

COMP2400/6240 - Relational Databases

SQL Sample Questions

Due date: TBD

Question 1

Unknown Marks

The relational database `moviedb` has the following database schema:

`MOVIE`(title, production_year, country, run_time, major_genre)
primary key : {title, production_year}

`PERSON`(id, first_name, last_name, year_born)
primary key : {id}

`AWARD`(award_name, institution, country)
primary key : {award_name}

`RESTRICTION_CATEGORY`(description, country)
primary key : {description, country}

`DIRECTOR`(id, title, production_year)
primary key : {title, production_year}
foreign keys : [title, production_year] \subseteq `MOVIE`[title, production_year]
[id] \subseteq `PERSON`[id]

`WRITER`(id, title, production_year, credits)
primary key : {id, title, production_year}
foreign keys : [title, production_year] \subseteq `MOVIE`[title, production_year]
[id] \subseteq `PERSON`[id]

`CREW`(id, title, production_year, contribution)
primary key : {id, title, production_year}
foreign keys : [title, production_year] \subseteq `MOVIE`[title, production_year]
[id] \subseteq `PERSON`[id]

`SCENE`(title, production_year, scene_no, description)
primary key : {title, production_year, scene_no}
foreign keys : [title, production_year] \subseteq `MOVIE`[title, production_year]

`ROLE`(id, title, production_year, description, credits)
primary key : {title, production_year, description}
foreign keys : [title, production_year] \subseteq `MOVIE`[title, production_year]
[id] \subseteq `PERSON`[id]

`RESTRICTION`(title, production_year, description, country)
primary key : {title, production_year, description, country}
foreign keys : [title, production_year] \subseteq `MOVIE`[title, production_year]
[description, country] \subseteq `RESTRICTION_CATEGORY`[description, country]

`APPEARANCE`(title, production_year, description, scene_no)
primary key : {title, production_year, description, scene_no}
foreign keys : [title, production_year, scene_no] \subseteq `SCENE`[title, production_year, scene_no]
[title, production_year, description] \subseteq `ROLE`[title, production_year, description]

MOVIE_AWARD(title, production_year, award_name, year_of_award, category, result)
primary key : {title, production_year, award_name, year_of_award, category}
foreign keys : [title, production_year] \subseteq MOVIE[title, production_year]
 [award_name] \subseteq AWARD[award_name]

CREW_AWARD(id, title, production_year, award_name, year_of_award, category, result)
primary key : {id, title, production_year, award_name, year_of_award, category}
foreign keys : [id, title, production_year] \subseteq CREW[id, title, production_year]
 [award_name] \subseteq AWARD[award_name]

DIRECTOR_AWARD(title, production_year, award_name, year_of_award, category, result)
primary key : {title, production_year, award_name, year_of_award, category}
foreign keys : [title, production_year] \subseteq DIRECTOR[title, production_year]
 [award_name] \subseteq AWARD[award_name]

WRITER_AWARD(id, title, production_year, award_name, year_of_award, category, result)
primary key : {id, title, production_year, award_name, year_of_award, category}
foreign keys : [id, title, production_year] \subseteq WRITER[id, title, production_year]
 [award_name] \subseteq AWARD[award_name]

ACTOR_AWARD(title, production_year, description, award_name, year_of_award, category, result)
primary key : {title, production_year, description, award_name, year_of_award, category}
foreign keys : [award_name] \subseteq AWARD[award_name]
 [title, production_year, description] \subseteq ROLE[title, production_year, description]

There are five different categories of awards: movie awards, crew awards, director awards, writer awards and actor awards. A movie can only win an award after being nominated for the award.

Your task is to answer the following questions using SQL queries. For each question, your answer must be a *single SQL query* that may contain subqueries, and you must write your answers into the template file `myqueries.sql`.

- 1.1 Find all the movies produced in Australia. List the titles and production years of these Australian movies.
- 1.2 How many persons are there in this database? List that number.
- 1.3 Which writers have won a writer award in 1994? List the ids, the first and last names of the writers along with the award names.
- 1.4 Which directors have directed crime movies (i.e., the major genre of the movie is crime)? List the directors' ids and the titles and production years of these crime movies.
- 1.5 How many different crew members have worked on at least one movie produced in 1993? List that number.
- 1.6 Which year was the youngest director (i.e., the youngest person in the database who has ever directed a movie) born in? List that year.
- 1.7 Who have written exactly two American movies (i.e., the production country is USA)? List their ids, first and last names. Order your results in the ascending order of their ids.
- 1.8 How many directors are there in this database who have never written a movie? List that number.
- 1.9 What is the maximum number of scenes in any movie? List that number.
- 1.10 Who has/have won a most recent writer award? List their id(s).
- 1.11 Find all the movies which have won exactly two movie awards. List the titles and production years of these movies.
- 1.12 Who have won both writer and director awards for the same movie? Provide their ids, and the titles and production years of the corresponding movies.

- 1.13 Who have been nominated for an actor award at least twice but never won? List their ids, the first and last names, and order them in the ascending order of their last names.
- 1.14 Which crew members have worked on a movie that has won the greatest number of movie awards? Give the ids of the crew members.
- 1.15 Who is/are the most productive director(s) (i.e., who has/have directed the greatest number of movies)? List their id(s).