



SQL script:

Notes: The UPDATE statements at the bottom are used to build the foreign-key references from Songs to Artists, and from Songs to Albums. Currently our UPDATE statements cannot run due to a “Lock Wait Timeout Exceeded Error”, and we haven’t fixed it yet. However, all the other CREATE and LOAD Statements are working well and satisfy the homework requirements.

```
CREATE SCHEMA IF NOT EXISTS MusiCraze;  
USE MusiCraze;
```

```
DROP TABLE IF EXISTS PlaylistSongContains;  
DROP TABLE IF EXISTS Playlists;  
DROP TABLE IF EXISTS Comments;  
DROP TABLE IF EXISTS Likes;  
DROP TABLE IF EXISTS Songs;  
DROP TABLE IF EXISTS ArtistEvents;  
DROP TABLE IF EXISTS Administrators;  
DROP TABLE IF EXISTS Users;  
DROP TABLE IF EXISTS Albums;  
DROP TABLE IF EXISTS Artists;  
DROP TABLE IF EXISTS Persons;
```

```
CREATE TABLE Persons (  
    UserName VARCHAR(255),  
    `Password` VARCHAR(255),  
    FirstName VARCHAR(255),  
    LastName VARCHAR(255),  
    Email VARCHAR(255),  
    CONSTRAINT pk_Persons_UserName PRIMARY KEY (UserName)  
);
```

```
CREATE TABLE Artists (  
    ArtistId INT AUTO_INCREMENT,  
    ArtistName VARCHAR(200),  
    ArtistSpotifyId VARCHAR(100),  
    ArtistCountry VARCHAR(100) DEFAULT NULL,  
    ArtistRecordLabel VARCHAR(100),  
    CONSTRAINT pk_Artists_ArtistId PRIMARY KEY (ArtistId)  
);
```

```
CREATE TABLE Albums (  
    AlbumId INT AUTO_INCREMENT,
```

```
Name VARCHAR(5000),
AlbumId VARCHAR(100),
AlbumSpotifyId VARCHAR(100),
Year INT,
ReleaseDate DATE,
Duration INT, /* millisecond */
```

```
CONSTRAINT Pk_albums_album_id
PRIMARY KEY (AlbumId)
);
```

```
CREATE TABLE Users (
    UserName VARCHAR(255),
    Avatar VARCHAR(255),
    Bio VARCHAR(1023),
    BornDate DATE,
    JoinDate TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
    CONSTRAINT pk_Users_UserName PRIMARY KEY (UserName),
    CONSTRAINT fk_Users_UserName FOREIGN KEY (UserName)
        REFERENCES Persons(UserName)
        ON UPDATE CASCADE ON DELETE CASCADE
);
```

```
CREATE TABLE Administrators (
    UserName VARCHAR(255),
    CONSTRAINT pk_Administrators_UserName PRIMARY KEY (UserName),
    CONSTRAINT fk_Administrators_UserName FOREIGN KEY (UserName)
        REFERENCES Persons(UserName)
        ON UPDATE CASCADE ON DELETE CASCADE
);
```

```
CREATE TABLE ArtistEvents (
    EventId INT AUTO_INCREMENT,
    ArtistId INT,
    EventType VARCHAR(100),
    EventTime DATETIME,
    EventLocation VARCHAR(200),
    EventUri VARCHAR(200),
    CONSTRAINT pk_ArtistEvents_EventId PRIMARY KEY (EventId),
    CONSTRAINT fk_ArtistEvents_ArtistId FOREIGN KEY (ArtistId)
        REFERENCES Artists(ArtistId)
        ON UPDATE CASCADE ON DELETE CASCADE
```

);

use ArtistSpotifyId & AlbumSpotifyId to bridge ArtistId & AlbumId

```
CREATE TABLE Songs (  
    SongId INT AUTO_INCREMENT,  
    SongName VARCHAR(5000) NOT NULL,  
    SpotifyId VARCHAR(100),  
    ArtistSpotifyId VARCHAR(100),  
    ArtistId INT,  
    AlbumSpotifyId VARCHAR(100),  
    AlbumId INT,  
    CONSTRAINT pk_Songs_SongId PRIMARY KEY (SongId),  
    CONSTRAINT fk_Songs_ArtistId FOREIGN KEY (ArtistId)  
        REFERENCES Artists(ArtistId)  
        ON UPDATE CASCADE ON DELETE SET NULL  
);
```

```
CREATE TABLE Likes(  
    LikeId INT NOT NULL AUTO_INCREMENT,  
    UserName VARCHAR(255),  
    SongId INT NOT NULL,  
    CreatedAt DATE,  
    CONSTRAINT pk_Likes_LikeId PRIMARY KEY(LikeId),  
    CONSTRAINT fk_Likes_UserName FOREIGN KEY(UserName)  
        REFERENCES Persons(UserName)  
        ON UPDATE CASCADE ON DELETE SET NULL,  
    CONSTRAINT fk_Likes_SongId FOREIGN KEY(SongId)  
        REFERENCES Songs(SongId)  
        ON UPDATE CASCADE ON DELETE CASCADE  
);
```

```
CREATE TABLE Comments(  
    CommentId INT NOT NULL AUTO_INCREMENT,  
    UserName VARCHAR(255),  
    SongId INT NOT NULL,  
    Content VARCHAR(200),  
    CreatedAt DATE,  
    CONSTRAINT pk_Comments_CommentId PRIMARY KEY(CommentId),  
    CONSTRAINT fk_Comments_UserName FOREIGN KEY(UserName)  
        REFERENCES Persons(UserName)  
        ON UPDATE CASCADE ON DELETE SET NULL,
```

```

        CONSTRAINT kf_Comments_SongId FOREIGN KEY(SongId)
            REFERENCES Songs(SongId)
            ON UPDATE CASCADE ON DELETE CASCADE
    );

CREATE TABLE Playlists(
    PlaylistId INT AUTO_INCREMENT,
    UserName VARCHAR(255) NOT NULL,
    PlaylistName VARCHAR(100),
    Description VARCHAR(500),
    # With a DEFAULT clause but no ON UPDATE CURRENT_TIMESTAMP clause,
    # the column has the given default value and is NOT automatically updated to the current
timestamp.
    CreatedAt TIMESTAMP DEFAULT CURRENT_TIMESTAMP,

    # With both DEFAULT CURRENT_TIMESTAMP and ON UPDATE CURRENT_TIMESTAMP,
    # the column has the current timestamp for its default value and
    # is automatically updated to the current timestamp.
    # Reference: https://dev.mysql.com/doc/refman/8.0/en/timestamp-initialization.html
    UpdatedAt TIMESTAMP DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,

    CONSTRAINT pk_Playlists_PlaylistId
        PRIMARY KEY (PlaylistId),
    CONSTRAINT fk_Playlists_UserName
        FOREIGN KEY (UserName)
        REFERENCES Users(UserName)
        ON UPDATE CASCADE ON DELETE CASCADE
);

CREATE TABLE PlaylistSongContains(
    ContainId INT AUTO_INCREMENT,
    PlaylistId INT NOT NULL,
    SongId INT NOT NULL,
    CONSTRAINT pk_PlayListSongContains_ContainId
        PRIMARY KEY (ContainId),
    CONSTRAINT fk_PlayListSongContains_PlaylistId
        FOREIGN KEY (PlaylistId)
        REFERENCES Playlists(PlaylistId)
        ON UPDATE CASCADE ON DELETE CASCADE,
    CONSTRAINT fk_PlayListSongContains_SongId
        FOREIGN KEY (SongId)
        REFERENCES Songs(SongId)
        ON UPDATE CASCADE ON DELETE CASCADE
);

```

);

LOAD DATA LOCAL INFILE

```
 '/Users/cindychen/Documents/NEU/Course_Material/cs5200/CS5200_GROUP/data/persons.csv'
 INTO TABLE Persons
   FIELDS TERMINATED BY ','
   ENCLOSED BY '"'
   LINES TERMINATED BY '\n'
   IGNORE 1 LINES;
```

LOAD DATA LOCAL INFILE

```
 '/Users/cindychen/Documents/NEU/Course_Material/cs5200/CS5200_GROUP/data/artist.csv'
 INTO TABLE Artists
   FIELDS TERMINATED BY ',' ENCLOSED BY '"'
   LINES TERMINATED BY '\n'
   IGNORE 1 LINES (ArtistName,ArtistSpotifyId);
```

LOAD DATA LOCAL

INFILE

```
 '/Users/cindychen/Documents/NEU/Course_Material/cs5200/CS5200_GROUP/data/album.csv'
   INTO TABLE Albums FIELDS TERMINATED BY ',' ENCLOSED BY '"'
   LINES TERMINATED BY '\n'
   IGNORE 1 LINES (Name, AlbumId, Year, ReleaseDate, Duration);
```

LOAD DATA LOCAL INFILE

```
 '/Users/cindychen/Documents/NEU/Course_Material/cs5200/CS5200_GROUP/data/users.csv'
 INTO TABLE Users
   FIELDS TERMINATED BY ','
   ENCLOSED BY '"'
   LINES TERMINATED BY '\n'
   IGNORE 1 LINES;
```

LOAD DATA LOCAL INFILE

```
 '/Users/cindychen/Documents/NEU/Course_Material/cs5200/CS5200_GROUP/data/administrators.csv'
 INTO TABLE Administrators
   FIELDS TERMINATED BY ','
   ENCLOSED BY '"'
   LINES TERMINATED BY '\n'
   IGNORE 1 LINES;
```

===== LOAD ARTIST EVENTS =====

LOAD DATA LOCAL INFILE

'/Users/cindychen/Documents/NEU/Course_Material/cs5200/CS5200_GROUP/data/songs.csv'

INTO TABLE Songs

FIELDS TERMINATED BY ',' ENCLOSED BY ''

LINES TERMINATED BY '\r\n'

IGNORE 1 LINES (SongId,SongName,SpotifyId,ArtistSpotifyId,AlbumSpotifyId);

LOAD DATA LOCAL INFILE

'/Users/cindychen/Documents/NEU/Course_Material/cs5200/CS5200_GROUP/data/playlists.csv'

INTO TABLE Playlists

FIELDS TERMINATED BY ',' ENCLOSED BY ''

LINES TERMINATED BY '\n'

IGNORE 1 LINES (UserName, PlaylistName, Description, CreatedAt, UpdatedAt);

LOAD DATA LOCAL INFILE

'/Users/cindychen/Documents/NEU/Course_Material/cs5200/CS5200_GROUP/data/playlistsongcontains.csv' INTO TABLE PlaylistSongContains

FIELDS TERMINATED BY ',' # Don't need ENCLOSED BY. CSV contains only numbers, and therefore datas are not quoted.

LINES TERMINATED BY '\n'

IGNORE 1 LINES (PlaylistId, SongId);

UPDATE Songs s, Artists a

SET s.ArtistId = a.ArtistId

WHERE s.ArtistSpotifyId = a.ArtistSpotifyId;

UPDATE Songs s, Albums a

SET s.AlbumId = a.AlbumId

WHERE s.AlbumSpotifyId = a.AlbumSpotifyId;

Row counts of each table:

The screenshot shows a SQL IDE interface with a query editor and a result grid. The query editor contains a SQL script that counts the number of rows in several tables from the MusiCraze database, unions the results, and orders them by count. The result grid displays the output of this query, showing the table names and their corresponding row counts.

```
1  
2 • SELECT COUNT(*) as TotalRowCounts  
3 FROM MusiCraze.Administrators  
4 UNION ALL  
5 SELECT COUNT(*) FROM MusiCraze.ArtistEvents  
6 UNION ALL  
7 SELECT COUNT(*) FROM MusiCraze.Artists  
8 UNION ALL  
9 SELECT COUNT(*) FROM MusiCraze.Comments  
10 UNION ALL  
11 SELECT COUNT(*) FROM MusiCraze.Likes  
12 UNION ALL  
13 SELECT COUNT(*) FROM MusiCraze.Persons  
14 UNION ALL  
15 SELECT COUNT(*) FROM MusiCraze.Playlists  
16 UNION ALL  
17 SELECT COUNT(*) FROM MusiCraze.PlaylistSongContains  
18 UNION ALL  
19 SELECT COUNT(*) FROM MusiCraze.Songs  
20 UNION ALL  
21 SELECT COUNT(*) FROM MusiCraze.Users  
22  
23
```

100% 1:23

Result Grid Filter Rows: Search Export:

TotalRowCounts
100
0
137451
0
0
1000
131
1000
99999
900

Result 9