

Relational Databases Modeling and Design

Part 1: Introduction to Databases

Practical Work 5: SQL queries

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We use the following relational database:

- Individual (num_ind, name, surname)
- Film (num_film, *num_ind*, title, kind, fyear)
- Play (*num_ind*, *num_film*, role)
- Cinema (num_cine, name, address)
- Projection (*num_cine*, *num_film*, pdate)
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This database describes films with its filmmakers and actors, as well as film screenings in various cinemas. The following tables give an instance of this relational schema.

Relation *Individual*

num_ind	surname	name
01	Kidman	Nicole
02	Bettany	Paul
03	Watson	Emily
04	Skarsgard	Stellan
05	Travolta	John
06	L. Jackson	Samuel
07	Willis	Bruce
08	Irons	Jeremy
09	Spader	James
10	Hunter	Holly
11	Arquette	Rosanna
12	Wayne	John
13	von Trier	Lars
14	Tarantino	Quentin
15	Cronenberg	David
16	Mazursky	Paul
17	Jones	Grace
18	Glen	John

Relation *Cinema*

num_cine	name	address
02	Le Fontenelle	78160 Marly-le-Roi
01	Le Renoir	13100 Aix-en-Provence
03	Gaumont Wilson	31000 Toulouse
04	Espace Ciné	93800 Epinay-sur-Seine

Relation *Film*

num_film	num_ind	title	kind	fyear
05	13	Dogville	Drama	2002
04	13	Breaking the waves	Drama	1996
03	14	Pulp Fiction	Police	1994

02	15	Faux-Semblants	Terror	1988
01	15	Crash	Drama	1996
06	12	Alamo	Western	1960
07	18	Dangereusement vôtre	Spy	1985

Relation *Play*

num_ind	num_film	role
01	05	Grace
02	05	Tom Edison
03	04	Bess
04	04	Jan
05	03	Vincent Vega
06	03	Jules Winnfield
07	03	Butch Coolidge
08	02	Beverly & Elliot Mantle
09	01	James Ballard
10	01	Helen Remington
11	01	Gabrielle
04	05	Chuck
16	07	May Day

Relation *Projection*

num_cine	num_film	pdate
02	05	01/05/2002
02	05	02/05/2002
02	05	03/05/2002
02	04	02/12/1996
01	01	07/05/1996
02	07	09/05/1985
01	04	02/08/1996
04	03	08/04/1994
03	06	02/12/1990
02	02	25/09/1990
03	03	05/11/1994
04	03	06/11/1994
01	06	05/07/1980
02	04	02/09/1996
04	06	01/08/2002
03	06	09/11/1960
01	02	12/03/1988

Run the `cinema_table.sql` script and realize the following queries in SQL:

1. What are the individuals who are both actor and director? We are only interested in their number.
2. Give the numbers of actors and directors.
3. What are the names of individuals that begin with the letter T or W, who is not called John?
4. What are the name and surname of the director of the film "Pulp Fiction"?
5. What are the titles of movies directed by Lars von Trier?
6. What are the titles of films that were screened in 2002?
7. Which players have never played in dramatic film?
8. Which actors have played in at least one non-dramatic film?
9. What are the titles of movies in which Nicole Kidman played a role and were screened at the cinema Fontenelle?
10. In how many movies played Nicole Kidman?
11. What is the date of the first screening of Pulp Fiction?