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Lab 2: ER Model
CS6016 - MSD
UofU
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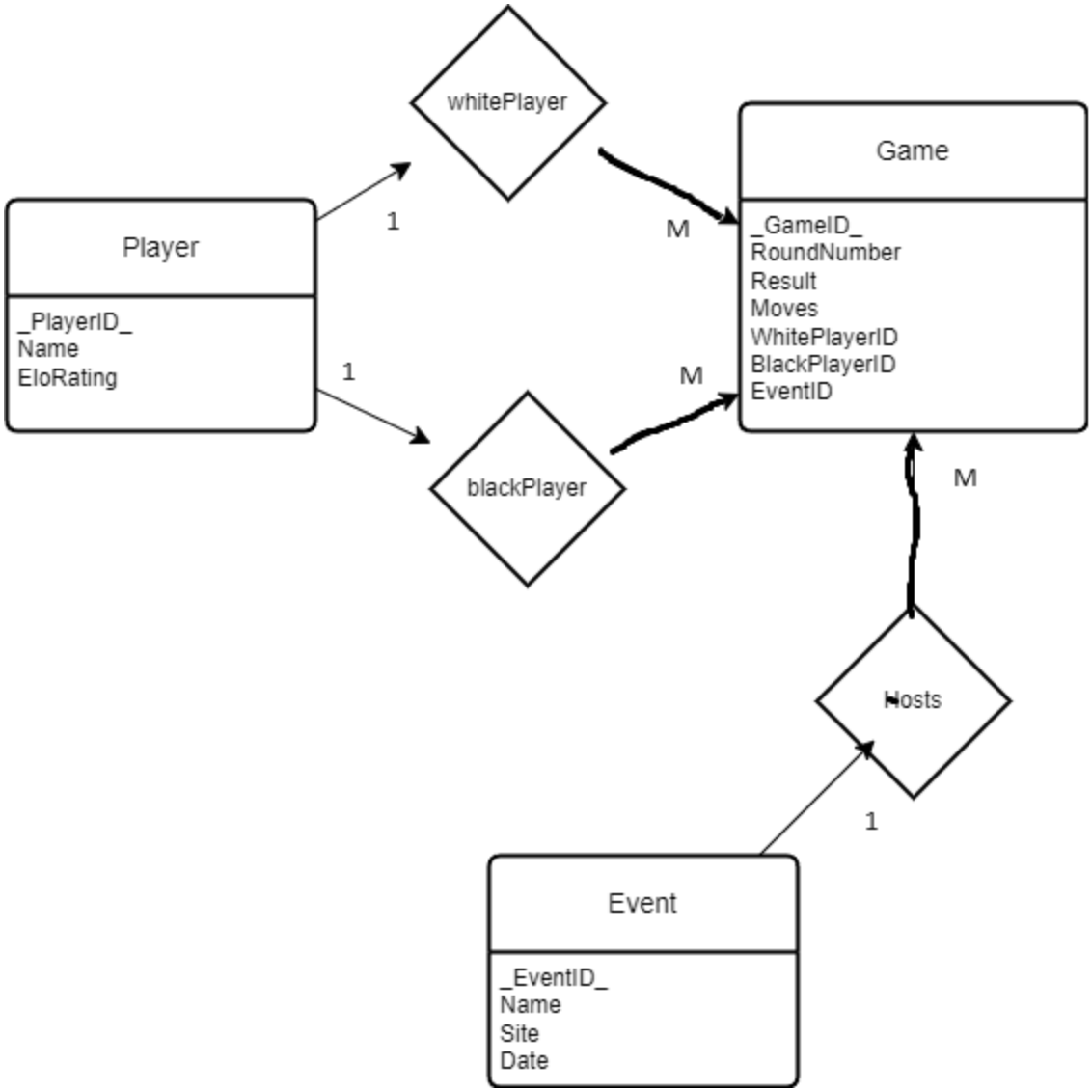
Part 1 - ER Diagram for Chess Database

Player
- PlayerID (Primary Key)
- Name
- EloRating

Event
- EventID(Primary Key)
- Name
- Side
- Date

Game
- GameID(Primary Key)
- RoundNumber
- Result
- Moves
- WhitePlayerID(Foreign Key referencing Player)
- BlackPlayerID(Foreign Key referencing Player)
- EventID(Foreign Key referencing Event)
-

Constraints:
- A player any number of games;
- An event can host either 0 or more games
- No 2 events can happen



- Player-Game relationship: Many to one. Players can play multiple games but each game has one black player and one white player. Each game is mandatory to have 2 players per game.

Event-Game relationship: 1-to-M cardinality because an event can host many games but each game takes place at one event. Use EventID as foreign key in Game entity referencing EventID in Event entity.

Part 2 - SQL Tables

Player Table

```
CREATE TABLE Player (
        PlayerID INT AUTO_INCREMENT PRIMARY KEY,
        Name VARCHAR(100) NOT NULL,   - - good size for names
        EloRating INT NOT NULL
);
```

Event Table

```
CREATE TABLE Event (
        EventID INT AUTO_INCREMENT PRIMARY KEY,
        Name VARCHAR(100) NOT NULL,
        Site VARCHAR(100) NOT NULL,
        Date DATE NOT NULL
        UNIQUE(Name, Date)
);
```

Game Table

```
CREATE TABLE Game (
        GameID INT AUTO_INCREMENT PRIMARY KEY,
        RoundNumber INT NOT NULL,
        Result VARCHAR(7),
        Moves VARCHAR(1000),
        WhitePlayerID INT NOT NULL,
        BlackPlayerID INT NOT NULL,
        EventID INT NOT NULL,
        FOREIGN KEY (WhitePeopleID) REFERENCES Player(PlayerID),
        FOREIGN KEY (BlackPeopleID) REFERENCES Player(PlayerID),
        FOREIGN KEY (Event ID) REFERENCES Event(EventID),
        CONSTRAINT UniqueGame UNIQUE(EventID, Round, WhitePlayerID, BlackPlayerID)
);
```