Movie Reviews

1. Titles of all movies directed by Steven Spielberg.

Here is the expected result:

E.T.
Raiders of the Lost Ark

Solution.
SELECT title
FROM Movie
WHERE director = 'Steven Spielberg'

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

Expected result:

1937
1939
1981
2009

Solution.
SELECT DISTINCT year
FROM Movie m, Rating r

WHERE m.mid = r.mid AND r.stars > 3
ORDER BY year

3. Titles of all movies that have no ratings.

Star Wars
Titanic

Solution.
SELECT title
FROM Movie m left outer join Rating r on m.mID = r.mID
WHERE r.stars is NULL

4. Names of all reviewers who have ratings with a NULL value for the date.

Chris Jackson
Daniel Lewis

Solution.
SELECT name
FROM Reviewer v, Rating r
WHERE v.rID = r.rID
AND r.ratingDate is NULL

5. 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.

Ashley White	E.T.	3	2011-01-02
Brittany Harris	Raiders of the Lost Ark	2	2011-01-30
Brittany Harris	Raiders of the Lost Ark	4	2011-01-12
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

Solution.
SELECT name, title, stars, ratingDate
FROM Reviewer v, Movie m, Rating r
WHERE v.rID = r.rID
AND m.mID = r.mID
ORDER BY name, title, stars

6. 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.

Sarah Martinez	Gone with the Wind

Solution.
SELECT name, title
FROM Movie m, Rating r1, Rating r2, Reviewer v
WHERE v.rID = r1.rID
AND m.mID = r1.mID
AND r1.mID = r2.mID
AND r1.rID = r2.rID
AND r1.stars < r2.stars
AND r1.ratingDate < r2.ratingDate

7. 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.

Avatar	5
E.T.	3
Gone with the Wind	4
Raiders of the Lost Ark	4
Snow White	5
The Sound of Music	3

Solution.
SELECT title, MAX(stars)
FROM Movie m, Rating r
WHERE m.mID = r.mID
GROUP BY m.mID
ORDER BY title

8. 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.

Avatar	2

Gone with the Wind	2
Raiders of the Lost Ark	2
E.T.	1
Snow White	1
The Sound of Music	1

Solution.
SELECT title, MAX(stars)-MIN(stars) as spread
FROM Movie m, Rating r
WHERE m.mID = r.mID
GROUP BY title
ORDER BY spread DESC, title

9. 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.) HINT: I solved this using two subqueries in the from clause.

0.0555555555556

Solution.
SELECT avg(beforeavg)-avg(afteravg)
FROM

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(SELECT title, avg(stars) as beforeavg
FROM Movie m, Rating r
WHERE m.mID = r.mID
AND m.year < 1980
GROUP BY m.mID),

(SELECT title, avg(stars) as afteravg
FROM Movie m, Rating r
WHERE m.mID = r.mID
AND m.year > 1980
GROUP BY m.mID)
```