

CS482/502 Database Management Systems I

Assignment: SQL

Assume that you are given the following relational schemas for the basketball team at NMSU.

- Player (ID: integer, Name: varchar(64), Birthday: date, Address: varchar(128), Email: varchar(32), PhoneNumber: char(10), PlayPos: varchar(16))
- Manager (ID: integer, LoginID: varchar(16), Name: varchar(64), Password: varchar(8), Birthday: date, Address: varchar(128), Email: varchar(32), PhoneNumber: char(10))
- ManagerCertificate (ManagerID: integer, CertificateId: integer, Certificate: blob) -
Foreign key: ManagerID references Manager(ID)
- Doctor (Email: varchar(32), Name: varchar(64), PhoneNumber: char(10))
- TakeExam (PlayerID: integer, DocEmail: varchar(32), TestDate: date, TestResult: varchar(256))
 - Foreign key: PlayerID references Player(ID)
 - Foreign key: DocEmail references Doctor(Email)
- Stats (PlayerID: integer, Year: char(4), TotalPoints: integer, ASPG: integer) -
Foreign key: PlayerID references Player(ID)
- Training (TrainingName: varchar(256), Instruction: varchar(256), TimePeriodInHour: integer)
- AssignTraining (PlayerID: integer, ManagerID: integer, TrainingName: varchar(256))
 - Foreign key: PlayerID references Player(ID)
 - Foreign key: ManagerID references Manager(ID)
 - Foreign key: TrainingName references Training(TrainingName)
- Game (GameID: integer, Date: date, Result: varchar(16), PlayingVenue: varchar(256), OpponentTeam: varchar(32))
- Play (PlayerID: integer, GameID: integer)
 - Foreign key: PlayerID references Player(ID)
 - Foreign key: GameID references Game(GameID)

1.) Show the names and ID's of all players whose play position is "center".

```
SELECT Name, ID
FROM Player
WHERE PlayPos = 'center';
```

2.) Show the total points that player "Pistol Pete" has scored each year (assume there is only one Pistol Pete).

```
SELECT Stats.Year, Stats.TotalPoints
FROM Player, Stats
WHERE Player.ID = Stats.PlayerID AND Player.Name = 'Pistol Pete';
```

3.) Show the names and emails of every manager who has exactly 3 distinct certificates.

```
SELECT M.Name, M.Email
FROM Manager AS M, ManagerCertificate AS MC
WHERE M.ID = MC.ManagerID
GROUP BY M.Name
HAVING count(distinct(MC.CertificateID)) = 3;
```

4.) Show the names of every player who has played a game at "The Pit" and won (Result = "win"), in descending order of age

```
SELECT P.Name
FROM Player P, Play, Game
WHERE P.ID = Play.PlayerID AND Play.GameID = Game.GameID AND Game.Result = 'win'
AND Game.PlayingVenue = 'The Pit'
ORDER BY Birthday DESC;
```

5.) Show all the information of Doctors who have given exams

```
SELECT *
```

FROM Doctor, TakeExam

WHERE Doctor.Email = TakeExam.DocEmail;

- 6.) Find the games that players named “Pistol Pete” and “Lobo Louie” have played in, using set operators (UNION, INTERSECT, MINUS, etc...). Show the game’s date, venue, and result

(SELECT G.Date, G.PlayingVenue, G.Result

FROM Player as P, Game as G, Plays

WHERE P.ID = Plays.PlayerID AND Plays.GameID = G.GameID AND P.name = “Pistol Pete”)

INTERSECT

(SELECT G.Date, G.PlayingVenue, G.Result

FROM Player as P, Game as G, Plays

WHERE P.ID = Plays.PlayerID AND Plays.GameID = G.GameID AND P.name = “Lobo Louie”);

- 7.) Perform the same query as problem 6, without using set operators (UNION, INTERSECT, MINUS, etc...)

SELECT G.Date, G.PlayingVenue, G.Result

FROM Game G, Player P, Plays

WHERE P.ID = Plays.PlayerID AND Plays.GameID =

G.GameID AND P.name = “Pistol Pete” and

G.GameID IN (SELECT G.GameID

FROM Player as P, Game as G, Plays

WHERE P.ID = Plays.PlayerID AND Plays.GameID = G.GameID AND P.name = “Lobo Louie”);

- 8.) Find the Names and IDs of players who have scored more points than the average player

SELECT P.Name, P.ID

FROM Stats S, Player P

WHERE P.ID = S.PlayerID and S.TotalPoints > (SELECT AVG(TotalPoints)

FROM Stats);

- 9.) Show all players that were born on the same day (I.E. If Bob and Joe were both born on 12/25/95, and Jim and Steve were both born on 7/4/94, show the names and the birthday they share)

SELECT P1.Name, P2.Name, P1.Birthday

FROM Player P1, Player P2

WHERE P1.Birthday = P2.Birthday AND P1.id != P2.id;

- 10.) Find the total number of points the Aggie basketball team scored in 2019

SELECT SUM(TotalPoints)

FROM Stats

WHERE Year = 2019;