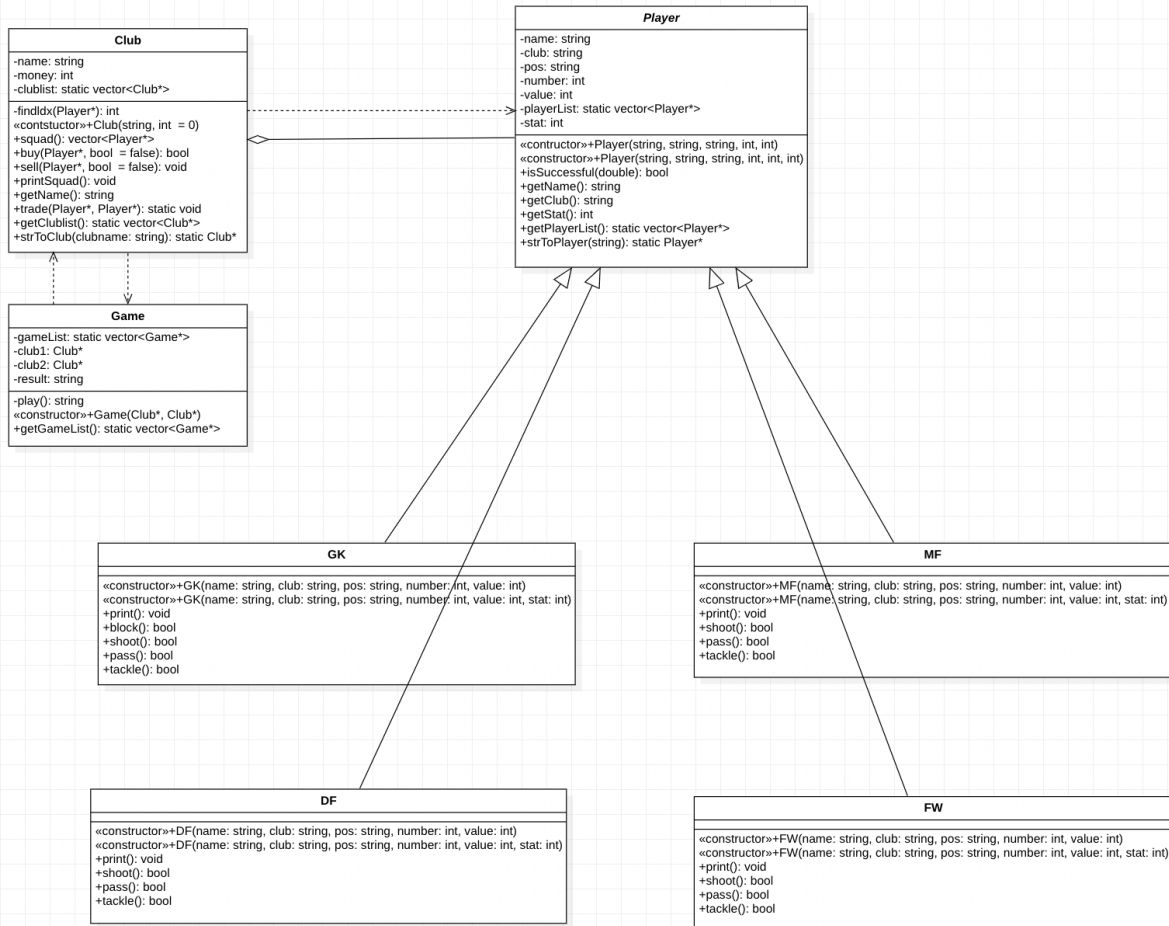


Project Title	Football Manager
Project description (4-5 lines)	The program is inspired by the video game Football Manager™. Load data from .txt file to make Player and Club instances. New club or player can be made by user input or can use existing data. Every Club has squad, which contains the pointer of Player. Function of buy, sell and trade is implemented by pushing and popping the player from the squad vector. The main object of the program is to implement the club management, so playing game is implemented simply (only the interface is implemented now). The changes made is saved to the .txt file and the data can be reset by using initial text file.
Team members	Name (Student ID) 구교준(20205006) 김유승 (20215047)

Class Diagram



Input Output

1. Club Selection

```
===== Welcome To FM! =====
(1) Make your own club
(2) Use existing club
1
What is your club's name? : gist
How much is your club's capital? : 100000
welcome! You manage gist
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit

===== Welcome To FM! =====
(1) Make your own club
(2) Use existing club
1
What is your club's name? : mancinity
Club with given name already exists
Do you want to use existing club? (y/n) y
welcome! You manage mancinity
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit

===== Welcome To FM! =====
(1) Make your own club
(2) Use existing club
2
Which club do you want to play?
Possible options are :
(1) mancinity
(2) liverpool
(3) chelsea
(4) tottenham
(5) arsenal
(6) man-united
(7) hello
1
welcome! You manage mancinity from now
```

1 Creating New Club

Error Handling of 1

2 Using Existing Club

2. Show Club

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(8) Save and Quit
```

1

```
=====
mancity
Squad Size: 3
Capital: 912203$
```

```
=====
Gyojoon(10) | Position: FW | Club: mancitu | Stat : 83 | Value : 10000 $
Dias      (3 ) | Position: DF | Club: mancitu | Stat : 72 | Value : 1321300 $
Mane      (11) | Position: FW | Club: mancitu | Stat : 87 | Value : 101010 $
```

1. Show My Club

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(8) Save and Quit
```

2

```
=====
Which club do you want to print ? :
```

liverpool

```
liverpool
Squad Size: 2
Capital: 301010$
=====
Alison      (1 ) | Position: GK | Club: liverpool | Stat : 92 | Value : 1321311 $
abcdefg...(1 ) | Position: DF | Club: liverpool | Stat : 82 | Value : 132 $
```

2. Show Other Club

3. Buy Player

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
```

3

```
=====
Which player do you want to buy ? :
son
Successfully Bought
```

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
```

3

```
=====
Which player do you want to buy ? :
salah
The player does not exist
```

```
mancity
Squad Size: 4
Capital: 902203$
=====
Gyojoon  (10) | Position: FW | Club: mancitu | Stat : 83 | Value : 10000 $
Dias      (3 ) | Position: DF | Club: mancitu | Stat : 72 | Value : 1321300 $
Mane      (11) | Position: FW | Club: mancitu | Stat : 87 | Value : 101010 $
son       (7 ) | Position: FW | Club: mancitu | Stat : 100 | Value : 10000 $
```

Error Handling 1 (Player does not Exist)

Added to the Squad

1. Club Selection

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
```

3

```
=====
Which player do you want to buy ? :
Alison
Not enough money
Failed to Buy
```

Error Handling 2 (Not Enough Money)

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
```

3

```
=====
Which player do you want to buy ? :
Dias
The player is already in your club
```

Error Handling 3 (Already in Club)

4. Trade Player

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
4
=====
Choose player from your club :
Gyojoon
Gyojoon(10) | Position: FW |
Choose player from other club :
Alison
Alison (1 ) | Position: GK |
Successfully Traded
```

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
4
=====
Choose player from your club :
Alison
Alison (1 ) | Position: GK | C
Choose player from other club :
Dias
The player is already your team
```

Error Handling 1
(Player Already in Club)

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
4
=====
Choose player from your club :
abc
Choose player from your club :
Your club's squad:
Dias    Mane    Alison
```

Error Handling 2
(Player does not exist)

5. Sell Player

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
5

=====
Choose player to sell : Mane
Choose club to sell to (if none, enter fa)
liverpool
```

```
mancity
Squad Size: 2
Capital: 1013213$
=====
Dias      (3 ) | Position: DF |
Alison    (1 ) | Position: GK |
```

Removed from the Squad

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
5

=====
Choose player to sell : son
Choose player from your club
Your club's squad:
Dias      Mane      Alison
```

Error Handling 1
(Player does not Exist)

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
5

=====
Choose player to sell : Dias
Choose club to sell to (if none, enter fa)
liverpool
Not enough money
```

Error Handling 2
(Not Enough Money)
(One who is buying,
not selling)

6. Create Player and Add to Club

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
6

=====

Make new Player
Name : debruyne
Club : manciny
Position(GK, DF, MF, FW) : FW
Back Number : 17
Market Value : 100000

debruyne has successfully created
```

```
mancity
Squad Size: 3
Capital: 1013213$
=====
Dias      (3 ) | Position: DF | Club: manciny | Stat : 72 | Value : 1321300 $
Alison    (1 ) | Position: GK | Club: manciny | Stat : 92 | Value : 1321311 $
debruyne  (17) | Position: FW | Club: manciny | Stat : 71 | Value : 100000 $
```

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
6

=====

Make new Player
Name debruyne
Player with given name already exists
```

Error Handling 1
(Player Already Exists)

Player Added to Squad

7. Save Changes

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
```

9

```
=====
Closed FM successfully
Thank you for playing!
```

```
🍏 > ~/0/workspace/FM/FM > git main +7 !12 ?15 > ./fm
```

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
1
```

```
=====
mancity
Squad Size: 3
Capital: 1013213$
```

```
Dias(3 ) | Position: DF | Club: mancitu | Stat : 72 | Value : 1321300 $
Alison (1 ) | Position: GK | Club: mancitu | Stat : 92 | Value : 1321311 $
debruyne (17) | Position: FW | Club: mancitu | Stat : 71 | Value : 100000
```

Changes Made in 3~6 is Saved

8. Reset

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit

=====

Please restart the game
Apple > ~/0/workspace/FM/FM > git main +7 !12 ?15 ./fm
```

Reseted to Initial Setting

(Compare to the Squad in 2 and 7,
Initial and Changed data, Respectively

```
Please restart the game
Apple > ~/0/workspace/FM/FM > git main +7 !12 ?15 ./fm
===== Welcome To FM! =====
(1) Make your own club
(2) Use existing club
2
Which club do you want to play?

Possible options are :
(1) mancinity
(2) liverpool
(3) chelsea
(4) tottenham
(5) arsenal
(6) man-united
1
Welcome! You manage mancinity from now on

=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
1

=====

mancinity
Squad Size: 3
Capital: 1000000$

=====
Gyojoon(10) | Position: FW | Club: mancinity | Stat : 87 | Value : 10000 $
Yooseung (9 ) | Position: DF | Club: mancinity | Stat : 78 | Value : 13213 $
Dias (3 ) | Position: DF | Club: mancinity | Stat : 73 | Value : 1321300 $

=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
```

9. General Error Handling

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
2

=====

Which club do you want to print ? :
none
Inappropriate club
```

```
=====Menu=====
Choose function from below
(1) Show my club
(2) Show other club
(3) Buy player
(4) Trade player
(5) Sell Player
(6) Make New Player
(7) Reset and Quit
(9) Save and Quit
8

=====

Inappropriate Choice
```

Error Message for Invalid Choice

Error Handling for Invalid (non-Existing) Club name


```
walker manciny DF 2 100000
dias manciny DF 3 202000
stones manciny DF 5 140000
sterling manciny FW 7 620000
gundogan manciny MF 8 510000
debruyne manciny MF 17 1700000
fernandinho manciny MF 25 15000
mahrez manciny MF 26 1220000
cancelo manciny DF 27 130000
ederson manciny GK 31 110000
foden manciny MF 47 1000000
alisson liverpool GK 1 100000
fabinho liverpool MF 3 202000
vandijk liverpool DF 4 140000
konate liverpool DF 5 620000
thiago liverpool MF 6 510000
mane liverpool FW 10 1700000
salah liverpool FW 11 15000
henderson liverpool MF 14 1000000
diaz liverpool FW 23 1220000
robertson liverpool DF 26 130000
arnold liverpool DF 66 110000
rudiger chelsea DF 2 100000
alonso chelsea DF 3 202000
jorginho chelsea MF 5 140000
silva chelsea DF 6 620000
kante chelsea MF 7 510000
lukaku chelsea FW 9 1700000
mendy chelsea GK 16 15000
mount chelsea MF 19 100000
james chelsea DF 24 110000
azpilicueta chelsea DF 28 112000
harvertz chelsea FW 29 130000
lloris tottenham GK 1 100000
doherty tottenham DF 2 620000
romero tottenham DF 4 22000
hojbjerg tottenham MF 5 140000
sanchez tottenham DF 6 20000
son tottenham FW 7 9000000
kane tottenham FW 10 1700000
emerson tottenham DF 12 62000
dier tottenham DF 15 15000
kulusevski tottenham MF 21 210000
bentancur tottenham MF 30 110000
partey arsenal MF 5 100000
magalhaes arsenal DF 6 620000
saka arsenal FW 7 202000
odegaard arsenal MF 8 140000
holding arsenal DF 16 1120000
soares arsenal DF 17 500000
tavares arsenal DF 20 1700000
elneny arsenal MF 25 110000
ramsdale arsenal GK 32 1000000
xhaka arsenal MF 34 620000
martinelli arsenal FW 35 15000
degea manunited GK 1 100000
maguire manunited DF 5 202000
pogba manunited MF 6 140000
ronaldo manunited FW 7 1120000
rashford manunited FW 10 60000
fred manunited MF 17 1700000
fernandes manunited MF 18 110000
varane manunited DF 19 1000000
shaw manunited DF 23 620000
sancho manunited FW 25 15000
wanbissaka manunited DF 29 620000
```

init_player.txt

```
vandijk liverpool DF 4 140000
konate liverpool DF 5 620000
thiago liverpool MF 6 510000
mane liverpool FW 10 1700000
salah liverpool FW 11 15000
henderson liverpool MF 14 1000000
```

Name, Club, Position, Number, Value

Stat is not saved in initial data;
It is randomly assigned when
generating the player instance

player.txt

```
walker manciny DF 2 100000 99
dias manciny DF 3 202000 98
stones manciny DF 5 140000 66
sterling manciny FW 7 620000 99
gundogan manciny MF 8 510000 80
debruyne manciny MF 17 1700000 65
fernandinho manciny MF 25 15000 97
mahrez manciny MF 26 1220000 91
cancelo manciny DF 27 130000 100
ederson manciny GK 31 110000 66
foden liverpool MF 47 1000000 94
alisson liverpool GK 1 100000 77
fabinho liverpool MF 3 202000 78
van dijck liverpool DF 4 140000 73
konate liverpool DF 5 620000 70
thiago liverpool MF 6 510000 97
mane liverpool FW 10 1700000 71
salah manciny FW 11 15000 93
henderson liverpool MF 14 1000000 84
diaz liverpool FW 23 1220000 86
robertson liverpool DF 26 130000 68
arnold liverpool DF 66 110000 86
rudiger chelsea DF 2 100000 89
alonso chelsea DF 3 202000 91
jorginho chelsea MF 5 140000 97
silva chelsea DF 6 620000 83
kante chelsea MF 7 510000 100
lukaku chelsea FW 9 1700000 100
mendy chelsea GK 16 15000 98
mount chelsea MF 19 100000 77
james chelsea DF 24 110000 88
azpilicueta chelsea DF 28 112000 67
harvitz chelsea FW 29 130000 78
lloris tottenham GK 1 100000 91
doherty tottenham DF 2 620000 81
romero tottenham DF 4 22000 62
hojbjerg tottenham MF 5 140000 75
sanchez tottenham DF 6 20000 66
son tottenham FW 7 900000 72
kane tottenham FW 10 1700000 76
emerson tottenham DF 12 62000 67
dier tottenham DF 15 15000 81
kulusevski tottenham MF 21 210000 71
bentancur tottenham MF 30 110000 100
partey arsenal MF 5 100000 90
magalhaes arsenal DF 6 620000 89
saka arsenal FW 7 202000 62
odegaard arsenal MF 8 140000 83
holding arsenal DF 16 1120000 92
soares arsenal DF 17 500000 100
tavares arsenal DF 20 1700000 81
elny arsenal MF 25 110000 76
ramsdale arsenal GK 32 1000000 62
xhaka arsenal MF 34 620000 79
martinelli arsenal FW 35 15000 93
degea manunited GK 1 100000 75
maguire manunited DF 5 202000 84
pogba manunited MF 6 140000 68
ronaldo manunited FW 7 1120000 69
rashford manunited FW 10 60000 77
fred manunited MF 17 1700000 88
fernandes manunited MF 18 110000 68
varane manunited DF 19 1000000 92
shaw manunited DF 23 620000 69
sancho manunited FW 25 15000 74
wanbissaka manunited DF 29 620000 70
```

```
van dijck liverpool DF 4 140000 73
konate liverpool DF 5 620000 70
thiago liverpool MF 6 510000 97
mane liverpool FW 10 1700000 71
salah manciny FW 11 15000 93
henderson liverpool MF 14 1000000 84
diaz liverpool FW 23 1220000 86
robertson liverpool DF 26 130000 68
```

Name, Club, Position, Number, Value **Stat**

After generating the instance, the stat is assigned and it is saved to the data

club.txt

```
mancity 10000000  
liverpool 20000000  
chelsea 1000000  
.....  
tottenham 30000000  
arsenal 20000  
manunited 1000000  
.....  
westham 2000  
everton 300000  
.....
```

init_club.txt

```
mancity 10000000  
liverpool 20000000  
chelsea 1000000  
.....  
tottenham 30000000  
arsenal 20000  
manunited 1000000  
.....
```

Changed data is saved