');

insert into Customer(customer_id, first_name, last_name, address, city, country,
pincode, contact, email)values(6,'Dominique','Lefebvre','8, Rue
Hanovre','Paris','France',75002,7686575678,'domlef@gmail.com');

insert into Customer(customer_id, first_name, last_name, address, city, country,
pincode, contact, email)values(7,'Rhea','Lokeshwar','301, Kalpataru,
Sion','Mumbai','India',400070,34534456223,'rhealok@gmail.com');

insert into Customer(customer_id, first_name, last_name, address, city, country,
pincode, contact, email)values(8,'Martha','Silk','194A Chain Lake
Drive','Halifax','Canada',700010,4656675673,'marthasilk@gmail.com');

insert into Customer(customer_id, first_name, last_name, address, city, country,
pincode, contact, email)values(9,'Mateusz','Galecki','Ordynacka
10','Warsaw','Poland',210001,1234512345,'mgalecki@gmail.com');

insert into Customer(customer_id, first_name, last_name, address, city, country,
pincode, contact, email)values(10,'Michelle','Brooks','627 Broadway','New
York','USA',10005,6543534556,'michellebrooks@gmail.com');

insert into Customer(customer_id, first_name, last_name, address, city, country,
pincode, contact, email)values(11,'Rose','Fisher','421 Bourke
Street','Sydney','Australia',10004,7165456789,'rosefisher@gmail.com');

insert into Customer(customer_id, first_name, last_name, address, city, country,
pincode, contact, email)values(12,'Eduardo','Martins','Rua Dr. Falcão Filho, 155','Sao
Paolo','Brazil',560001,6567433434,'ssjoshi@gmail.com');

insert into Customer(customer_id, first_name, last_name, address, city, country,
pincode, contact, email)values(13,'Benita','Matthews','3,Raj Bhavan
Road','Bangalore','India',400021,2323232323,'bmatthews@gmail.com');

insert into Customer(customer_id, first_name, last_name, address, city, country,
pincode, contact, email)values(14,'Pheobe','Dynevor','5, Privy Drive','San
Jose','USA',329992,4322235567,'pheobedynevor@gmail.com');

insert into Customer(customer_id, first_name, last_name, address, city, country,
pincode, contact, email)values(15,'Sarita','Chandran','904, Onyx, Nirmal LifeStyle
Complex,
Mulund','Mumbai','India',400090,1234567891,'saritachandran@gmail.com');
```

/*For Invoice Line Table*/

```
create table InvoiceLine(
    InvoiceLineId INT Primary key,
    InvoiceId INT,
    TrackId INT,
    Quantity INT
);
insert into InvoiceLine (InvoiceLineId,InvoiceId,TrackId,Quantity) values (1,15,9,1);
insert into InvoiceLine (InvoiceLineId,InvoiceId,TrackId,Quantity) values (2,10,5,2);
insert into InvoiceLine (InvoiceLineId,InvoiceId,TrackId, Quantity) values (3,1,4,2);
insert into InvoiceLine (InvoiceLineId,InvoiceId,TrackId, Quantity) values (4,2,2,3);
insert into InvoiceLine (InvoiceLineId,InvoiceId,TrackId, Quantity) values (5,14,1,1);
insert into InvoiceLine (InvoiceLineId,InvoiceId,TrackId, Quantity) values (6,4,10,5);
insert into InvoiceLine (InvoiceLineId,InvoiceId,TrackId, Quantity) values (7,8,8,2);
insert into InvoiceLine (InvoiceLineId,InvoiceId,TrackId, Quantity) values (8,11,6,1);
insert into InvoiceLine (InvoiceLineId,InvoiceId,TrackId, Quantity) values (9,13,7,4);
insert into InvoiceLine (InvoiceLineId,InvoiceId,TrackId, Quantity) values (10,3,5,1);
insert into InvoiceLine (InvoiceLineId,InvoiceId,TrackId, Quantity) values (11,12,9,3);
insert into InvoiceLine (InvoiceLineId,InvoiceId,TrackId, Quantity) values (12,6,3,1);
insert into InvoiceLine (InvoiceLineId,InvoiceId,TrackId, Quantity) values (13,9,5,4);
insert into InvoiceLine (InvoiceLineId,InvoiceId,TrackId, Quantity) values (14,5,7,3);
insert into InvoiceLine (InvoiceLineId,InvoiceId,TrackId, Quantity) values (15,7,10,1);

/*For Invoice Table*/
create table Invoice(
        InvoiceId INT Primary key,
    CustomerId INT,
    InvoiceDate Date,
    Billing_Address varchar(50),
    Billing_Country varchar(20),
    Billing_Contact bigint,
    Total float

);

insert into Invoice (InvoiceId,CustomerId,InvoiceDate,Billing_Address,
Billing_Country, Billing_Contact,Total) values (1,1,'2024-02-04','203, GE
Gardens,Kanjur Marg,Mumbai,Maharashtra','India',2454985888,35.00);

insert into Invoice (InvoiceId,CustomerId,InvoiceDate,Billing_Address,
Billing_Country, Billing_Contact,Total) values (2,15,'2024-01-03','904, Onyx, Nirmal
LifeStyle Complex,Mumbai,Maharashtra','India',1234567891,15.00);

insert into Invoice (InvoiceId,CustomerId,InvoiceDate,Billing_Address,
Billing_Country, Billing_Contact,Total) values (3,2,'2024-02-17','106, New Al
Safiya,Dubai','UAE',4561235601,20.99);

insert into Invoice (InvoiceId,CustomerId,InvoiceDate,Billing_Address,
Billing_Country, Billing_Contact,Total) values (4,3,'2024-04-20','9099, Hansen Drive,
Pleasonton','USA',9834672874,50.00);

insert into Invoice (InvoiceId,CustomerId,InvoiceDate,Billing_Address,
Billing_Country, Billing_Contact,Total) values (5,4,'2024-05-01','7, Century
Apartments, Ghatkopar, Mumbai, Maharashtra','India',6736422123,21.00);

insert into Invoice (InvoiceId,CustomerId,InvoiceDate,Billing_Address,
Billing_Country, Billing_Contact,Total) values (6,14,'2024-03-05','5, Privy Drive, San
Jose','USA',4322235567,13.00);

insert into Invoice(InvoiceId,CustomerId,InvoiceDate,Billing_Address,
Billing_Country, Billing_Contact,Total) values (7,7,'2024-04-20','301, Kalpataru, Sion,
Mumbai, Maharashtra','India',34534456223,10.00);

insert into Invoice(InvoiceId,CustomerId,InvoiceDate,Billing_Address,
Billing_Country, Billing_Contact,Total) values (8,5,'2024-04-21','7, Diamond Street,
near Harrods, London','UK',8293748919,10.00);

insert into Invoice(InvoiceId,CustomerId,InvoiceDate,Billing_Address,
Billing_Country, Billing_Contact,Total) values (9,8,'2024-01-20','194A Chain Lake
Drive, Halifax','Canada',4656675673,83.96);

insert into Invoice(InvoiceId,CustomerId,InvoiceDate,Billing_Address,
Billing_Country, Billing_Contact,Total) values (10,6,'2024-05-05','8, Rue Hanovre,
Paris','France',7686575678,41.98);

insert into Invoice(InvoiceId,CustomerId,InvoiceDate,Billing_Address,
Billing_Country, Billing_Contact,Total) values (11,9,'2024-02-10','Ordynacka 10,
Warsaw','Poland',1234512345,50.00);
```

```
insert into Invoice(InvoiceId,CustomerId,InvoiceDate,Billing_Address,
Billing_Country, Billing_Contact,Total) values (12,13,'2024-04-17','3,Raj Bhavan
Road, Bangalore','India',2323232323,37.50);

insert into Invoice(InvoiceId,CustomerId,InvoiceDate,Billing_Address,
Billing_Country, Billing_Contact,Total) values (13,10,'2024-04-18','627 Broadway,
New York','USA',6543534556,28.00);

insert into Invoice(InvoiceId,CustomerId,InvoiceDate,Billing_Address,
Billing_Country, Billing_Contact,Total) values (14,12,'2024-02-22','Rua Dr. Falcão
Filho, 155,Sao Paolo','Brazil',6567433434,10.5);

insert into Invoice(InvoiceId,CustomerId,InvoiceDate,Billing_Address,
Billing_Country, Billing_Contact,Total) values (15,11,'2024-01-15','421 Bourke
Street,Sydney','Australia',7165456789,12.50);
```

5.Joins

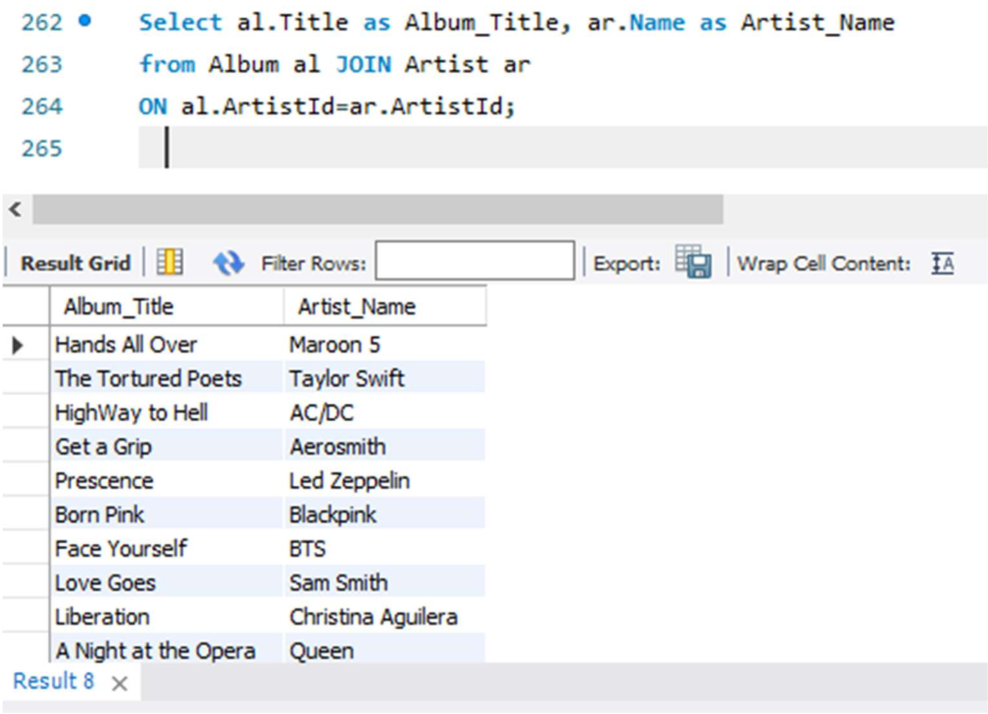
1. **List all the Albums belonging to the respective Artists.**

ANS:-

SQL QUERY:-

```
Select al.Title as Album_Title, ar.Name as Artist_Name
from Album al JOIN Artist ar
ON al.ArtistId=ar.ArtistId;
```

OUTPUT:-



```sql
Select al.Title as Album_Title, ar.Name as Artist_Name
from Album al JOIN Artist ar
ON al.ArtistId=ar.ArtistId;
```

Album_Title	Artist_Name
Hands All Over	Maroon 5
The Tortured Poets	Taylor Swift
HighWay to Hell	AC/DC
Get a Grip	Aerosmith
Prescence	Led Zeppelin
Born Pink	Blackpink
Face Yourself	BTS
Love Goes	Sam Smith
Liberation	Christina Aguilera
A Night at the Opera	Queen

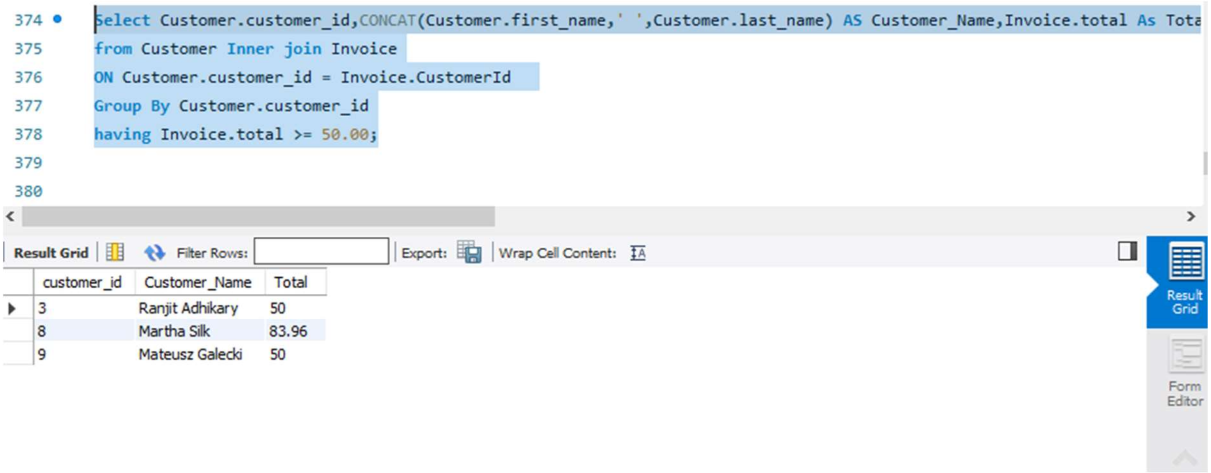
2. **Display Customers with their fullname(firstname and lastname merged) who have spent more than $50 in the store.**

ANS:-

SQL QUERY:-

```sql
Select Customer.customer_id,CONCAT(Customer.first_name,' ',Customer.last_name) AS Customer_Name,Invoice.total As Total

from Customer Inner join Invoice

ON Customer.customer_id = Invoice.CustomerId

Group By Customer.customer_id

having Invoice.total >= 50.00;
```

OUTPUT:-



```
Select Customer.customer_id,CONCAT(Customer.first_name,' ',Customer.last_name) AS Customer_Name,Invoice.total As Tota
from Customer Inner join Invoice
ON Customer.customer_id = Invoice.CustomerId
Group By Customer.customer_id
having Invoice.total >= 50.00;
```

customer_id	Customer_Name	Total
3	Ranjit Adhikary	50
8	Martha Silk	83.96
9	Mateusz Galecki	50

3. **List the number of tracks belonging to each album and calculate the total price of each album.**

ANS:-

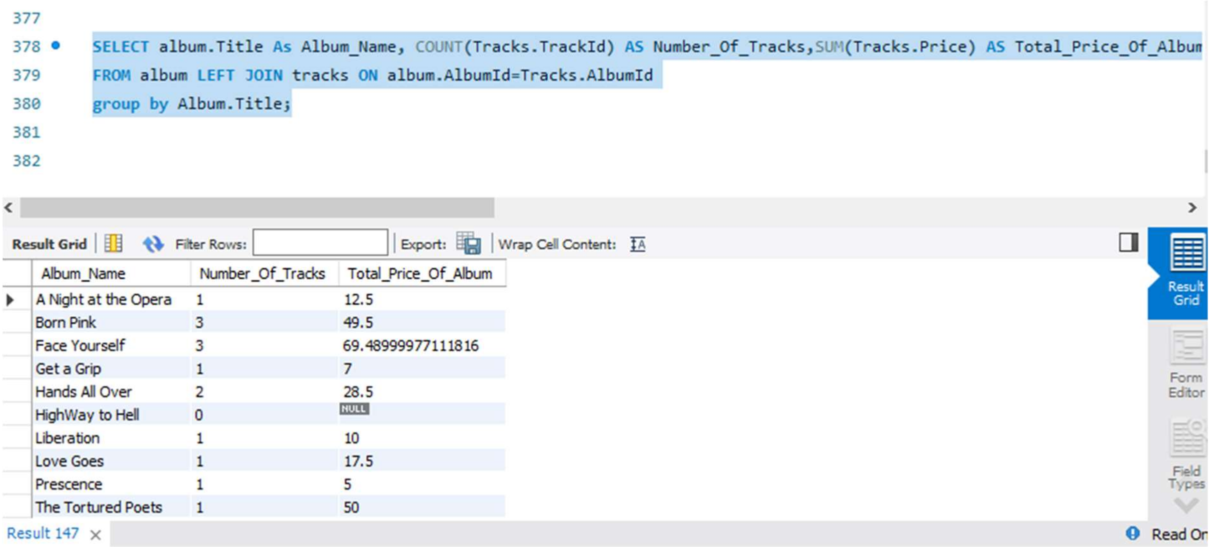
SQL QUERY:-

SELECT album.Title As Album_Name, COUNT(Tracks.TrackId) AS Number_Of_Tracks,SUM(Tracks.Price) AS Total_Price_Of_Album

FROM album LEFT JOIN tracks ON album.AlbumId=Tracks.AlbumId

group by Album.Title;

OUTPUT:-



```
SELECT album.Title As Album_Name, COUNT(Tracks.TrackId) AS Number_Of_Tracks,SUM(Tracks.Price) AS Total_Price_Of_Albun
FROM album LEFT JOIN tracks ON album.AlbumId=Tracks.AlbumId
group by Album.Title;
```

Album_Name	Number_Of_Tracks	Total_Price_Of_Album
A Night at the Opera	1	12.5
Born Pink	3	49.5
Face Yourself	3	69.48999977111816
Get a Grip	1	7
Hands All Over	2	28.5
HighWay to Hell	0	NULL
Liberation	1	10
Love Goes	1	17.5
Prescence	1	5
The Tortured Poets	1	50

4. Which Tracks have Genre as ‘R&B/Soul’?

ANS:-

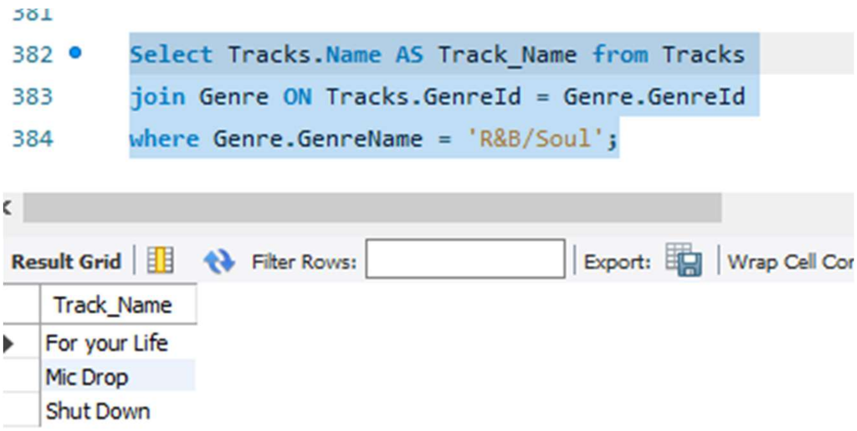
SQL QUERY:-

Select Tracks.Name AS Track_Name from Tracks

join Genre ON Tracks.GenreId = Genre.GenreId

where Genre.GenreName = 'R&B/Soul';

OUTPUT:-



```
Select Tracks.Name AS Track_Name from Tracks
join Genre ON Tracks.GenreId = Genre.GenreId
where Genre.GenreName = 'R&B/Soul';
```

Track_Name
For your Life
Mic Drop
Shut Down

5. Which is BTS’s best selling track?

ANS:-

SQL QUERY:-

SELECT invoiceline.TrackId, Tracks.Name, album.Title,SUM(invoiceline.Quantity) AS number_sold

FROM invoiceline

INNER JOIN Tracks ON invoiceline.TrackId=Tracks.TrackId

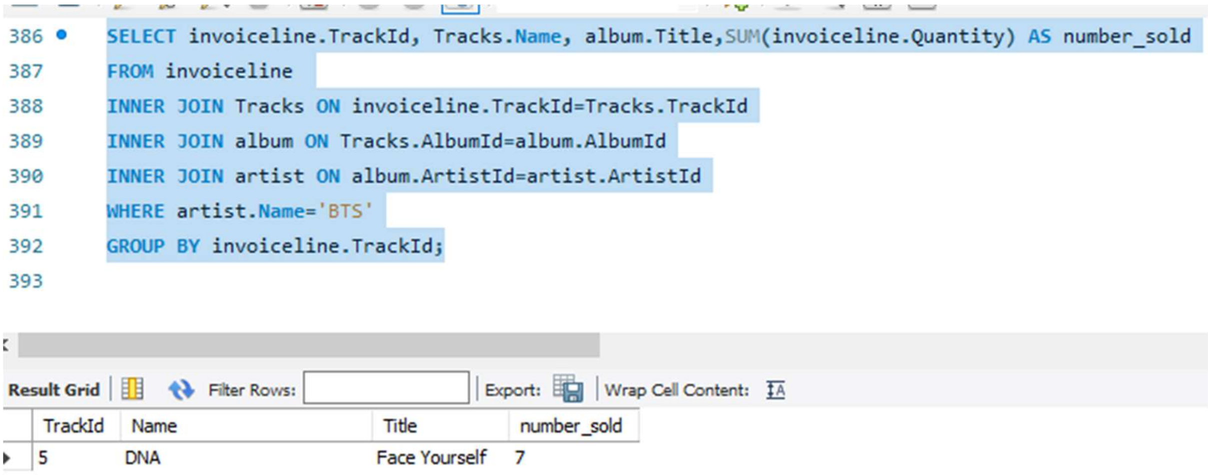
INNER JOIN album ON Tracks.AlbumId=album.AlbumId

INNER JOIN artist ON album.ArtistId=artist.ArtistId

WHERE artist.Name='BTS'

GROUP BY invoiceline.TrackId;

OUTPUT:-



```
SELECT invoiceline.TrackId, Tracks.Name, album.Title,SUM(invoiceline.Quantity) AS number_sold
FROM invoiceline
INNER JOIN Tracks ON invoiceline.TrackId=Tracks.TrackId
INNER JOIN album ON Tracks.AlbumId=album.AlbumId
INNER JOIN artist ON album.ArtistId=artist.ArtistId
WHERE artist.Name='BTS'
GROUP BY invoiceline.TrackId;
```

TrackId	Name	Title	number_sold
5	DNA	Face Yourself	7

6.Subqueries

1. **Which track made the highest sale?**

ANS:-

SQL QUERY:-

Select Name As Track_Name

from Tracks t join InvoiceLine il

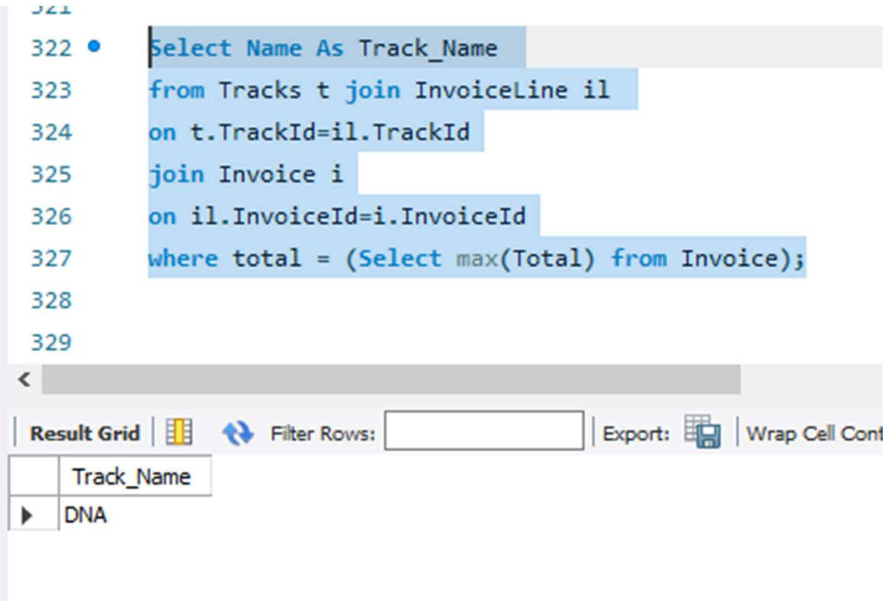
on t.TrackId=il.TrackId

join Invoice i

on il.InvoiceId=i.InvoiceId

where total = (Select max(Total) from Invoice);

OUTPUT:-



```
Select Name As Track_Name
from Tracks t join InvoiceLine il
on t.TrackId=il.TrackId
join Invoice i
on il.InvoiceId=i.InvoiceId
where total = (Select max(Total) from Invoice);
```

Track_Name
DNA

2. **Display all Tracks having price greater than average price of songs belonging to genre = 'Pop'**

ANS:-

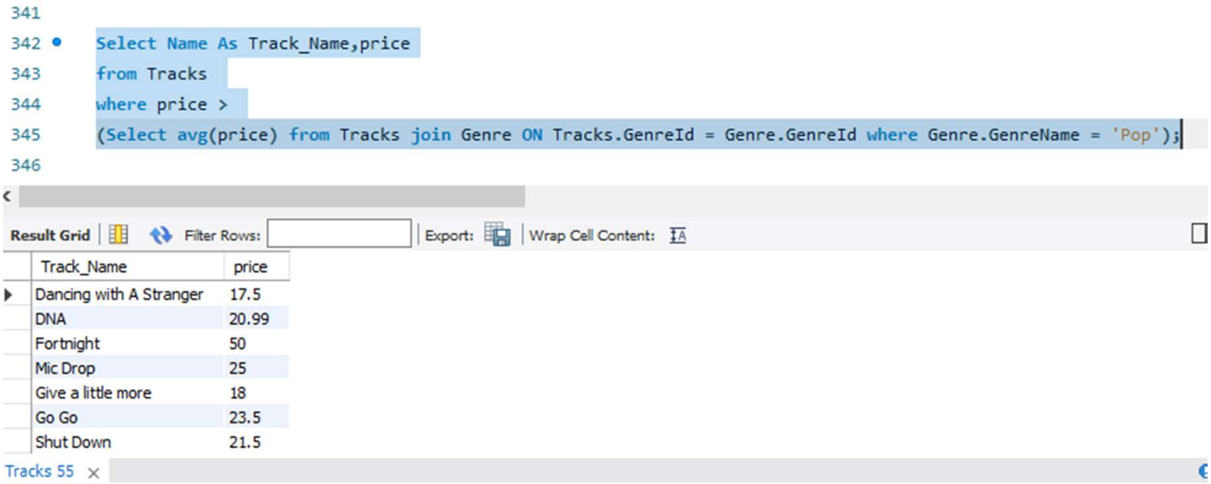
SQL QUERY:-

Select Name As Track_Name,price

from Tracks

where price > (Select avg(price) from Tracks join Genre ON Tracks.GenreId = Genre.GenreId where Genre.GenreName = 'Pop');

OUTPUT:-



```
Select Name As Track_Name,price
from Tracks
where price >
(Select avg(price) from Tracks join Genre ON Tracks.GenreId = Genre.GenreId where Genre.GenreName = 'Pop');
```

Track_Name	price
Dancing with A Stranger	17.5
DNA	20.99
Fortnight	50
Mic Drop	25
Give a little more	18
Go Go	23.5
Shut Down	21.5

3. **Which track has the maximum quantity bought?**

ANS:-

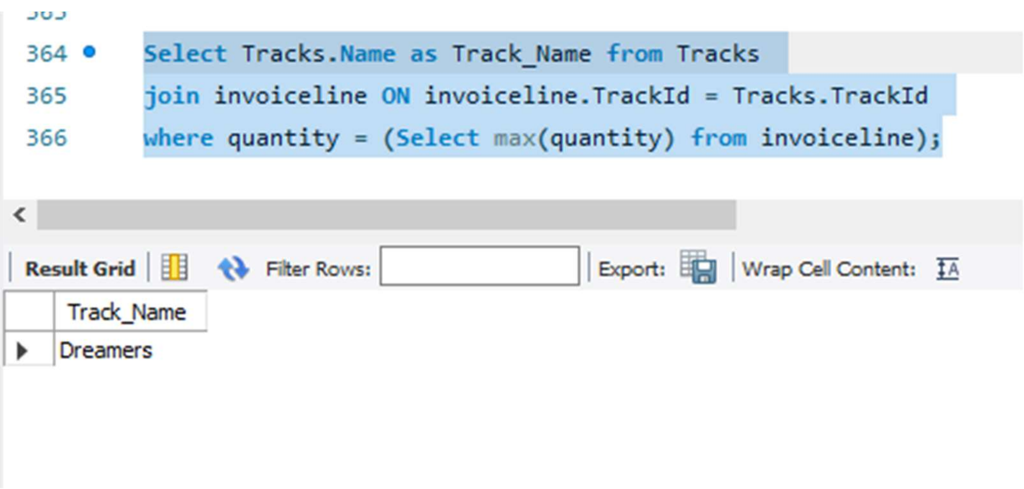
SQL QEURY:-

Select Tracks.Name as Track_Name from Tracks

join invoiceline ON invoiceline.TrackId = Tracks.TrackId

where quantity = (Select max(quantity) from invoiceline);

OUTPUT:-



```
Select Tracks.Name as Track_Name from Tracks
join invoiceline ON invoiceline.TrackId = Tracks.TrackId
where quantity = (Select max(quantity) from invoiceline);
```

Track_Name
Dreamers

4. **Find all tracks which were purchased in the USA.**

ANS:-

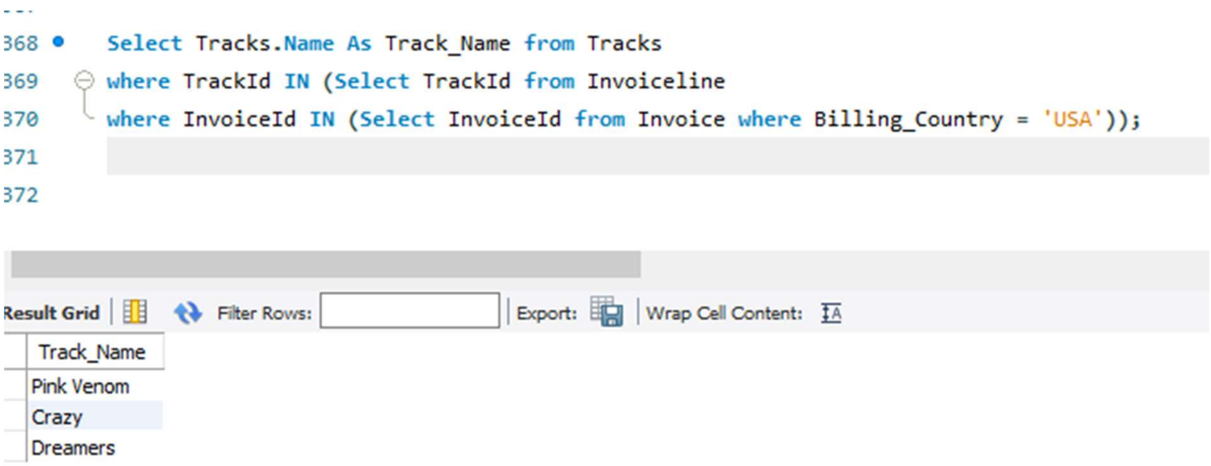
SQL QUERY:-

Select Tracks.Name As Track_Name from Tracks

where TrackId IN (Select TrackId from Invoiceline

where InvoiceId IN (Select InvoiceId from Invoice where Billing_Country = 'USA'));

OUTPUT:-



```
Select Tracks.Name As Track_Name from Tracks
where TrackId IN (Select TrackId from Invoiceline
where InvoiceId IN (Select InvoiceId from Invoice where Billing_Country = 'USA'));
```

Track_Name
Pink Venom
Crazy
Dreamers

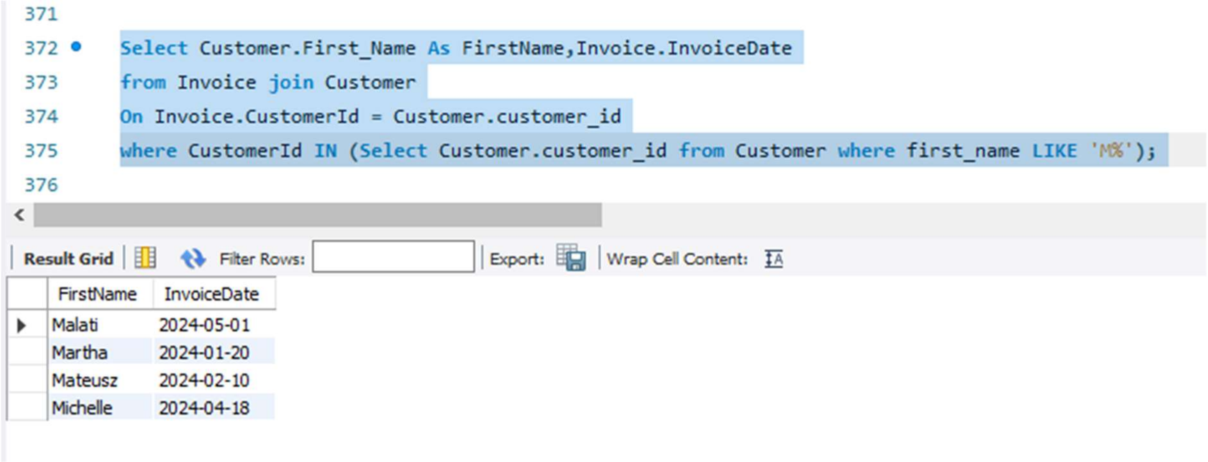
5. **Display the invoice dates of Customers whose first name starts with the letter 'M'.**

ANS:-

SQL QUERY:-

Select Customer.First_Name As FirstName,Invoice.InvoiceDate
from Invoice join Customer
On Invoice.CustomerId = Customer.customer_id
where CustomerId IN (Select Customer.customer_id from Customer where first_name LIKE 'M%');

OUTPUT:-



```
Select Customer.First_Name As FirstName,Invoice.InvoiceDate
from Invoice join Customer
On Invoice.CustomerId = Customer.customer_id
where CustomerId IN (Select Customer.customer_id from Customer where first_name LIKE 'M%');
```

FirstName	InvoiceDate
Malati	2024-05-01
Martha	2024-01-20
Mateusz	2024-02-10
Michelle	2024-04-18

7.Other SQL Queries

1. **List all albums having more than 1 track.**

ANS:-

SQL QUERY:-

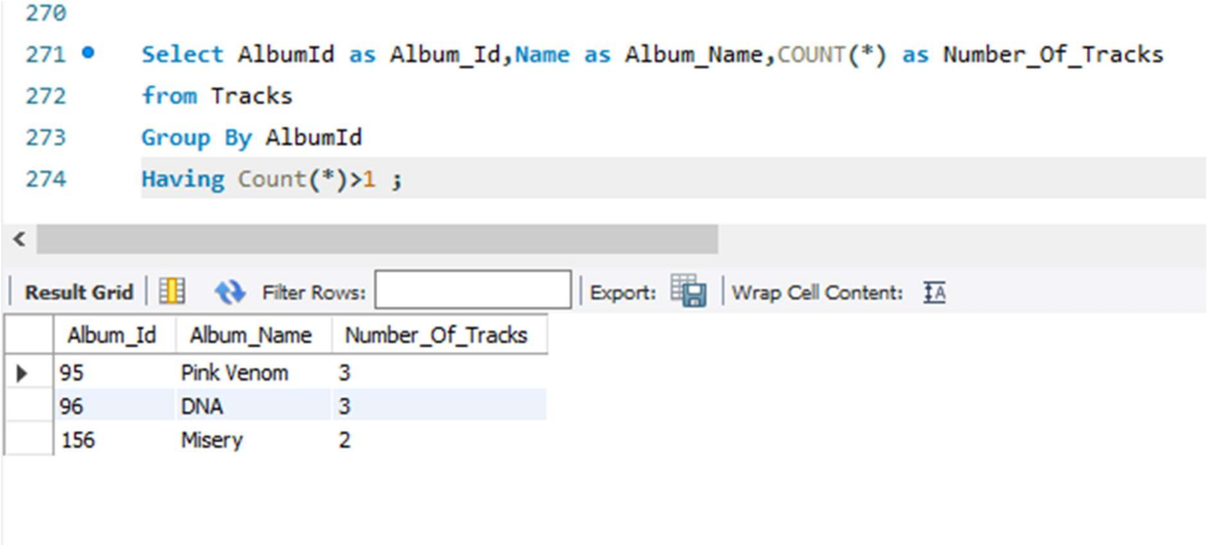
Select AlbumId as Album_Id,Name as Album_Name,COUNT(*) as Number_Of_Tracks

from Tracks

Group By AlbumId

Having Count(*)>1 ;

OUTPUT:-



```
Select AlbumId as Album_Id,Name as Album_Name,COUNT(*) as Number_Of_Tracks
from Tracks
Group By AlbumId
Having Count(*)>1 ;
```

Album_Id	Album_Name	Number_Of_Tracks
95	Pink Venom	3
96	DNA	3
156	Misery	2

2. **List tracks in descending order of Time limit(i.e Millibytes)**

ANS:-

SQL QUERY:-

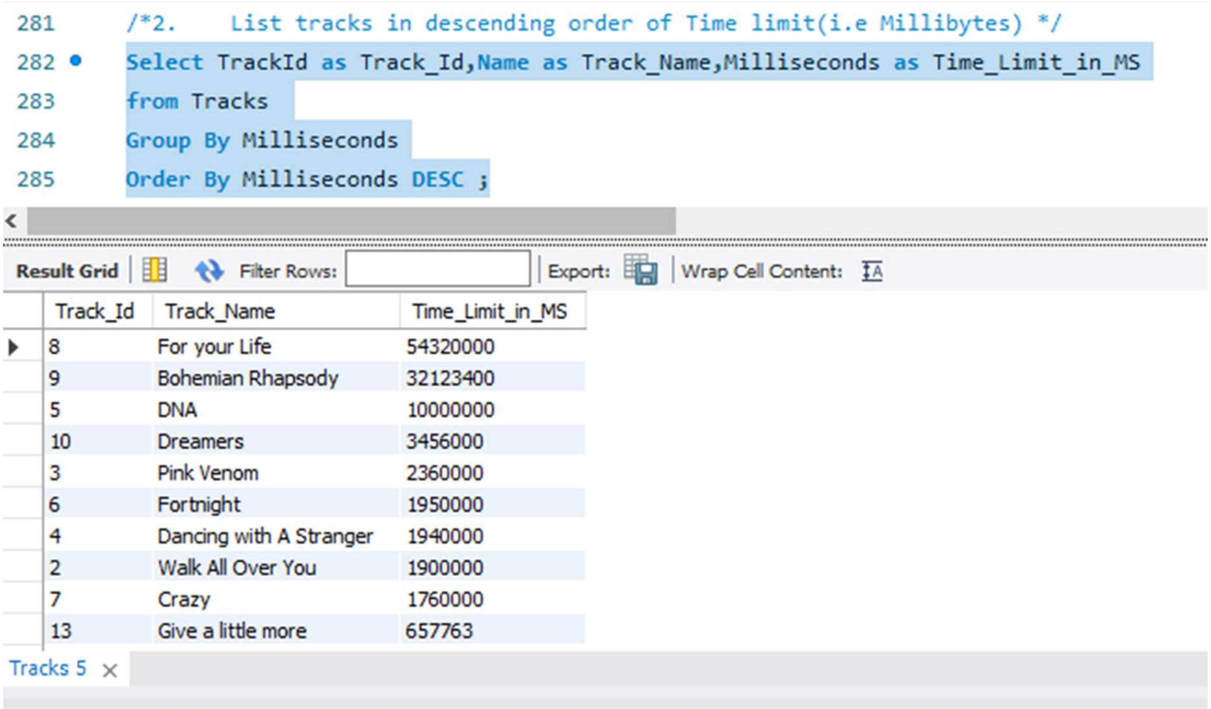
Select TrackId as Track_Id,Name as Track_Name,Milliseconds as Time_Limit_in_MS

from Tracks

Group By Milliseconds

Order By Milliseconds DESC ;

OUTPUT:-



```
/*2.    List tracks in descending order of Time limit(i.e Millibytes) */
Select TrackId as Track_Id,Name as Track_Name,Milliseconds as Time_Limit_in_MS
from Tracks
Group By Milliseconds
Order By Milliseconds DESC ;
```

Track_Id	Track_Name	Time_Limit_in_MS
8	For your Life	54320000
9	Bohemian Rhapsody	32123400
5	DNA	10000000
10	Dreamers	3456000
3	Pink Venom	2360000
6	Fortnight	1950000
4	Dancing with A Stranger	1940000
2	Walk All Over You	1900000
7	Crazy	1760000
13	Give a little more	657763

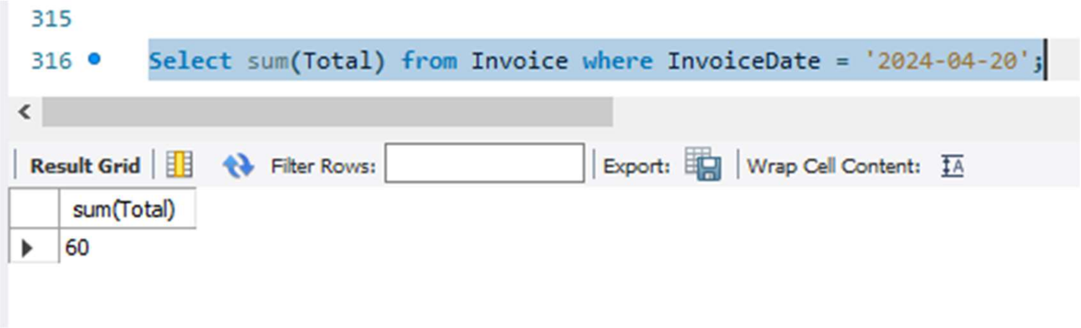
3. **Find sum of total amount earned on 20-04-2024.**

ANS:-

SQL QEURY:-

Select sum(Total) from Invoice where InvoiceDate = '2024-04-20';

OUTPUT:-



```
Select sum(Total) from Invoice where InvoiceDate = '2024-04-20';
```

sum(Total)
60

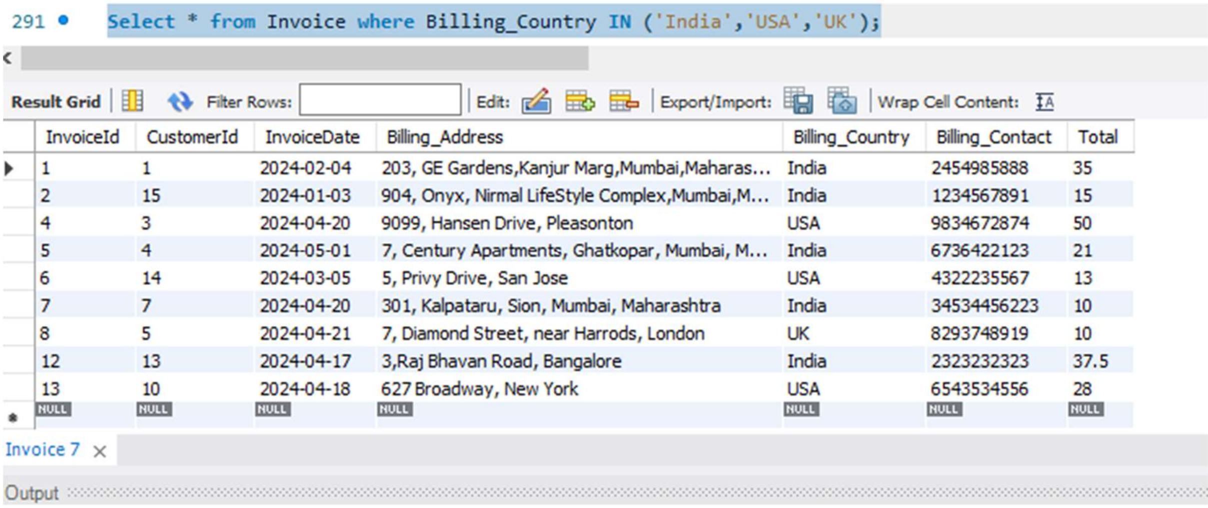
4. **Display invoice details having billing country as ‘India’,’USA’ or ‘UK’.**

ANS:-

SQL QUERY:-

Select * from Invoice where Billing_Country IN ('India','USA','UK');

OUTPUT:-



```
291 ● Select * from Invoice where Billing_Country IN ('India','USA','UK');
```

InvoiceId	CustomerId	InvoiceDate	Billing_Address	Billing_Country	Billing_Contact	Total
1	1	2024-02-04	203, GE Gardens,Kanjur Marg,Mumbai,Maharas...	India	2454985888	35
2	15	2024-01-03	904, Onyx, Nirmal LifeStyle Complex,Mumbai,M...	India	1234567891	15
4	3	2024-04-20	9099, Hansen Drive, Pleasonton	USA	9834672874	50
5	4	2024-05-01	7, Century Apartments, Ghatkopar, Mumbai, M...	India	6736422123	21
6	14	2024-03-05	5, Privy Drive, San Jose	USA	4322235567	13
7	7	2024-04-20	301, Kalpataru, Sion, Mumbai, Maharashtra	India	34534456223	10
8	5	2024-04-21	7, Diamond Street, near Harrods, London	UK	8293748919	10
12	13	2024-04-17	3,Raj Bhavan Road, Bangalore	India	2323232323	37.5
13	10	2024-04-18	627 Broadway, New York	USA	6543534556	28
NULL	NULL	NULL	NULL	NULL	NULL	NULL

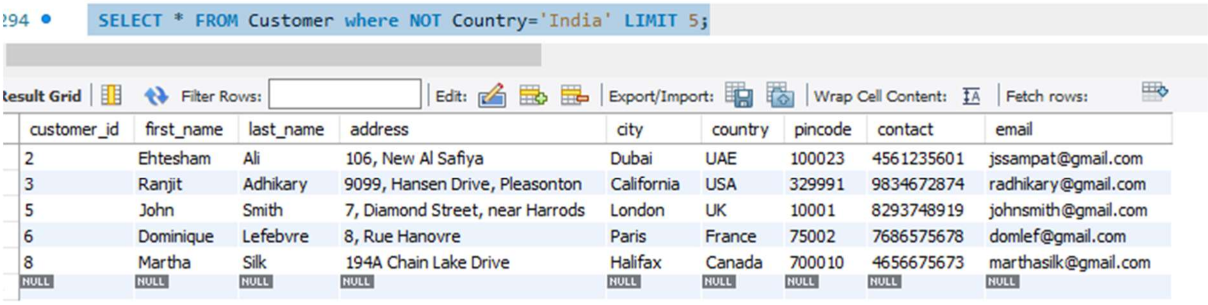
5. **Display top 5 Customer details whose Country is not India .**

ANS:-

SQL QUERY:-

SELECT * FROM Customer where NOT Country='India' LIMIT 5;

OUTPUT:-



```
294 ● SELECT * FROM Customer where NOT Country='India' LIMIT 5;
```

customer_id	first_name	last_name	address	city	country	pincode	contact	email
2	Ehtesham	Ali	106, New Al Safiya	Dubai	UAE	100023	4561235601	jssampat@gmail.com
3	Ranjit	Adhikary	9099, Hansen Drive, Pleasonton	California	USA	329991	9834672874	radhikary@gmail.com
5	John	Smith	7, Diamond Street, near Harrods	London	UK	10001	8293748919	johnsmith@gmail.com
6	Dominique	Lefebvre	8, Rue Hanovre	Paris	France	75002	7686575678	domlef@gmail.com
8	Martha	Silk	194A Chain Lake Drive	Halifax	Canada	700010	4656675673	marthasilk@gmail.com
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

8.Conclusion

The project gives correct results about the Music Stores business sales. For example, with the use of invoice and customer details, Music Store can easily predict the highest sales made by the artist or country. In this way, the results of the project can be used to make future decisions about the Music Store Sales.