

# 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, ID's and emails of all players whose play position is "Middle".

```
SELECT Name, ID, Email
FROM Player
WHERE PlayPos = "Middle";
```

| Name        | ID  | Email                |
|-------------|-----|----------------------|
| pistol pete | 101 | pistolpete@gmail.com |
| Lobo Louie  | 102 | LoboLouie@gmail.com  |
| yoyo        | 103 | yoyo@gmail.com       |
| jack        | 105 | jack@gmail.com       |

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

```
SELECT Stats.Year, Stats.TotalPoints
FROM Player, Stats
WHERE Player.ID = Stats.PlayerID AND Player.Name = "Lobo Louie";
```

| Year | TotalPoints |
|------|-------------|
| 2012 | 100         |
| 2014 | 50          |
| 2013 | 200         |

3.) Show the names and phone numbers of every manager who has exactly 2 distinct certificates (certificate names).

```
SELECT M.Name, M.PhoneNumber
FROM Manager AS M, ManagerCertificate AS MC
WHERE M.ID = MC.ManagerID
GROUP BY M.Name
HAVING count(distinct (MC.Certificate)) = 2;
```

| Name  | PhoneNumber |
|-------|-------------|
| Alice | 7845964712  |

4.) Show the names of every player who has played a game at “PanAm” and lost (Result = “lose”), in ascending order of age.

```
SELECT P.Name
FROM Player P, Play, Game
WHERE P.ID = Play.PlayerID AND Play.GameID = Game.GameID AND Game.Result = "lose"
AND Game.PlayingVenue = "PanAm"
ORDER BY Birthday DESC;
```

| Name        |
|-------------|
| Lobo Louie  |
| pistol pete |

5.) Show all the information of players who have taken exams.

```
SELECT *
FROM Player, TakeExam
WHERE Player.ID = TakeExam.PlayerID;
```

| ID  | Name        | Birthday   | Address             | Email                | PhoneNumber | PlayPos | PlayerID | DocEmail       | TestDate   | TestResult |
|-----|-------------|------------|---------------------|----------------------|-------------|---------|----------|----------------|------------|------------|
| 101 | pistol pete | 1980-02-01 | 1990 S Espina       | pistolpete@gmail.com | 1587548415  | Middle  | 101      | paul@gmail.com | 2018-10-20 | positive   |
| 101 | pistol pete | 1980-02-01 | 1990 S Espina       | pistolpete@gmail.com | 1587548415  | Middle  | 101      | mike@gmail.com | 2016-10-10 | negative   |
| 102 | Lobo Louie  | 1989-08-18 | 100 Vista del monte | LoboLouie@gmail.com  | 5128479856  | Middle  | 102      | paul@gmail.com | 2017-12-10 | positive   |
| 103 | yoyo        | 1993-11-06 | 2422 S Espina ST    | yoyo@gmail.com       | 5199688745  | Middle  | 103      | aron@gmail.com | 2016-09-25 | negative   |

6.) Find the games that players named “Lobo Louie” and “yoyo” have played in. Show the game’s date, venue, and result.

```
SELECT G.Date, G.PlayingVenue, G.Result
FROM Game G, Player P, Play
WHERE P.ID = Play.PlayerID AND Play.GameID = G.GameID AND P.name = 'Lobo Louie' and G.GameID
IN (SELECT G.GameID
FROM Player as P, Game as G, Play
WHERE P.ID = Play.PlayerID AND Play.GameID = G.GameID AND P.name = 'yoyo');
```

| Date       | PlayingVenue | Result |
|------------|--------------|--------|
| 2016/11/05 | The Pit      | win    |

7.) Find the games that players named “yoyo” have played in from year 2016-2017. Show the game’s date, venue, and result.

```
SELECT G.Date, G.PlayingVenue, G.Result
FROM Game G, Player P, Play
WHERE P.ID = Play.PlayerID AND Play.GameID = G.GameID AND P.name = 'yoyo'
AND (
    YEAR(Date) = 2017
    OR YEAR(Date) = 2016
);
```

| Date       | PlayingVenue | Result |
|------------|--------------|--------|
| 2016/11/05 | The Pit      | win    |
| 2017-12-28 | The pit      | win    |

8.) Find the Names and IDs of players who have scored points less 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);
```

| Name        | ID  |
|-------------|-----|
| pistol pete | 101 |
| pistol pete | 101 |
| pistol pete | 101 |
| pistol pete | 101 |
| Lobo Louie  | 102 |
| Lobo Louie  | 102 |
| Lobo Louie  | 102 |

9.) Show all players that have the same play position.

```
SELECT P1.Name, P2.Name, P1.PlayPos  
FROM Player P1, Player P2  
WHERE P1.PlayPos = P2.PlayPos AND P1.id != P2.id;
```

| Name        | Name        | PlayPos |
|-------------|-------------|---------|
| jack        | pistol pete | Middle  |
| yoyo        | pistol pete | Middle  |
| Lobo Louie  | pistol pete | Middle  |
| jack        | Lobo Louie  | Middle  |
| yoyo        | Lobo Louie  | Middle  |
| pistol pete | Lobo Louie  | Middle  |
| jack        | yoyo        | Middle  |
| Lobo Louie  | yoyo        | Middle  |
| pistol pete | yoyo        | Middle  |
| yoyo        | jack        | Middle  |
| Lobo Louie  | jack        | Middle  |

|             |      |        |
|-------------|------|--------|
| pistol pete | jack | Middle |
|-------------|------|--------|

10.) Find the total number of points the Aggie basketball team scored in 2012.

```
SELECT SUM(TotalPoints)
FROM Stats
WHERE Year = 2012;
```

|                  |
|------------------|
| SUM(TotalPoints) |
| 700              |