HOMEWORK #4 SOLUTION

Problem 1 (4 points):

Use SQLiteStudio to create the nyc_films_permits table within the nyc_media_rep_db database on your laptop which we created together in class on Mar 14. Submit the CREATE TABLE statement generated by SQLiteStudio as a file attachment to this NYU Classes assignment.

Potential answer #1 – no Primary Keys:

```
CREATE TABLE nyc_film_permits (
EventID VARCHAR (10) NOT NULL,
EventType VARCHAR (250) NOT NULL,
StartDateTime DATETIME NOT NULL,
EndDateTime DATETIME NOT NULL,
Borough VARCHAR (20) NOT NULL,
Category VARCHAR (50) NOT NULL,
SubCategoryName VARCHAR (50) NOT NULL,
ZipCode VARCHAR (5) NOT NULL
);
```

Potential answer #2 – includes correct Primary Keys:

```
CREATE TABLE nyc_film_permits (
   EventID         VARCHAR (10)  NOT NULL,
   EventType       VARCHAR (250) NOT NULL,
   StartDateTime   DATETIME      NOT NULL,
   EndDateTime     DATETIME      NOT NULL,
   Borough         VARCHAR (20)  NOT NULL,
   Category        VARCHAR (50)  NOT NULL,
   SubCategoryName VARCHAR (50)  NOT NULL,
   ZipCode         VARCHAR (5)   NOT NULL,
   PRIMARY KEY (
      EventID,
      StartDateTime,
      ZipCode
   )
);
```

NOTE: In principle, while field data types should be as accurate as possible to enable full SQL SELECT functionality for filtering and sorting, this first assignment's focus is for the student to become acquainted with SQLiteStudio, the CREATE TABLE statement and the mapping of columns to fields in database table creation. So that means using VARCHAR or STRING for nearly all fields is acceptable - we'll cover impact of poor data-type choices in class. However, some data-types are clearly wrong and are incorrect for the assignment (e.g. using DATETIME in a non-datetime field, using INTEGER in a field containing alphabet characters).

Problem 2 (4 points):

Populate the new nyc_film_permits table by using SQLiteStudio to import the data found in the nyc_film_permits.tsv posted to NYU Classes. Run one SQL query using what you learned in class to display data from this new table. Your query must be a SELECT ... FROM statement with at least one other SQL command (e.g. DISTINCT, WHERE, LIMIT, etc). Submit your SQL query and resulting data view (screenshot or data file are both acceptable) as a file attachment to this NYU Classes assignment.

Example acceptable SQL SELECT statements:

*SELECT * FROM nyc_film_permits LIMIT 100;*

*SELECT * FROM nyc_film_permits WHERE ZipCode = 10001;*

SELECT DISTINCT EventID from nyc_film_permits

Problem 3 (2 points):

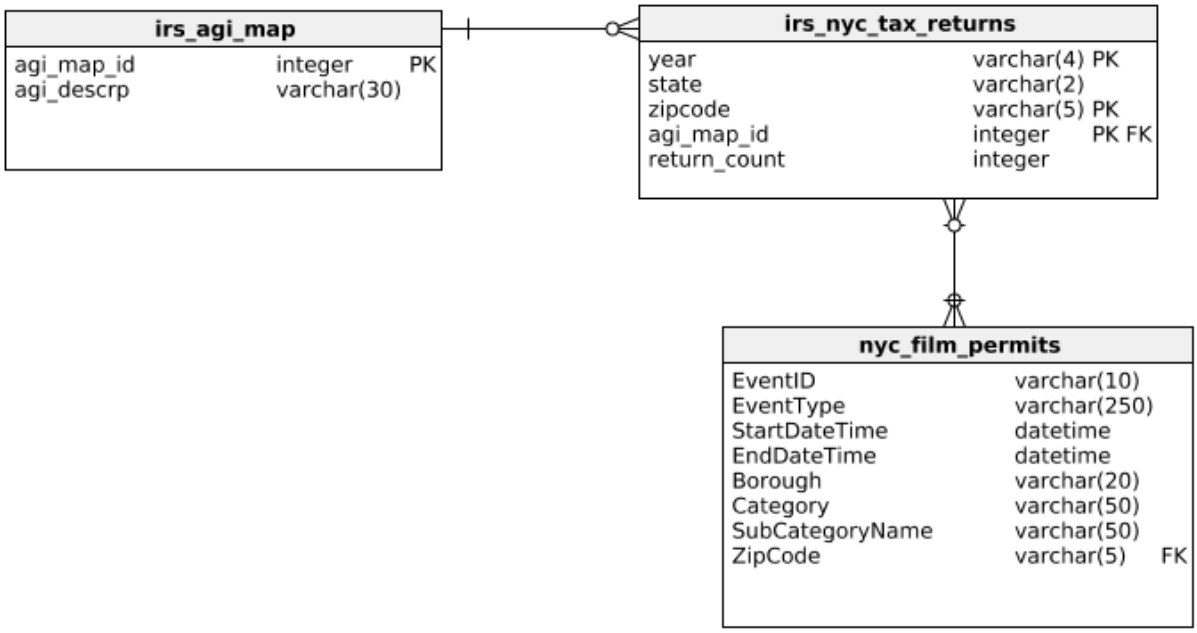
Describe the relationships between all the tables (nyc_film_permits, irs_agi_map, and irs_nyc_tax_returns) in the updated nyc_media_rep_db database, either in words or as a diagram created by updating the ERD found on NYU Classes. Submit your chosen form of the described relationships to this assignment in NYU Classes.

Potential Answer #1

In words:

Zero to Many Film Permits can map to Zero to Many IRS Tax Returns

In pictures:



Potential Answer #2 – using a bridge table

In words:
Zero to Many Film Permits can map to Zero to Many IRS Tax Returns

In pictures: