**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.**

**Find the titles of all movies directed by Steven Spielberg.**

select title from movie where director = 'Steven Spielberg'

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

select distinct year from movie join rating using(mID) where stars in (4, 5) order by year

**Find the titles of all movies that have no ratings.**

select title from movie where mID not in (select mID from rating)

select title from movie m where not exists (select mID from rating where mID = m.mID)

**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.**

select distinct name from reviewer join rating using(rID) where ratingDate is null

**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.**

select name as "reviewer name", title as "movie title", stars, ratingDate

from (movie join rating using(mID)) join reviewer using(rID)

order by name , title, stars

**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.**

select name, title from (movie m join rating r using(mID)) join reviewer v using(rID)

where stars > (select stars from rating where rID = v.rID and mID = m.mID and ratingDate < r.ratingDate)

**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.**

select title, max(stars) from movie join rating using(mID) group by title

order by title

**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.**

select title, mx - mn as "rating spread" from

(select title, max(stars) mx, min(stars) mn from movie join rating using(mID) group by title)

order by "rating spread" desc, title

**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.)**

select distinct n1 - n2 from

(select (select avg(n) from (select avg(stars) n from movie join rating using(mID) where year < 1980 group by mID)) n1,

(select avg(n) from (select avg(stars) n from movie join rating using(mID) where year > 1980 group by mID)) n2

from movie)