Assignment-2

CS482/502 Database Management Systems I **Spring 2020**

Assignment: Relational Algebra + 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".**

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

3.) **Show the names of every player who has played a game at "The Pit" and won (Result = "win")**

4.) **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.**

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

Assume that you are given the following relational schemas.

- members (memb_no int(3), name varchar(64))
- books (isbn int(6), title varchar(64), authors varchar(128), publisher varchar(128))
- borrowed (memb_no int(3), isbn int(6))

Write an SQL Query for each of the following.

1.) **Show the names of members who borrowed books with title "Math".**

2.) **Show the details of members whose name does not start with 'J'.**

3.) **Find the number of books borrowed by each member and show them in descending order.**

4.) **Show the details of members whose name contains 'A'.**

5.) **Find the distinct publisher name of the book which has been borrowed by “Sam”.**