

Homework 2

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In this homework , you are asked to answer some questions with SQL.

Please upload your file to e-Campus system by the due date and name your file as "Group2_XXXXXXX", where XXXXXXX is your student ID.

The report should contain the result (may be part of table) and SQL for each question.

Dataset : [dvdrental](#) data (film part)

Descriptions : The dataset is designed to represent a DVD rental store. There are six tables given in this homework, which are listed with description for each column below. You have to establish before answering the questions.

Tables :

1. The film Table

The `film` table is a list of all films potentially in stock in the stores. The `film` table refers to the `language` table and is referred to by the `film_category`, and `film_actor`.

- `film_id`: A surrogate primary key used to uniquely identify each film in the table.
- `title`: The title of the film.
- `description`: A short description or plot summary of the film.
- `release_year`: The year in which the movie was released.
- `language_id`: A foreign key pointing at the `language` table; identifies the language of the film.
- `rental_duration`: The length of the rental period, in days.
- `rental_rate`: The cost to rent the film for the period specified in the `rental_duration` column.
- `length`: The duration of the film, in minutes.
- `replacement_cost`: The amount charged to the customer if the film is not returned or is returned in a damaged state.

- `rating`: The rating assigned to the film.
- `special_features`: Lists which common special features are included on the DVD.
Can be zero or more of: Trailers, Commentaries, Deleted Scenes, Behind the Scenes.

2. The actor Table

The `actor` table lists information for all actors. The `actor` table is joined to the `film` table by means of the `film_actor` table.

- `actor_id`: A surrogate primary key used to uniquely identify each actor in the table.
- `first_name`: The actor's first name.
- `last_name`: The actor's last name.

3. The category Table

The `category` table lists the categories that can be assigned to a film. The `category` table is joined to the `film` table by means of the `film_category` table.

- `category_id`: A surrogate primary key used to uniquely identify each category in the table.
- `name`: The name of the category.

4. The language Table

The `language` table is a lookup table listing the possible languages that films can have for their language and original language values. The `language` table is referred to by the `film` table.

- `language_id`: A surrogate primary key used to uniquely identify each language.
- `name`: The English name of the language.

5. The film_actor Table

The `film_actor` table is used to support a many-to-many relationship between films and actors. For each actor in a given film, there will be one row in the `film_actor` table listing the actor and film. The `film_actor` table refers to the `film` and `actor` tables using foreign keys.

- `actor_id`: A foreign key identifying the actor.

- `film_id`: A foreign key identifying the film.

6. The *film_category* Table

The `film_category` table is used to support a many-to-many relationship between films and categories. For each category applied to a film, there will be one row in the `film_category` table listing the category and film. The `film_category` table refers to the `film` and `category` tables using foreign keys.

- `film_id`: A foreign key identifying the film.
- `category_id`: A foreign key identifying the category.

Questions :

1. How many records in the table `film`? 總共有幾部電影?
2. Find the percentage of film which category is Drama? 電影類型為劇情片的電影佔多少比例?
3. How many different rating of film? For each rating, how many films are applied to? 電影有哪幾種分級? 每種分級各有幾部電影?
4. Please list the film name which language is Japanese and released in 2005. 請列出語言為日文且在2005年發行的電影
5. Please list the actor's full name whose name contains "Chris". 請列出名字中有Chris的演員
6. Please list the average film length of all kinds of category of film. 請列出各種類型電影的平均片長
7. Please list the top 20 actors who has done in the most films and the counts. 請依據出演的電影數目，列出排名前20名演員及次數(若次數一樣根據姓名排序)
8. Please list the film name which category and release year are the same as "Alice Fantasia" 請找出和電影"Alice Fantasia"相同類型且同年發行的電影
9. Find the most category "Ben Harris" has played in? "Ben Harris" 演過的電影中哪種類型最多?
10. Find the actor who has not been in any films since 2007. 找出在2007年後就沒演過電影的演員

11.(Bonus) Feel free to think. Any valuable observation with explanation 請自由發想 SQL，找出有趣的資訊並解釋它的含意