**ORJIEH PATRICK SD1C DATABASE PROJECT VERSION 1**

Project Idea:

I initially wanted to make a project on Manchester united teams comprising of the teams transfers, statistics and math fixtures but along the line I realised that things became more complicated and I struggled in coming up with a diagram and the relationship between entities but I decided to reduce it to a database that holds the information of Manchester united players and all competitions that play for a season including matches and statistics alongside contracts. This entity relation model has 1 many to many, 1 one to one and 1 one to many. I got the glimpse of my project idea from the entity diagram solution on doctors and patients question 8.

ENTITY RELATIONSHIP DIAGRAM

Diagram, schematic

Description automatically generated

match table renamed to matches

statistics table renamed to statistics\_play

The changes were made because when trying to create the sql command those words are special.

Assign appropriate data types, field sizes and possible constraints

Competition Table

|  |  |  |
| --- | --- | --- |
| FIELD NAME | DATA TYPE | CONSTRAINTS |
| comp\_id | varchar(10) | NOT NULL, PK |
| comp\_name | varchar(30) |  |
| host | varchar(20) |  |
| position | varchar(30) |  |

In the competition table I put position at varchar because depending on the league/cup it could be 2nd or Quarter Finals

Player Table

|  |  |  |
| --- | --- | --- |
| FIELD NAME | DATA TYPE | CONSTRAINTS |
| player\_id | INT | NOT NULL, PK |
| Player\_name | varchar(30) |  |
| age | INT |  |
| Player\_position | varchar(20) |  |
| nationality | varchar(30) |  |
| preferred\_foot | varchar(10) |  |

Statistics Table

|  |  |  |
| --- | --- | --- |
| FIELD NAME | DATA TYPE | CONSTRAINTS |
| comp\_id | varchar(10) | NOT NULL, PK FK |
| player\_id | INT | NOT NULL, PK FK |
| apps | INT |  |
| goals | INT |  |
| assists | INT |  |
| yellow\_card | INT |  |
| red\_card | INT |  |
| motm | INT |  |

The motm represents man of the match

I did some research and decided to use the composite key in this table, the players can have different statistics based on the competition selected.

Match Table

|  |  |  |
| --- | --- | --- |
| FIELD NAME | DATA TYPE | CONSTRAINTS |
| match\_no | varchar(10) | NOT NULL, PK |
| comp\_id | varchar(10) | NOT NULL, FK |
| opponent | varchar(30) |  |
| venue | varchar(30) |  |
| kick-off | DATE |  |

Contract Table

|  |  |  |
| --- | --- | --- |
| FIELD NAME | DATA TYPE | CONSTRAINTS |
| contract\_id | INT | NOT NULL, PK |
| player\_id | INT | NOT NULL,FK |
| Value\_mill | DECIMAL(10,2) |  |
| date | DATE |  |
| Agent | varchar(30) |  |

Populate each table

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Competition Table |  |
| **comp\_id** | **comp\_name** | **host** | **position** |
| PrL | Premier League | England | 3rd |
| ChL | Champions League | Europe | Quarter-Final |
| FaC | FA Cup | England | Round Of 32 |
| EfC | EFL Cup | England | Knockout |
| CwC | Club World Cup | World | Semi-Final |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  | Player Table |  |  |
| **player\_id** | **player\_name** | **age** | **player\_position** | **nationality** | **preferred\_foot** |
| 1 | David de Gea | 31 | Goalkeeper | Spain | right |
| 2 | Victor Lindelof | 27 | Defender | Sweden | right |
| 3 | Eric Bailly | 27 | Defender | Ivory Coast | right |
| 4 | Phil Jones | 30 | Defender | England | right |
| 5 | Harry Maguire | 29 | Defender | England | right |
| 6 | Paul Pogba | 29 | Midfielder | France | both |
| 7 | Cristiano Ronaldo | 37 | Forward | Portugal | both |
| 8 | Juan Mata | 33 | Midfielder | Spain | left |
| 9 | Anthony Martial | 26 | Forward | France | right |
| 10 | Marcus Rashford | 24 | Forward | England | right |
| 11 | Mason Greenford | 20 | Forward | England | both |
| 13 | Lee Grant | 39 | Goalkeeper | England | right |
| 14 | Jesse Lingard | 29 | Midfielder | England | right |
| 15 | Andreas Pereira | 26 | Midfielder | Brazil | right |
| 16 | Amad Diallo | 19 | Midfielder | Ivory Coast | left |
| 17 | Fred | 29 | Midfielder | Brazil | left |
| 18 | Bruno Fernandes | 27 | Midfielder | Portugal | right |
| 20 | Diogo Dalot | 23 | Defender | Portugal | right |
| 21 | Edison Cavani | 35 | Forward | Uruguay | right |
| 23 | Luke Shaw | 26 | Defender | England | left |
| 25 | Jadon Sancho | 22 | Forward | England | right |
| 26 | Dean Henderson | 25 | Goalkeeper | England | right |
| 27 | Alex Telles | 29 | Defender | Brazil | left |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Statistics Table |  |  |  |  |
| **comp\_id** | **player\_id** | **apps** | **goals** | **assists** | **yellow\_card** | **red\_card** | **motm** |
| PrL | 1 | 30 | 0 | 0 | 0 | 0 | 7 |
| ChL | 1 | 7 | 0 | 0 | 1 | 0 | 1 |
| EfC | 3 | 1 | 0 | 1 | 1 | 0 | 0 |
| PrL | 5 | 25 | 1 | 0 | 7 | 0 | 3 |
| CwC | 5 | 7 | 4 | 0 | 1 | 1 | 2 |
| FaC | 6 | 2 | 0 | 1 | 2 | 0 | 0 |
| EfC | 6 | 11 | 2 | 2 | 2 | 0 | 2 |
| PrL | 7 | 24 | 12 | 3 | 5 | 0 | 8 |
| ChL | 7 | 7 | 6 | 0 | 1 | 0 | 4 |
| CwC | 7 | 4 | 2 | 1 | 0 | 0 | 1 |
| EfC | 10 | 3 | 4 | 1 | 0 | 0 | 2 |
| PrL | 14 | 16 | 9 | 5 | 3 | 0 | 5 |
| FaC | 17 | 2 | 0 | 1 | 0 | 0 | 0 |
| PrL | 18 | 28 | 9 | 6 | 7 | 0 | 6 |
| EfC | 18 | 1 | 0 | 0 | 0 | 0 | 0 |
| PrL | 21 | 12 | 2 | 1 | 0 | 0 | 1 |
| CwC | 21 | 5 | 6 | 3 | 2 | 0 | 2 |
| ChL | 25 | 6 | 2 | 3 | 0 | 0 | 0 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Match Table |  |  |
| **match\_no** | **comp\_id** | **opponent** | **venue** | **kick-off** |
| A01 | CwC | Gamba Osaka | Panasonic Stadium Suita | 05/01/2022 |
| N04 | FaC | West Ham | Old Trafford | 27/12/2022 |
| F05 | ChL | Athletico Madrid | Estadio Vicente | 14/05/2022 |
| D03 | PrL | Chelsea | Stamford Bridge | 28/11/2021 |
| E01 | EfC | Watford | Old Trafford | 16/01/2022 |
| D07 | PrL | Brentford | Brentford Community Stadium | 03/07/2022 |
| B02 | FaC | Manchester City | Etihad Stadium | 30/09/2022 |
| A02 | CwC | Pachuca | Estadio Hidalgo | 15/04/2022 |
| D02 | PrL | Southampton | Saint Mary's Stadium | 22/10/2021 |
| E05 | EfC | Arsenal | Old Trafford | 19/03/2022 |
| F02 | ChL | Atalanta | Gewiss Stadium | 03/01/2023 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | Contract Table |  |
| **contract\_id** | **player\_id** | **value\_mill** | **date** | **agent** |
| 2625 | 26 | 16.20 | 30/06/2025 | ICM Stellar Sports |
| 123 | 1 | 13.50 | 30/06/2023 | Relatives |
| 224 | 2 | 21.60 | 30/06/2024 | HCM Sports Management |
| 324 | 3 | 7.20 | 30/06/2024 | AMS Consulting |
| 423 | 4 | 3.60 | 30/06/2023 | Wasserman |
| 525 | 5 | 36.00 | 30/06/2025 | Triple S Sports |
| 622 | 6 | 49.50 | 30/06/2022 | Mino Raiola |
| 723 | 7 | 31.50 | 30/06/2023 | Gestifute |
| 822 | 8 | 2.70 | 30/06/2022 | JM10 SPORT |
| 922 | 9 | 25.20 | 30/06/2022 | USFA Management |
| 1023 | 10 | 63.00 | 30/06/2023 | Relatives |
| 1125 | 11 | 75.80 | 30/06/2025 | Academy |
| 1322 | 13 | 0.23 | 30/06/2022 | Null |
| 1422 | 14 | 18.00 | 30/06/2022 | Null |
| 1523 | 15 | 7.20 | 30/06/2023 | Bertolucci Sports |
| 1625 | 16 | 16.20 | 30/06/2025 | Sport Agency Futura |
| 1723 | 17 | 19.80 | 30/06/2023 | Fabio Mello Sports |
| 1826 | 18 | 81.00 | 30/06/2026 | MRP.POSITIONUMBER |
| 2023 | 20 | 16.20 | 30/06/2023 | Proeleven Gestao Desportiva |
| 2122 | 21 | 3.60 | 30/06/2022 | Null |
| 2323 | 23 | 37.80 | 30/06/2023 | ICM Stellar Sports |
| 2526 | 25 | 72.00 | 30/06/2026 | Elite Project Group ltd |
| 2724 | 27 | 16.20 | 30/06/2024 | Pini Zahavi |

**Description**

* This database is for Manchester United to have a structured information based on the competitions they partake in, the players they have at hand and their contracts alongside each player’s performance to see whose contract is about to expire and which they would consider renewing.
* Creating the competition table shows the different competition or leagues Manchester united plays and their current position in those leagues.
* Then there is a one to many relationship between competition and matches, one competition can definitely have one or more matches but one match cannot be represented in more than one competition, for the matches table, I used the match\_no as the primary and the comp\_id as the foreign key because each match number throughout a season are unique and I included the comp\_id into the matches table to show the competition that particular match relates to.
* Players table is to display the current players in the Manchester united squad and their attributes and in this table I used their player jersey number as their player\_id because in Manchester united 21/22 season only one player can have a particular jersey number
* Each player can have more than one stats based on the competition they play in, in the statistics table since no player can more than one stat in one particular league, so decided to use the composite naming to represent the table. I used the comp\_id and player\_id all together as the primary key for the table.
* The contract table shows each players unique contract\_id which was gotten from the last two digits of their contract year and their unique jersey number so this way no two player can have the same contract\_id and this was used as the primary key and I introduced the player\_id as the foreign key to show the particular player that had each contract. The relationship between the contract and player is one to one. One player\_id can only have one contract and one contract is to represent one player.

**SQL CODE TO ACCESS MANCHESTER UNITED DATABASE**

drop database if exists manchester\_united;

create database manchester\_united;

use manchester\_united;

drop table if exists competition, player, matches, statistics\_play, contract;

CREATE TABLE `manchester\_united`.`competition`

( `comp\_id` VARCHAR(10) NOT NULL ,

`comp\_name` VARCHAR(30),

`host` VARCHAR(20),

`position` VARCHAR(30),

PRIMARY KEY (`comp\_id`)) ENGINE = InnoDB;

CREATE TABLE `manchester\_united`.`player`

( `player\_id` INT NOT NULL ,

`player\_name` VARCHAR(30),

`age` INT,

`player\_position` VARCHAR(20),

`nationality` VARCHAR(30),

`preferred\_foot` VARCHAR(10),

PRIMARY KEY (`player\_id`)) ENGINE = InnoDB;

CREATE TABLE `manchester\_united`.`statistics\_play`

( `comp\_id` VARCHAR(10) NOT NULL ,

`player\_id` INT NOT NULL ,

`apps` INT,

`goals` INT,

`assists` INT,

`yellow\_card` INT,

`red\_card` INT,

`motm` INT,

PRIMARY KEY (`comp\_id`, `player\_id`),

FOREIGN KEY (`comp\_id`) REFERENCES `competition`(`comp\_id`),

FOREIGN KEY (`player\_id`) REFERENCES `player`(`player\_id`));

CREATE TABLE `manchester\_united`.`matches`

( `match\_no` VARCHAR(10) NOT NULL ,

`comp\_id` VARCHAR(10) NOT NULL ,

`opponent` VARCHAR(30),

`venue` VARCHAR(30),

`kick-off` DATE,

PRIMARY KEY (`match\_no`),

FOREIGN KEY (`comp\_id`) REFERENCES `competition`(`comp\_id`));

CREATE TABLE `manchester\_united`.`contract`

( `contract\_id` INT NOT NULL ,

`player\_id` INT NOT NULL ,

`value\_mill` DECIMAL(10,2) DEFAULT 0,

`date` DATE,

`agent` VARCHAR(30),

PRIMARY KEY (`contract\_id`),

FOREIGN KEY (`player\_id`) REFERENCES `player`(`player\_id`));

INSERT INTO `competition`

(`comp\_id`, `comp\_name`, `host`, `position`) VALUES

('PrL', 'Premier League', 'England', '3rd'),

('ChL', 'Champions League', 'Europe', 'Quarter-Final'),

('FaC', 'FA Cup', 'England', 'Round Of 32'),

('EfC', 'EFL Cup', 'England', 'Knockout'),

('CwC', 'Club World Club', 'World', 'Semi-Final');

INSERT INTO `player`

(`player\_id`, `player\_name`, `age`, `player\_position`, `nationality`, `preferred\_foot`) VALUES

(1, 'David de Gea', 31, 'Goalkeeper', 'Spain', 'right'),

(2, 'Victor Lindelof', 27, 'Defender', 'Sweden', 'right'),

(3, 'Eric Bailly', 27, 'Defender', 'Ivory Coast', 'right'),

(4, 'Phil Jones', 30, 'Defender', 'England', 'right'),

(5, 'Harry Maguire', 29, 'Defender', 'England', 'right'),

(6, 'Paul Pogba', 29, 'Midfielder', 'France', 'both'),

(7, 'Cristiano Ronaldo', 37, 'Forward', 'Portugal', 'both'),

(8, 'Juan Mata', 33, 'Midfielder', 'Spain', 'left'),

(9, 'Anthony Martial', 26, 'Forward', 'France', 'right'),

(10, 'Marcus Rashford', 24, 'Forward', 'England', 'right'),

(11, 'Mason Greenford', 20, 'Forward', 'England', 'both'),

(13, 'Lee Grant ', 39, 'Goalkeeper', 'England', 'right'),

(14, 'Jesse Lingard', 29, 'Midfielder', 'England', 'right'),

(15, 'Andreas Pereira', 26, 'Midfielder', 'Brazil', 'right'),

(16, 'Amad Diallo', 19, 'Midfielder', 'Ivory Coast', 'left'),

(17, 'Fred', 29, 'Midfielder', 'Brazil', 'left'),

(18, 'Bruno Fernandes', 27, 'Midfielder', 'Portugal', 'right'),

(20, 'Diogo Dalot', 23, 'Defender', 'Portugal', 'right'),

(21, 'Edison Cavani', 35, 'Forward', 'Uruguay', 'right'),

(23, 'Luke Shaw', 26, 'Defender', 'England', 'left'),

(25, 'Jadon Sancho', 22, 'Forward', 'England', 'right'),

(26, 'Dean Henderson', 25, 'Goalkeeper', 'England', 'right'),

(27, 'Alex Telles', 29, 'Defender', 'Brazil', 'left');

INSERT INTO `statistics\_play` (`comp\_id`, `player\_id`, `apps`, `goals`, `assists`, `yellow\_card`, `red\_card`, `motm`) VALUES

('PrL', '1', '30', '0', '0', '0', '0', '7'),

('ChL', '1', '7', '0', '0', '1', '0', '1'),

('EfC', '3', '1', '0', '1', '1', '0', '0'),

('PrL', '5', '25', '1', '0', '7', '0', '3'),

('CwC', '5', '7', '4', '0', '1', '1', '2'),

('FaC', '6', '2', '0', '1', '2', '0', '0'),

('EfC', '6', '11', '2', '2', '2', '0', '2'),

('PrL', '7', '24', '12', '3', '5', '0', '8'),

('ChL', '7', '7', '6', '0', '1', '0', '4'),

('CwC', '7', '4', '2', '1', '0', '0', '1'),

('EfC', '10', '3', '4', '1', '0', '0', '2'),

('PrL', '14', '16', '9', '5', '3', '0', '5'),

('FaC', '17', '2', '0', '1', '0', '0', '0'),

('PrL', '18', '28', '9', '6', '7', '0', '6'),

('EfC', '18', '18', '1', '0', '0', '0', '0'),

('PrL', '21', '12', '2', '1', '0', '0', '1'),

('CwC', '21', '5', '6', '3', '2', '0', '2'),

('ChL', '25', '6', '2', '3', '0', '0', '0');

INSERT INTO `matches` (`match\_no`, `comp\_id`, `opponent`, `venue`, `kick-off`) VALUES

('A01', 'CwC', 'Gamba Osaka', 'Panasonic Stadium Suita', '2022-01-05'),

('N04', 'FaC', 'West Ham', 'Old Trafford', '2022-12-27'),

('F05', 'ChL', 'Athletico Madrid', 'Estadio Vicente', '2022-05-14'),

('D03', 'PrL', 'Chelsea', 'Stamford Bridge', '2021-11-28'),

('E01', 'EfC', 'Watford', 'Old Trafford', '2022-01-16'),

('D07', 'PrL', 'Brentford', 'Brentford Community Stadium', '2022-07-03'),

('B02', 'FaC', 'Manchester City', 'Etihad Stadium', '2022-09-30'),

('A02', 'CwC', 'Pachuca', 'Estagio Hidalgo', '2022-04-15'),

('D02', 'PrL', 'Southampton', 'Saint Mary\'s Stadium', '2021-10-22'),

('E05', 'EfC', 'Arsenal', 'Old Trafford', '2022-03-19'),

('F02', 'ChL', 'Atalanta', 'Gewiss Stadium', '2023-01-03');

INSERT INTO `contract` (`contract\_id`, `player\_id`, `value\_mill`, `date`, `agent`) VALUES

('2625', '26', '16.20', '2023-06-30', 'ICM Stellar Sports'),

('123', '1', '13.50', '2023-06-30', 'Relatives'),

('224', '2', '21.60', '2024-06-30', 'HCM Sports Management'),

('324', '3', '7.20', '2024-06-30', 'AMS CONSULTING'),

('423', '4', '3.60', '2023-06-30', 'Wasserman'),

('525', '5', '36.00', '2025-06-30', 'Triple S Sports'),

('622', '6', '49.50', '2022-06-30', 'Mino Raiola'),

('723', '7', '31.50', '2023-06-30', 'Gestifute'),

('822', '8', '2.70', '2022-06-30', 'JM10 SPORT'),

('922', '9', '25.20', '2022-06-30', 'USFA Management'),

('1023', '10', '63.00', '2023-06-30', 'Relatives'),

('1125', '11', '75.80', '2025-06-30', 'Academy'),

('1322', '13', '0.23', '2022-06-30', NULL),

('1422', '14', '18.00', '2022-06-30', NULL),

('1523', '15', '7.20', '2023-06-30', 'Bertolucci Sports'),

('1625', '16', '16.20', '2025-06-30', 'Sport Agency Future'),

('1723', '17', '19.80', '2023-06-30', 'Fabio Mello Sports'),

('1826', '18', '81.00', '2026-06-30', 'MRP.POSITIONUMBER'),

('2023', '20', '16.20', '2023-06-30', 'Proeleven Gestao Desportiva'),

('2122', '21', '3.60', '2022-06-30', NULL),

('2323', '13', '37.80', '2023-06-30', 'ICM Stellar Sports'),

('2526', '25', '72.00', '2026-06-30', 'Elite Project Group ltd'),

('2724', '27', '16.20', '2024-06-30', 'Pini Zahavi');