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Course: CPSC-321, Fall 2024
Assignment: HW-2

Q1:

```
kchen2_db=> SELECT * FROM airline;
code | name | main_hub | yr_founded
-----+-----+-----+-----
AS | Alaska Airlines | SEA | 1932
WN | Southwest Airlines | DAL | 1967
UA | United Airlines | ORD | 1926
AA | American Airlines | DFW | 1926
DL | Delta Airlines | ATL | 1928
(5 rows)

kchen2_db=> SELECT * FROM airline;
```

```
keyuchen — more « psql -U kchen2 -h cps-postgresql.gonzaga.edu. -d kc...
id | name | city | state | elevation
---+-----+-----+-----+-----
SEA | Seattle-Tacoma International | Seattle | WA | 43
LAX | Los Angeles International | Los Angeles | CA | 12
PDX | Portland International | Portland | OR | 3
JFK | John F. Kennedy International | New York | NY | 1
GEG | Spokane International | Spokane | WA | 238
DAL | Dallas Love Field | Dallas | TX | 48
ORD | Chicago O'Hare International | Chicago | IL | 67
DFW | Dallas/Fort Worth International | Dallas | TX | 60
ATL | Hartsfield-Jackson Atlanta International | Atlanta | GA | 102
(9 rows)
:
```

```
kchen2_db=> SELECT * FROM flight;
airline | flight_number | departure | arrival | flights_per_wk
-----+-----+-----+-----+-----
AS | 1 | SEA | PDX | 20
WN | 2 | LAX | SEA | 10
UA | 3 | PDX | LAX | 14
AA | 4 | JFK | LAX | 12
DL | 5 | PDX | SEA | 18
(5 rows)

kchen2_db=>
```

```
kchen2_db=> SELECT * FROM segment;
airline | flight_number | segment_offset | start_airport | end_airport
-----+-----+-----+-----+-----
AS | 1 | 1 | PDX | SEA
WN | 2 | 2 | LAX | PDX
UA | 3 | 1 | SEA | LAX
AA | 4 | 3 | JFK | LAX
DL | 5 | 2 | PDX | SEA
(5 rows)

kchen2_db=>
```

Q2:

-- Step 1: Create tables in the correct order to resolve foreign key dependencies

-- Create Music_groups table

```
CREATE TABLE Music_groups (  
name VARCHAR NOT NULL UNIQUE,  
formed_year INT NOT NULL,  
PRIMARY KEY (name)  
);
```

-- Create Artists table

```
CREATE TABLE Artists (  
name VARCHAR NOT NULL UNIQUE,  
birth_year INT NOT NULL,  
PRIMARY KEY (name)  
);
```

-- Create Music_genres table

```
CREATE TABLE Music_genres (  
label VARCHAR NOT NULL UNIQUE,  
description TEXT NOT NULL,  
PRIMARY KEY (label)  
);
```

-- Create Music_albums table

```
CREATE TABLE Music_albums (  
title VARCHAR NOT NULL,  
recorded_year INT NOT NULL,  
recorded_group VARCHAR NOT NULL,
```

```
record_label VARCHAR NOT NULL,  
  
PRIMARY KEY (title, recorded_group),  
  
FOREIGN KEY (recorded_group) REFERENCES Music_groups(name)  
  
);  
  
-- Create Songs table  
  
CREATE TABLE Songs (  
  
title VARCHAR PRIMARY KEY,  
  
year_written INT NOT NULL  
  
);  
  
-- Create SongWriters table  
  
CREATE TABLE SongWriters (  
  
song_title VARCHAR NOT NULL,  
  
artist_name VARCHAR NOT NULL,  
  
PRIMARY KEY (song_title, artist_name),  
  
FOREIGN KEY (song_title) REFERENCES Songs(title),  
  
FOREIGN KEY (artist_name) REFERENCES Artists(name)  
  
);  
  
-- Create Tracks table  
  
CREATE TABLE Tracks (  
  
track_id INT NOT NULL UNIQUE,  
  
album_title VARCHAR NOT NULL,  
  
song VARCHAR NOT NULL,  
  
year INT NOT NULL,  
  
artist VARCHAR NOT NULL,  
  
PRIMARY KEY (track_id),
```

```

FOREIGN KEY (song) REFERENCES Songs(title),
FOREIGN KEY (artist) REFERENCES Artists(name)
);

-- Create Group_member table

CREATE TABLE Group_member (
    artist_name VARCHAR NOT NULL,
    group_name VARCHAR NOT NULL,
    start_year INT NOT NULL,
    end_year INT,
    PRIMARY KEY (artist_name, group_name, start_year),
    FOREIGN KEY (artist_name) REFERENCES Artists(name),
    FOREIGN KEY (group_name) REFERENCES Music_groups(name),
    CHECK (start_year <= end_year OR end_year IS NULL)
);

-- Create Group_genres table

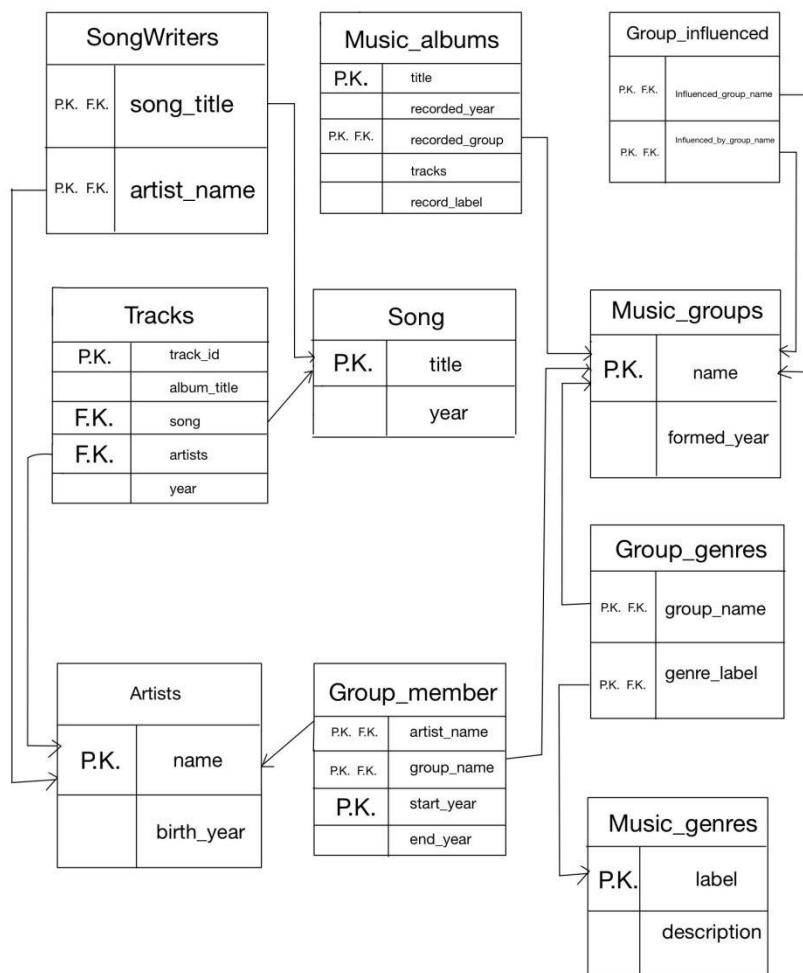
CREATE TABLE Group_genres (
    group_name VARCHAR NOT NULL,
    genre_label VARCHAR NOT NULL,
    PRIMARY KEY (group_name, genre_label),
    FOREIGN KEY (group_name) REFERENCES Music_groups(name),
    FOREIGN KEY (genre_label) REFERENCES Music_genres(label)
);

-- Create GroupInfluences table

CREATE TABLE GroupInfluences (
    group_name VARCHAR NOT NULL,

```

influenced_by VARCHAR NOT NULL,
 PRIMARY KEY (group_name, influenced_by),
 FOREIGN KEY (group_name) REFERENCES Music_groups(name),
 FOREIGN KEY (influenced_by) REFERENCES Music_groups(name)
);



Q3:

```
[kchen2_db=> SELECT * FROM artists;
      name      | birth_year
```

name	birth_year
G-Dragon	1988
Mike Shinoda	1977
T.O.P	1987
John Lennon	1940
Freddie Mercury	1946
Chris Martin	1977
Thom Yorke	1968

(7 rows)

```
kchen2_db=>
```

```
[kchen2_db=> SELECT * FROM group_genres;
      group_name | genre_label
```

group_name	genre_label
Linkin Park	Alternative rock
BigBang	K-pop
The Beatles	Rock
Coldplay	Pop
Radiohead	Alternative rock
Queen	Progressive rock

(6 rows)

```
kchen2_db=>
```

```
[kchen2_db=> SELECT * FROM group_member;
      artist_name | group_name | start_year | end_year
```

artist_name	group_name	start_year	end_year
Mike Shinoda	Linkin Park	1996	
T.O.P	BigBang	2006	2022
John Lennon	The Beatles	1960	1969
Freddie Mercury	Queen	1970	1991
Chris Martin	Coldplay	1997	
Thom Yorke	Radiohead	1985	

(6 rows)

```
kchen2_db=>
```

```
[kchen2_db=> SELECT * FROM groupinfluences;
      group_name | influenced_by
```

group_name	influenced_by
Linkin Park	Depeche Mode
Coldplay	Radiohead
Radiohead	Pink Floyd
Nirvana	The Pixies
Queen	The Beatles

(5 rows)

```
kchen2_db=>
```

```
[kchen2_db=> SELECT * FROM songs;
      title          | year_written
-----+-----
In the End           |      2001
Boys-Live/Remastered |      2016
IF YOU               |      2015
Bohemian Rhapsody    |      1975
Fix You              |      2005
Creep                |      1992
(6 rows)
```

kchen2_db=> █

```
[kchen2_db=> SELECT * FROM music_albums;
      title          | recorded_year | recorded_group | record_label
-----+-----+-----+-----
Papercuts           |      2024    | Linkin Park    | Warner
Live At The Hollywood Bowl |      2016    | The Beatles    | Apple Corps
Made Series         |      2016    | BigBang        | YG Entertainment
A Night at the Opera |      1975    | Queen          | EMI
Parachutes          |      2000    | Coldplay       | Parlophone
OK Computer         |      1997    | Radiohead      | Capitol
(6 rows)
```

kchen2_db=> █

```
[kchen2_db=> SELECT * FROM songwriters;
      song_title     | artist_name
-----+-----
In the End           | Mike Shinoda
Boys-Live/Remastered | John Lennon
IF YOU               | G-Dragon
Bohemian Rhapsody    | Freddie Mercury
Fix You              | Chris Martin
Creep                | Thom Yorke
(6 rows)
```

kchen2_db=> █

```
[kchen2_db=> SELECT * FROM music_genres;
      label          | description
-----+-----
Alternative rock    | A category of rock music that evolved from the independent music underground of the 1970s.
Rock                 | A broad genre of popular music characterized by amplified instruments and rhythms.
K-pop               | A genre of popular music originating in South Korea, known for its blend of various musical elements and choreography.
Pop                 | A genre of popular music that originated in its modern form during the mid-1950s.
Progressive rock    | A broad genre of rock music known for its experimentation and ambitious compositions.
(5 rows)
```

(END)

```
[kchen2_db=> SELECT * FROM tracks;
  track_id |      album_title      |      song      | year |  artis
-----+-----+-----+-----+-----
1 | Papercuts              | In the End      | 2001 | Mike Shin
oda
2 | Live At The Hollywood Bowl | Boys-Live/Remastered | 2016 | John Lenn
on
3 | Made Series            | IF YOU          | 2016 | G-Dragon
4 | A Night at the Opera    | Bohemian Rhapsody | 1975 | Freddie M
ercury
5 | Parachutes              | Fix You         | 2005 | Chris Mar
tin
6 | OK Computer             | Creep           | 1992 | Thom York
e
(6 rows)

(END)
```

```
[kchen2_db=> SELECT * FROM music_groups;
  name      | formed_year
-----+-----
Linkin Park | 1996
The Beatles | 1960
BigBang     | 2006
Depeche Mode | 1980
Radiohead   | 1985
Pink Floyd  | 1965
The Pixies  | 1986
Coldplay    | 1997
Nirvana     | 1987
Queen       | 1970
(10 rows)

kchen2_db=> █
```