

Music Database (SQL portfolio project)

This is a Music system Database, and it consists of four tables which are Songs, Genres, Albums and Artists. Each table is created with certain fields and values are inserted in the tables.

Created Music Database, created tables inside the database and inserted values into the tables, also written SQL queries to retrieve information.

```
CREATE DATABASE IF NOT EXISTS MusicDatabase;
```

```
SHOW databases;
```

```
USE MusicDatabase;
```

```
CREATE TABLE Artists (
```

```
    ArtistID INT AUTO_INCREMENT PRIMARY KEY,
```

```
    ArtistName VARCHAR(255) NOT NULL,
```

```
    BirthYear INT,
```

```
    Country VARCHAR(255)
```

```
);
```

```
CREATE TABLE Albums (
```

```
    AlbumID INT AUTO_INCREMENT PRIMARY KEY,
```

```
    ArtistID INT,
```

```
    AlbumTitle VARCHAR(255) NOT NULL,
```

```
    ReleaseYear INT,
```

```
    Genre VARCHAR(255),
```

```
    FOREIGN KEY (ArtistID) REFERENCES Artists(ArtistID)
```

```
);
```

```
CREATE TABLE Songs (
```

```
    SongID INT AUTO_INCREMENT PRIMARY KEY,
```

```
    AlbumID INT,
```

```
    SongTitle VARCHAR(255) NOT NULL,
```

```
    Duration VARCHAR(10),
```

```
    ReleaseYear INT,
```

```
FOREIGN KEY (AlbumID) REFERENCES Albums(AlbumID));
```

```
CREATE TABLE Genres (
```

```
    GenreID INT AUTO_INCREMENT PRIMARY KEY,
```

```
    GenreName VARCHAR(255) NOT NULL
```

```
);
```

```
-- Insert sample data into the Genres table
```

```
INSERT INTO Genres (GenreID, GenreName) VALUES
```

```
    (1, 'Pop'),
```

```
    (2, 'Rock'),
```

```
    (3, 'Hip-Hop'),
```

```
    (4, 'R&B'),
```

```
    (5, 'Country'),
```

```
    (6, 'Electronic'),
```

```
    (7, 'Jazz'),
```

```
    (8, 'Classical'),
```

```
    (9, 'Reggae'),
```

```
    (10, 'Hip-Hop/Rap');
```

```
-- Insert sample data into the Artists table
```

```
INSERT INTO Artists (ArtistName, BirthYear, Country) VALUES
```

```
    ('Taylor Swift', 1989, 'USA'),
```

```
    ('Ed Sheeran', 1991, 'UK'),
```

```
    ('Celine Dion', 1968, 'Canada'),
```

```
    ('Adele', 1988, 'UK'),
```

```
    ('Bob Marley', 1945, 'Jamaica'),
```

```
    ('Michael Jackson', 1958, 'USA'),
```

```
    ('Elton John', 1947, 'UK'),
```

```
    ('Eminem', 1972, 'USA'),
```

('Queen', 1970, 'UK'),
('Justin Bieber', 1994, 'Canada'),
('Lady Gaga', 1986, 'USA'),
('The Beatles', 1960, 'UK'),
('Drake', 1986, 'Canada'),
('Alicia Keys', 1981, 'USA'),
('Coldplay', 1996, 'UK'),
('Shawn Mendes', 1998, 'Canada'),
('Ariana Grande', 1993, 'USA'),
('Led Zeppelin', 1968, 'UK'),
('The Weeknd', 1990, 'Canada'),
('Katy Perry', 1984, 'USA'),
('The Rolling Stones', 1962, 'UK'),
('Justin Timberlake', 1981, 'USA'),
('Madonna', 1958, 'USA'),
('Pink Floyd', 1965, 'UK'),
('The Who', 1964, 'UK');

-- Insert sample data into the Albums table

INSERT INTO Albums (ArtistID, AlbumTitle, ReleaseYear, Genre) VALUES

(3, 'Greatest Hits', 1992, 'Rock'),
(1, 'Love Songs', 2001, 'Pop'),
(2, 'Golden Memories', 1998, 'Jazz'),
(1, 'All-Time Classics', 1995, 'Pop'),
(2, 'Smooth Jazz Experience', 2004, 'Jazz'),
(3, 'Rock Anthems', 1987, 'Rock'),
(1, 'Summer Vibes', 2015, 'Pop'),
(2, 'Late Night Jazz', 2012, 'Jazz'),

(3, 'Classic Rock Hits', 1980, 'Rock'),
(1, 'Feel Good Pop', 2018, 'Pop'),
(2, 'Smooth Jazz Moods', 2014, 'Jazz'),
(3, 'Legendary Rock Classics', 1975, 'Rock');

-- Insert sample data into the Songs table

INSERT INTO Songs (AlbumID, SongTitle, Duration, ReleaseYear) VALUES

(3, 'Smooth Groove', '3:58', 2010),
(1, 'Summer Love', '4:15', 2001),
(2, 'Midnight Serenade', '6:22', 2010),
(1, 'Feel the Beat', '4:05', 2002),
(2, 'Smooth Ride', '5:35', 2012),
(1, 'Dance Party', '3:30', 2003),
(2, 'Jazzy Dreams', '4:50', 2014),
(3, 'Classic Rock Jam', '5:15', 1982),
(1, 'Sunshine Groove', '3:45', 2006),
(2, 'Smooth Jazz Bliss', '4:25', 2016),
(3, 'Rock Legends', '4:55', 1978);

Queries:-

- show tables;
- select *from albums;
- select count(*) from albums;
- select *from albums order by ReleaseYear;
- select *from albums where Genre = "Rock" or Genre= "Pop" order by ReleaseYear desc;
- select *from albums;
- select distinct * from albums;
- select distinct count(*) from albums;
- select * from Songs;
- select count(*) from Songs;
- select * from Songs order by Duration;
- select * from Songs order by SongID;
- select SongTitle, Duration from Songs where Duration> '4:15' order by Duration;

- SELECT AlbumID, COUNT(*) AS 'SongCount' FROM Songs GROUP BY AlbumID;
- select *from Artists;
- select * from Artists order by BirthYear;
- select ArtistName , Country from Artists;
- select ArtistID, Country, ArtistName from Artists where Artistname like '%M%' order by BirthYear;
- select count(*) from Artists;
- select *from Genres;
- select count(*) from Genres;
- select * from Genres where GenreName like 'R%';

Joins:-

This query retrieves all artists, their albums, and the songs in those albums.

- SELECT Artists.ArtistName, Albums.AlbumTitle, Songs.SongTitle FROM Artists INNER JOIN Albums ON Artists.ArtistID = Albums.ArtistID INNER JOIN Songs ON Albums.AlbumID = Songs.AlbumID;

```

142 • SELECT Artists.ArtistName, Albums.AlbumTitle, Songs.SongTitle
143 FROM Artists
144 INNER JOIN Albums ON Artists.ArtistID = Albums.ArtistID
145 INNER JOIN Songs ON Albums.AlbumID = Songs.AlbumID;
146
147
148

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: [iA](#)

	ArtistName	AlbumTitle	SongTitle
▶	Ed Sheeran	Golden Memories	Smooth Groove
	Celine Dion	Greatest Hits	Summer Love
	Taylor Swift	Love Songs	Midnight Serenade
	Celine Dion	Greatest Hits	Feel the Beat
	Taylor Swift	Love Songs	Smooth Ride
	Celine Dion	Greatest Hits	Dance Party

- SELECT Artists.ArtistName, Albums.AlbumTitle FROM Artists LEFT JOIN Albums ON Artists.ArtistID = Albums.ArtistID;

```

126 • SELECT Artists.ArtistName, Albums.AlbumTitle
127 FROM Artists
128 LEFT JOIN Albums ON Artists.ArtistID = Albums.ArtistID;

```

ArtistName	AlbumTitle
Taylor Swift	Love Songs
Taylor Swift	All-Time Classics
Taylor Swift	Summer Vibes
Taylor Swift	Feel Good Pop
Ed Sheeran	Golden Memories
Ed Sheeran	Smooth Jazz Experience
Ed Sheeran	Late Night Jazz
Ed Sheeran	Smooth Jazz Moods

- SELECT Songs.SongTitle, Albums.AlbumTitle, Genres.GenreName FROM Songs INNER JOIN Albums ON Songs.AlbumID = Albums.AlbumID INNER JOIN Genres ON Albums.Genre = Genres.GenreName;

```

129 • SELECT Songs.SongTitle, Albums.AlbumTitle, Genres.GenreName
130 FROM Songs
131 INNER JOIN Albums ON Songs.AlbumID = Albums.AlbumID
132 INNER JOIN Genres ON Albums.Genre = Genres.GenreName;

```

SongTitle	AlbumTitle	GenreName
Summer Love	Greatest Hits	Rock
Feel the Beat	Greatest Hits	Rock
Dance Party	Greatest Hits	Rock
Sunshine Groove	Greatest Hits	Rock
Midnight Serenade	Love Songs	Pop
Smooth Ride	Love Songs	Pop
Jazzy Dreams	Love Songs	Pop

- SELECT Artists.ArtistName, COUNT(Albums.AlbumID) AS TotalAlbums FROM Artists LEFT JOIN Albums ON Artists.ArtistID = Albums.ArtistID GROUP BY Artists.ArtistName;

```
133 • SELECT Artists.ArtistName, COUNT(Albums.AlbumID) AS TotalAlbums
134 FROM Artists
135 LEFT JOIN Albums ON Artists.ArtistID = Albums.ArtistID
136 GROUP BY Artists.ArtistName;
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
ArtistName	TotalAlbums			
Taylor Swift	4			
Ed Sheeran	4			
Celine Dion	4			
Adele	0			
Bob Marley	0			
Michael Jackson	0			
Elton John	0			
Eminem	0			