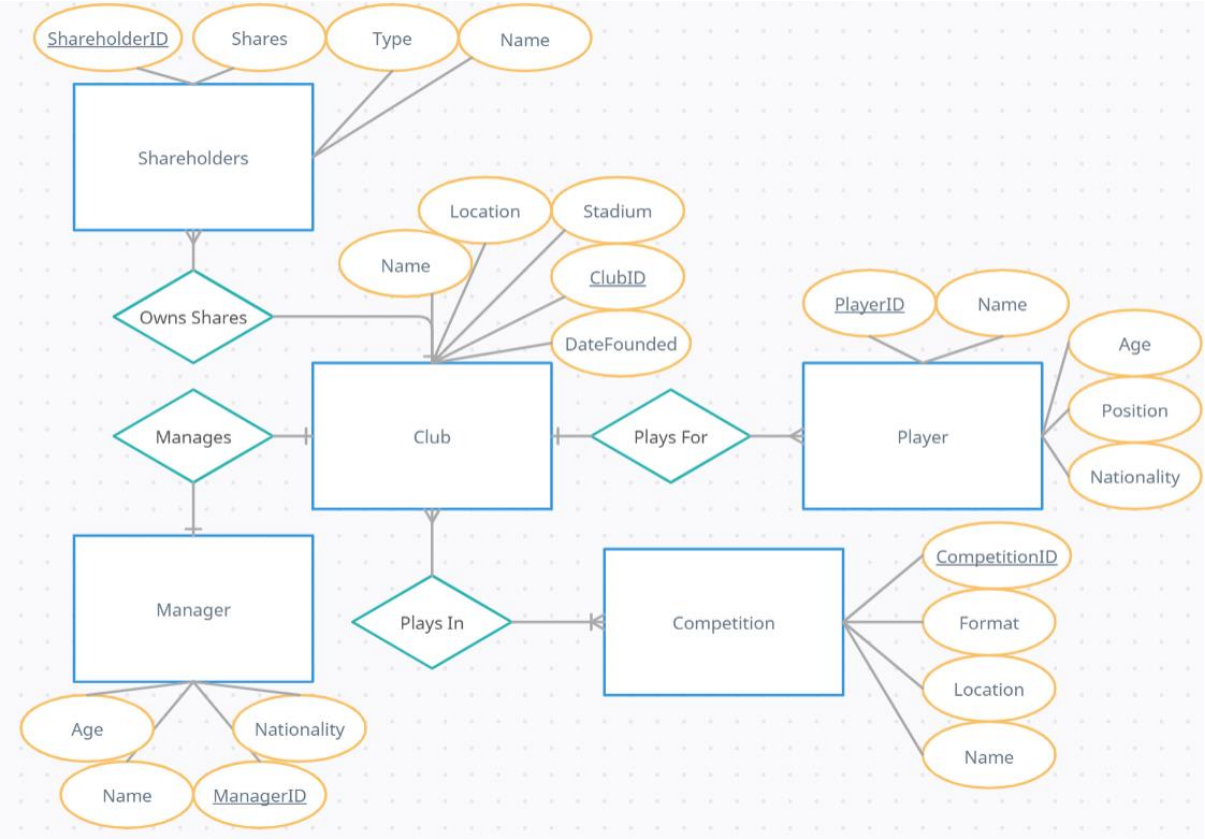
COMP20240 Assignment 2: Peter Murphy 16440004

Q1:



Q2:

- My diagram represents a sports club, some of it's staff and the competitions it plays in.
- The 5 entities are Competition, Club, Player, Manager and Shareholders.
- A player plays for 1 club, and a club has many players (one-to-many).
- A manager manages 1 club, and a club has 1 manager (one-to-one).
- A shareholder has shares in 1 club, and a club has many shareholders (one-to-many).
  I assumed a shareholder can only have shares in one club.
- A club can play in many competitions, and a competition has many clubs (many to many).
  A club must play in at least 1 competition.

Q3:

CLUB(ClubID, Name, Location , DateFounded, Stadium)
PLAYER(PlayerID, Name, Age, Position, Nationality, ClubID)
MANAGER(ManagerID, Name, Age, Nationality, ClubID)
SHAREHOLDERS(ShareholderID, Name, Shares, Type, ClubID)
COMPETITION(CompetitionID, Name, Location, Format)
PLAYS_IN(ClubID, CompetitionID)

Note: The first attribute is the primary key in all tables, except the PLAYS_IN table.
The 'Plays for', 'Manages' and 'Owns Shares' relationships are translated using ClubID as a foreign key in the PLAYER, MANAGER and SHAREHOLDERS tables referencing ClubID in the CLUB table.
The 'Plays In' relationship is translated using the PLAYS_IN table, which has ClubID and CompetitionID as foreign keys referencing ClubID in the CLUB table and CompetitionID in the COMPETITION table, splitting the many-to-many relationship into 2 one-to-many relationships.

Q4:

Given a competition name, list all teams in that competition.

Given a club name, list all players that play for that club.

Q5:

```
SELECT CLUB.Name
FROM CLUB
INNER JOIN PLAYS_IN ON PLAYS_IN.ClubID = CLUB.ClubID
INNER JOIN COMPETITION ON PLAYS_IN.CompetitionID = COMPETITION.CompetitionID
WHERE COMPETITION.Name = “given name”
```

```
SELECT PLAYER.Name
FROM PLAYER
INNER JOIN CLUB ON PLAYER.ClubID = CLUB.ClubID
WHERE CLUB.Name = “given name”
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