CS 353 Fall 2022

Homework 3

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1) **Given the following relational schema for a movie database:**

   Movie(m-id, title, year, genre, directorName, country, rating) directorName is a
   foreign key to Director(name)

   MovieStar(s-id, name, country, gender, birthYear)

   StarIn(m-id, s-id) m-id is a foreign key to Movie, s-id is a foreign key to MovieStar

   Director(name, birthYear, country)

   a) **Find the title and year of the movies directed by the directors younger than 40 from**
   Turkey.

SELECT title, year

FROM Movie M, Director D

WHERE M.directorName = D.name AND D.birthYear > 1980

   b) **Find the name of the female stars who appeared in the "horror" movies of the last 10**
   years directed by Turkish directors.

SELECT DISTINCT name

FROM MovieStar MS, StarIn S, Movie M

WHERE (S.sid = MS.sid) AND M.mid = S.mid AND MS.gender = 'female' AND M.genre = 'horror' AND M.years > 2011

   c) **Find the name and country of the stars who are younger than 20 and appeared in**
   the movies of the director "Quentin Tarantino" between 2000 – 2020. Order the
   result by country of stars ascending.

SELECT name, MS.country

FROM Movie M, MovieStar MS, StarIn S

WHERE MS.sid = S.sid AND S.mid = M.mid AND M.directorName = 'Quentin Tarantino' AND MS.birthYear > 2002 AND M.year < 2020 AND M.year > 2000

ORDER BY name

d) Find the average rating of the "western" movies featured "John Wayne".

SELECT AVG(rating)

FROM Movie M, MovieStar MS, StarIn S

WHERE S.sid = MS.sid AND S.mid = M.mid AND MS.name = 'John Wayne' AND M.genre = 'western'

e) Find the directors who directed at least 3 movies last year (2021) with a rating higher than 5.0.

SELECT directorName, COUNT (directorName) as num

FROM Movie M

WHERE M.rating > 5 AND M.years = '2021'

GROUP BY directorName

HAVING num > 3

f) For each year, find the highest rated movie from each country whose director is from the same country and is younger than 30.

SELECT M.title, MAX (rating)

from Movie M, Director D

WHERE M.directorName = D.name AND D.birthYear > 1972 AND M.country = D.country

GROUP BY year

g) Find the name of the directors from USA who directed "horror" movies in the last year, that received a rating value higher than the average rating value of the movies directed by "Alfred Hitchcock".

SELECT name

FROM Movie M, Director D

WHERE M.directorName = D.name AND M.genre = 'horror' AND D.country = 'USA' AND M.rating > (SELECT avg(rating)

       FROM Movie M

      WHERE M.directorName = 'Alfred Hitchcock');

)

h) Find the title of the highest rated movie for each genre in each country for the last year.

SELECT title, MAX(rating)

FROM Movie M

GROUP BY M.genre, M.country

i) Find the name of the directors who have the same number of movies as "Tarantino".

SELECT directorName, COUNT(directorName) as num

FROM Movie M

GROUP BY directorName

HAVING num = (SELECT COUNT(directorName)

       FROM Movie M

       WHERE M.directorName = 'Quentin Tarantino')

j) For each country, find the name of the directors from that country who directed the highest number of "comedy" movies in the last year.

SELECT   directorName, count(genre)

FROM Movie M, Director D

WHERE M.directorName = D.name AND M.genre = 'comedy'

GROUP BY M.country

ORDER BY count(genre)

LIMIT 1

2)

a)

SELECT S.sname as StudentName, C.cname as ClubName

FROM Student S, Membership M, Club C

WHERE S.sid = M.sid AND M.cid = C.cid AND (dept = "CS" OR fee = 45

StudentName	ClubName
John	ABC
John	XYZ
Dave	XYZ

b)

SELECT S.sname as StudentName, C.cname as ClubName

FROM Student S, Membership M, Club C

WHERE S.sid = M.sid AND M.cid = C.cid AND (status = "active" OR status <> "active")

StudentName	ClubName
John	ABC
John	XYZ
Dave	XYZ

c)

SELECT S.sname as StudentName, C.cname as ClubName

FROM Student S, Membership M, Club C

WHERE S.sid = M.sid AND M.cid = C.cid AND

 ((dept = "CS" OR status = "active") AND NOT(fee = 45))

StudentName	ClubName
John	ABC

d)

SELECT S.sname as StudentName, C.cname as ClubName

FROM Student S, Membership M, Club C

WHERE S.sid = M.sid AND M.cid = C.cid AND

 ((dept = "CS" AND status = "active") OR fee = 45)

StudentName	ClubName
John	XYZ
Dave	XYZ