

You've started a new movie-rating website, and you've been collecting data on reviewers' ratings of various movies. There's not much data yet, but you can still try out some interesting queries. Here's the schema:

Movie (mID, title, year, director)

English: There is a movie with ID number *mID*, a *title*, a release *year*, and a *director*.

Reviewer (rID, name)

English: The reviewer with ID number *rID* has a certain *name*.

Rating (rID, mID, stars, ratingDate)

English: The reviewer *rID* gave the movie *mID* a number of *stars* rating (1-5) on a certain *ratingDate*.

Q1

Find all movies.

mID	title	year	director
101	Gone with the Wind	1939	Victor Fleming
102	Star Wars	1977	George Lucas
103	The Sound of Music	1965	Robert Wise
104	E.T.	1982	Steven Spielberg
105	Titanic	1997	James Cameron
106	Snow White	1937	NULL
107	Avatar	2009	James Cameron
108	Raiders of the Lost Ark	1981	Steven Spielberg

Q2

Find all reviewers whose name include 'er'.

rID	name
204	Mike Anderson
207	James Cameron

Q3

Find the titles of all movies released before 1980.

title
Gone with the Wind
Star Wars
The Sound of Music
Snow White

Q4

Find the reviewer names who have ratings with all movies.

name

Q5

(2 points possible)

Find the titles of all movies directed by Steven Spielberg.

title
E.T.
Raiders of the Lost Ark

Q6

(2 points possible)

Find all years that have a movie that received a rating of 4 or 5, and sort them in increasing order.

year
1937
1939
1981
2009

Q7

(2 points possible)

Find the titles of all movies that have no ratings.

title
Star Wars
Titanic

Q8

(2 points possible)

Some reviewers didn't provide a date with their rating. Find the names of all reviewers who have ratings with a NULL value for the date.

name
Daniel Lewis
Chris Jackson

Q9

(2 points possible)

Write a query to return the ratings data in a more readable format: reviewer name, movie title, stars, and ratingDate. Also, sort the data, first by reviewer name, then by movie title, and lastly by number of stars.

name	title	stars	ratingdate
Brittany Harris	The Sound of Music	2	2011-01-20
Chris Jackson	E.T.	2	2011-01-22
Chris Jackson	Raiders of the Lost Ark	4	NULL
Chris Jackson	The Sound of Music	3	2011-01-27
Daniel Lewis	Snow White	4	NULL
Elizabeth Thomas	Avatar	3	2011-01-15
Elizabeth Thomas	Snow White	5	2011-01-19
James Cameron	Avatar	5	2011-01-20
Mike Anderson	Gone with the Wind	3	2011-01-09
Sarah Martinez	Gone with the Wind	2	2011-01-22
Sarah Martinez	Gone with the Wind	4	2011-01-27

Q10

(2 points possible)

For all cases where the same reviewer rated the same movie twice and gave it a higher rating the second time, return the reviewer's name and the title of the movie.

name	title
Sarah Martinez	Gone with the Wind

Q11

(2 points possible)

For each movie that has at least one rating, find the highest number of stars that movie received. Return the movie title and number of stars. Sort by movie title.

title	max(rating.stars)
Avatar	5
E.T.	3
Gone with the Wind	4
Raiders of the Lost Ark	4
Snow White	5
The Sound of Music	3

Q12

(2 points possible)

List movie titles and average ratings, from highest-rated to lowest-rated. If two or more movies have the same average rating, list them in alphabetical order.

title	avg(stars)
Snow White	4.5000
Avatar	4.0000
Raiders of the Lost Ark	3.3333
Gone with the Wind	3.0000
E.T.	2.5000
The Sound of Music	2.5000

Q13

(2 points possible)

Find the names of all reviewers who have contributed three or more ratings. (As an extra challenge, try writing the query without HAVING or without COUNT.)

name
Brittany Harris
Chris Jackson

Q14

Find the names of all reviewers who rated Gone with the Wind.

name
Sarah Martinez
Mike Anderson

Q15

For any rating where the reviewer is the same as the director of the movie, return the reviewer name, movie title, and number of stars.

name	title	stars
James Cameron	Avatar	5

Q16

Return all reviewer names and movie names together in a single list, alphabetized. (Sorting by the first name of the reviewer and first word in the title is fine; no need for

special processing on last names or removing "The".)

name
Ashley White
Avatar
Brittany Harris
Chris Jackson
Daniel Lewis
E.T.
Elizabeth Thomas
Gone with the Wind
James Cameron
Mike Anderson
Raiders of the Lost...
Sarah Martinez
Snow White
Star Wars
The Sound of Music
Titanic

Q17

Find the titles of all movies not reviewed by Chris Jackson.

title
Gone with the Wind
Star Wars
Titanic
Snow White
Avatar

Q18

For all pairs of reviewers such that both reviewers gave a rating to the same movie, return the names of both reviewers. Eliminate duplicates, don't pair reviewers with themselves, and include each pair only once. For each pair, return the names in the pair in alphabetical order.

name	name
Mike Anderson	Sarah Martinez
Brittany Harris	Chris Jackson
Ashley White	Chris Jackson
Daniel Lewis	Elizabeth Thomas
Elizabeth Thomas	James Cameron

Q19

For each rating that is the lowest (fewest stars) currently in the database, return the reviewer name, movie title, and number of stars.

name	title	stars
Sarah Martinez	Gone with the Wind	2
Brittany Harris	The Sound of Music	2
Brittany Harris	Raiders of the Lost Ark	2
Chris Jackson	E.T.	2

Q20

For each movie, return the title and the 'rating spread', that is, the difference between highest and lowest ratings given to that movie. Sort by rating spread from highest to lowest, then by movie title.

title	max(stars)-min(stars)
Avatar	2
Gone with the Wind	2
Raiders of the Lost Ark	2
E.T.	1
Snow White	1
The Sound of Music	1

Q21

Find the difference between the average rating of movies released before 1980 and the average rating of movies released after 1980. (Make sure to calculate the average rating for each movie, then the average of those averages for movies before 1980 and movies after. Don't just calculate the overall average rating before and after 1980.)

<code>avg(before1980.avg_stars)-avg(after1980.avg_s</code>
<code>0.05556667</code>

Q22

Some directors directed more than one movie. For all such directors, return the titles of all movies directed by them, along with the director name. Sort by director name, then movie title. (As an extra challenge, try writing the query both with and without COUNT.)

director	title
Steven Spielberg	E.T.
James Cameron	Titanic
James Cameron	Avatar
Steven Spielberg	Raiders of the Lost Ark

Q23

Find the movie(s) with the highest average rating. Return the movie title(s) and average rating. (Hint: This query is more difficult to write in SQLite than other systems; you might think of it as finding the highest average rating and then choosing the movie(s) with that average rating.)

title	avg_stars
Snow White	4.5000

Q24

Find the movie(s) with the lowest average rating. Return the movie title(s) and average rating. (Hint: This query may be more difficult to write in SQLite than other systems; you might think of it as finding the lowest average rating and then choosing the movie(s) with that average rating.)

title	min_avg
Gone with the Wind	2.5000

Q25

For each director, return the director's name together with the title(s) of the movie(s) they directed that received the highest rating among all of their movies, and the value of that rating. Ignore movies whose director is NULL.

director	title	stars
Victor Fleming	Gone with the Wind	4
Steven Spielberg	Raiders of the Lost Ark	4
Robert Wise	The Sound of Music	3
James Cameron	Avatar	5