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1  --Kevin Hance
2  --Due 10/8/2019
3  --CPSC 321
4  --DBMS HW4
5
6  -- Start by dropping all previous versions of our tables in an order
7  -- that doesn't cause foreign key constraint issues
8  DROP TABLE IF EXISTS music_influences;
9  DROP TABLE IF EXISTS album;
10 DROP TABLE IF EXISTS music_artist;
11 DROP TABLE IF EXISTS music_group;
12 DROP TABLE IF EXISTS record_label;
13 DROP TABLE IF EXISTS genre;
14 DROP TABLE IF EXISTS record_label_type;
15
16 -- create table to keep track of different types of record labels
17 CREATE TABLE record_label_type(
18     label_type_id SMALLINT,
19     label_type VARCHAR(100),
20     PRIMARY KEY (label_type_id)
21 );
22 INSERT INTO record_label_type VALUES (0, "major");
23 INSERT INTO record_label_type VALUES (1, "indie");
24 INSERT INTO record_label_type VALUES (2, "hip-hop");
25
26 -- create table to keep track of separate record label companies
27 CREATE TABLE record_label(
28     label_name VARCHAR(100),
29     year_of_founding SMALLINT,
30     label_type_id SMALLINT,
31     FOREIGN KEY (label_type_id) REFERENCES record_label_type (label_type_id),
32     PRIMARY KEY (label_name)
33 );
34
35 INSERT INTO record_label VALUES ("Famous Label", 2000, 0);
36 INSERT INTO record_label VALUES ("Underground Label", 2013, 1);
37 INSERT INTO record_label VALUES ("Real Ones Entertainment", 1987, 2);
38 INSERT INTO record_label VALUES ("Ref Jam Productions", 1987, 2);
39
40 -- create table to keep track of different genres of music
41 CREATE TABLE genre(
42     genre VARCHAR(100),
43     PRIMARY KEY (genre)
44 );
45
46 INSERT INTO genre VALUES ("rock");
47 INSERT INTO genre VALUES ("indie-rock");
48 INSERT INTO genre VALUES ("hip-hop");
49 INSERT INTO genre VALUES ("");
50
51 -- create table to keep track of different music groups
52 CREATE TABLE music_group(
53     group_name VARCHAR(100),
54     year_of_founding YEAR,
55     genre1 VARCHAR(30),
56     genre2 VARCHAR(30),
57     genre3 VARCHAR(30),
58     FOREIGN KEY (genre1) REFERENCES genre (genre),
59     FOREIGN KEY (genre2) REFERENCES genre (genre),
60     FOREIGN KEY (genre3) REFERENCES genre (genre),
61     PRIMARY KEY (group_name)
62 );
63
64 INSERT INTO music_group VALUES ("MusicMakers", 2005, "rock", " ", " ");
65 INSERT INTO music_group VALUES ("Beat Creators", 2008, "indie-rock", "rock", "hip-hop");
66 INSERT INTO music_group VALUES ("The Rappers", 1998, "hip-hop", " ", " ");
67 INSERT INTO music_group VALUES ("A Tribe Called Question", 1981, "hip-hop", "rock",
68 "indie-rock");
68 INSERT INTO music_group VALUES ("Jim Bean", 1981, "hip-hop", "rock", "indie-rock");

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69  INSERT INTO music_group VALUES (" ", 0, " ", " ", " ");
70
71  -- create table to keep track of albums and their songs
72  CREATE TABLE album(
73      title VARCHAR(100),
74      music_group VARCHAR(100),
75      year_of_recording SMALLINT,
76      songs VARCHAR(1000),
77      record_label VARCHAR(100),
78      FOREIGN KEY (record_label) REFERENCES record_label (label_name),
79      FOREIGN KEY (music_group) REFERENCES music_group (group_name),
80      PRIMARY KEY (title, music_group)
81  );
82
83  INSERT INTO album VALUES ("Great Album", "MusicMakers", 2010, "song1, song2, song3,
84  song4, song5", "Famous Label");
85  INSERT INTO album VALUES ("Unknown Album", "Beat Creators", 2009, "songA, songB, songC,
86  songD, songE", "Underground Label");
87  INSERT INTO album VALUES ("Rap Album", "The Rappers", 1999, "beat1, beat2, beat3,
88  beat4, beat5", "Real Ones Entertainment");
89  INSERT INTO album VALUES ("Another Rap Album", "A Tribe Called Question", 1999, "beat1,
90  beat2, beat3, beat4, beat5", "Ref Jam Productions");
91  INSERT INTO album VALUES ("Jim's Album", "Jim Bean", 1991, "firstSong, secondSong,
92  thirdSong", "Ref Jam Productions");
93  INSERT INTO album VALUES ("Jim's Second Album", "Jim Bean", 1993, "songOne, songTwo,
94  songThree", "Ref Jam Productions");
95
96  -- create table to keep track of individual music artists
97  CREATE TABLE music_artist(
98      first_name VARCHAR(50),
99      last_name VARCHAR(50),
100     birth_year SMALLINT,
101     range_of_activity VARCHAR(30),
102     music_group1 VARCHAR(100) NOT NULL,
103     music_group2 VARCHAR(100),
104     music_group3 VARCHAR(100),
105     FOREIGN KEY (music_group1) REFERENCES music_group (group_name),
106     FOREIGN KEY (music_group2) REFERENCES music_group (group_name),
107     FOREIGN KEY (music_group3) REFERENCES music_group (group_name),
108     PRIMARY KEY (first_name, last_name)
109  );
110
111  INSERT INTO music_artist VALUES ("John", "Doe", 1984, "2005-present", "MusicMakers", "
112  ", " ");
113  INSERT INTO music_artist VALUES ("Jim", "Bean", 1974, "2009-present", "Beat Creators",
114  " ", " ");
115  INSERT INTO music_artist VALUES ("Jack", "Peterson", 1970, "1998-present", "The
116  Rappers", " ", " ");
117  INSERT INTO music_artist VALUES ("Josh", "Johnson", 1968, "1998-present", "The
118  Rappers", "A Tribe Called Question", "MusicMakers");
119  INSERT INTO music_artist VALUES ("Joanna", "Jacobson", 1962, "1981-present", "A Tribe
120  Called Question", "The Rappers", "Beat Creators");
121
122  -- create table to keep track of music influences (which groups influence other groups)
123  CREATE TABLE music_influences(
124      music_group VARCHAR(100),
125      is_influenced_by VARCHAR(100),
126      PRIMARY KEY (music_group, is_influenced_by),
127      FOREIGN KEY (is_influenced_by) REFERENCES music_group (group_name),
128      FOREIGN KEY (music_group) REFERENCES music_group (group_name)
129  );
130
131  INSERT INTO music_influences VALUES ("A Tribe Called Question", "The Rappers");
132  INSERT INTO music_influences VALUES ("A Tribe Called Question", "MusicMakers");
133  INSERT INTO music_influences VALUES ("The Rappers", "A Tribe Called Question");
134  INSERT INTO music_influences VALUES ("Jim Bean", "A Tribe Called Question");
135
136  -- question 1
137  SELECT title FROM album WHERE year_of_recording = 1999;

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127 -- question 2
128 SELECT label_name FROM record_label WHERE year_of_founding = 1987 AND label_type_id = 2;
129 -- question 3
130 SELECT label_name FROM record_label WHERE year_of_founding >= 1980 AND year_of_founding
    <= 1989 AND label_type_id = 2;
131 -- question 4
132 SELECT first_name, last_name FROM music_artist WHERE music_group1 = "The Rappers" OR
    music_group2 = "The Rappers" OR music_group3 = "The Rappers";
133 -- question 5
134 SELECT first_name, last_name FROM music_artist WHERE music_group2 != " ";
135 -- question 6
136 SELECT group_name, year_of_founding FROM music_group WHERE genre1 != " " AND genre2 !=
    " " AND genre3 != " ";
137 -- question 7
138 SELECT music_group FROM music_influences WHERE is_influenced_by = "A Tribe Called
    Question";
139 -- question 8
140 SELECT DISTINCT title FROM album NATURAL JOIN music_artist WHERE music_group =
    CONCAT(first_name, " ", last_name) AND year_of_recording >= 1990 AND year_of_recording
    <= 1999;
141 -- question 9
142 SELECT DISTINCT first_name, last_name, group_name FROM music_group, music_artist WHERE
    genre2 != " ";
143 -- question 10
144 SELECT a.music_group, b.music_group, a.songs FROM album a, album b WHERE a.songs =
    b.songs AND a.music_group != b.music_group;
145 -- question 11
146 SELECT group_name, year_of_founding FROM music_group NATURAL JOIN music_influences
    WHERE is_influenced_by = "A Tribe Called Question" AND year_of_founding < 2000 AND
    year_of_founding > 1900;
147

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