```
import pandas
import sqlite3
from os import path
# "C:\Users\yedou\OneDrive\Attachments\Fifa.Sqlite"
connection = sqlite3.connect(path.join("C:/","Users","yedou","OneDrive","Attachments","Fifa.Sqlite"))
### Select a Table
Teams = pandas.read_sql('select * from Team',connection)
#connection.close()
Teams
```

Out[8]:		id	team_api_id	team_fifa_api_id	team_long_name	team_short_name
	0	1	9987	673.0	KRC Genk	GEN
	1	2	9993	675.0	Beerschot AC	ВАС
	2	3	10000	15005.0	SV Zulte-Waregem	ZUL
	3	4	9994	2007.0	Sporting Lokeren	LOK
	4	5	9984	1750.0	KSV Cercle Brugge	CEB
	•••					
	294	49479	10190	898.0	FC St. Gallen	GAL
	295	49837	10191	1715.0	FC Thun	THU
	296	50201	9777	324.0	Servette FC	SER
	297	50204	7730	1862.0	FC Lausanne-Sports	LAU
	298	51606	7896	NaN	Lugano	LUG

```
#connection.close()
Teams_long_name_And_Teams_short_name
```

Out[25]:		team_long_name	team_short_name
	0	KRC Genk	GEN
	1	Beerschot AC	BAC
	2	SV Zulte-Waregem	ZUL
	3	Sporting Lokeren	LOK
	4	KSV Cercle Brugge	СЕВ
	•••		
	294	FC St. Gallen	GAL
	295	FC Thun	THU
	296	Servette FC	SER
	297	FC Lausanne-Sports	LAU
	298	Lugano	LUG

Out[27]:	id	player_fifa_api_id	player_api_id	date	overall_rating	potential	preferred_foot	attacking_work_rate	defensive_work_rate
0	1	218353	505942	2016- 02-18 00:00:00	67.0	71.0	right	medium	medium
1	2	218353	505942	2015- 11-19 00:00:00	67.0	71.0	right	medium	medium
2	3	218353	505942	2015- 09-21 00:00:00	62.0	66.0	right	medium	medium
3	4	218353	505942	2015- 03-20 00:00:00	61.0	65.0	right	medium	medium
4	5	218353	505942	2007- 02-22 00:00:00	61.0	65.0	right	medium	medium
•••									
183973	183974	102359	39902	2009- 08-30 00:00:00	83.0	85.0	right	medium	low
183974	183975	102359	39902	2009- 02-22 00:00:00	78.0	80.0	right	medium	low
183975	183976	102359	39902	2008- 08-30 00:00:00	77.0	80.0	right	medium	low
183976	183977	102359	39902	2007- 08-30 00:00:00	78.0	81.0	right	medium	low
183977	183978	102359	39902	2007- 02-22 00:00:00	80.0	81.0	right	medium	low

4

```
### SELECT all tables in SQLite database?
 In [6]:
          All tables = pandas.read sql("""select*
In [30]:
                                               from sqlite master
                                              where type = 'table';""",connection)
           #connection.close()
           All_tables
Out[30]:
              type
                             name
                                           tbl name rootpage
                                                                                                         sql
          0 table
                     sglite sequence
                                     sqlite_sequence
                                                            4
                                                                        CREATE TABLE sqlite_sequence(name,seq)
          1 table Player_Attributes Player_Attributes
                                                                   CREATE TABLE "Player_Attributes" (\n\t`id`\tlN...
                                                           11
           2 table
                                              Player
                                                           14
                                                                 CREATE TABLE 'Player' (\n\t'id'\tINTEGER PRIMA...
                             Player
           3 table
                             Match
                                             Match
                                                                CREATE TABLE 'Match' (\n\t'id'\tINTEGER PRIMAR...
                                                                CREATE TABLE `League` (\n\t`id`\tINTEGER PRIMA...
           4 table
                            League
                                             League
           5 table
                            Country
                                            Country
                                                                 CREATE TABLE 'Country' (\n\t'id'\tINTEGER PRIM...
           6 table
                              Team
                                               Team
                                                               CREATE TABLE "Team" (\n\t`id`\tINTEGER PRIMARY...
          7 table
                     Team_Attributes
                                     Team Attributes
                                                            2
                                                                   CREATE TABLE `Team_Attributes` (\n\t`id`\tINTE...
          ### apply a filter
In [31]:
          Player_Attributes = pandas.read_sql("""select id, overall_rating
In [32]:
                                                        from Player_Attributes
                                                        where overall_rating >90;""",connection)
           #connection.close()
           Player_Attributes
```

$\bigcirc$	T C C T	
Uul	32	

	id	overall_rating
0	6532	91
1	6533	91
2	12789	91
3	12790	91
4	33331	93
5	33332	93
6	33333	93
7	33334	92
8	33335	92
9	33336	92
10	33337	92
11	33338	92
12	33339	92
13	33340	92
14	33341	92
15	33342	92
16	33343	92
17	33344	92
18	33345	92
19	33346	92
20	33347	92
21	33353	91
22	33354	91
23	53198	91
24	63875	91

	id	overall_rating
25	63876	93
26	66758	92
27	72609	91
28	72610	91
29	84856	91
30	102483	94
31	102484	94
32	102485	94
33	102486	93
34	102487	93
35	102488	93
36	102489	93
37	102490	93
38	102491	93
39	102492	94
40	102493	94
41	102494	94
42	102495	94
43	102496	94
44	102497	94
45	102498	94
46	102499	94
47	102500	94
48	153453	91
49	153454	91

	id	overall_rating
50	170037	91
51	170038	91
52	178976	93
53	180723	91
54	180724	92

```
In [38]: ### Set a limit on the number of results
```

## id overall\_rating Out[43]: 12789 12790 33331 33332 33333 33334 33335 33336

```
In [42]: ### Multiple conditions
```

```
Player_Attributes = pandas.read_sql("""select id, overall_rating,preferred_foot
In [40]:
                                                  from Player Attributes
                                                  where overall rating >80 and preferred foot =='left'
                                                  LIMIT 5;""", connection)
         #connection.close()
          Player_Attributes
Out[40]:
              id overall rating preferred foot
         0 1744
                           82
                                        left
         1 1745
                           81
                                        left
         2 1746
                           81
                                        left
         3 3245
                           83
                                        left
         4 3248
                           86
                                        left
In [44]: ### Multiple conditions without the need to select columns
         Player Attributes = pandas.read sql("""select id
In [46]:
                                                  from Player_Attributes
                                                  where overall_rating >80 and preferred_foot =='left'
                                                  LIMIT 5;""", connection)
          #connection.close()
         Player Attributes
Out[46]:
              id
         0 1744
         1 1745
         2 1746
         3 3245
         4 3248
 In [ ]: ### Manage priorities under the conditions
         Player_Attributes = pandas.read_sql("""select id, overall_rating,preferred_foot,attacking_work_rate
                                                 from Player_Attributes
```

```
id overall_rating preferred_foot attacking_work_rate
Out[47]:
          0 1
                                                       medium
                          67
                                       right
          1 2
                          67
                                       right
                                                      medium
          2 3
                                      right
                          62
                                                       medium
          3 4
                          61
                                      right
                                                       medium
          4 5
                          61
                                      right
                                                       medium
```

#connection.close()
Player\_Attributes

Out[52]:		id	overall_rating	preferred_foot	attacking_work_rate	standing_tackle
	0	102492	94	left	medium	21
	1	102493	94	left	high	21
	2	102494	94	left	high	21
	3	102495	94	left	high	21
	4	102496	94	left	high	21
	5	102497	94	left	high	21
	6	102498	94	left	high	21
	7	102499	94	left	high	21
	8	102500	94	left	high	21
	9	102483	94	left	medium	23

```
['id',
Out[57]:
           'country_id',
           'league_id',
           'season',
           'stage',
           'date',
           'match_api_id',
           'home team api id',
           'away_team_api_id',
           'home_team_goal',
           'away team goal',
           'home_player_X1',
           'home_player_X2',
           'home_player_X3',
           'home_player_X4',
           'home player X5',
           'home_player_X6',
           'home_player_X7',
           'home player X8',
           'home_player_X9',
           'home_player_X10',
           'home_player_X11',
           'away_player_X1',
           'away_player_X2',
           'away_player_X3',
           'away_player_X4',
           'away player X5',
           'away player X6',
           'away_player_X7',
           'away_player_X8',
           'away player X9',
           'away_player_X10',
           'away_player_X11',
           'home_player_Y1',
           'home_player_Y2',
           'home_player_Y3',
           'home_player_Y4',
           'home_player_Y5',
           'home player Y6',
           'home_player_Y7',
           'home_player_Y8',
           'home_player_Y9',
           'home_player_Y10',
           'home_player_Y11',
           'away_player_Y1',
```

```
'away_player_Y2',
'away_player_Y3',
'away_player_Y4',
'away_player_Y5',
'away_player_Y6',
'away_player_Y7',
'away_player_Y8',
'away_player_Y9',
'away_player_Y10',
'away_player_Y11',
'home_player_1',
'home_player_2',
'home_player_3',
'home_player_4',
'home_player_5',
'home_player_6',
'home_player_7',
'home_player_8',
'home_player_9',
'home_player_10',
'home_player_11',
'away_player_1',
'away_player_2',
'away_player_3',
'away_player_4',
'away_player_5',
'away_player_6',
'away_player_7',
'away_player_8',
'away_player_9',
'away player 10',
'away_player_11',
'goal',
'shoton',
'shotoff',
'foulcommit',
'card',
'cross',
'corner',
'possession',
'B365H',
'B365D',
'B365A',
'BWH',
'BWD',
```

```
'BWA',
           'IWH',
           'IWD',
           'IWA',
           'LBH',
           'LBD',
           'LBA',
           'PSH',
           'PSD',
           'PSA',
           'WHH',
           'WHD',
           'WHA',
           'SJH',
           'SJD',
           'SJA',
           'VCH',
           'VCD',
           'VCA',
           'GBH',
           'GBD',
           'GBA',
           'BSH',
           'BSD',
           'BSA']
          len(match.columns)
In [58]:
Out[58]:
          #Sum columns values
          match = pandas.read_sql("""select SUM(home_team_goal),SUM(away_team_goal)
In [60]:
                                        From match;""",connection)
          match
Out[60]:
             SUM(home_team_goal) SUM(away_team_goal)
          0
                                                30160
                           40127
          # Count row OR Line
```

```
match = pandas.read_sql("""select COUNT(*)
In [62]:
                                      From match;""",connection)
         match
Out[62]:
            COUNT(*)
         0
               25979
         # Count row OR line with filter
         match = pandas.read_sql("""select COUNT(*)
                                      From match
                                      WHERE home_team_goal>2;""",connection)
         match
            COUNT(*)
Out[64]:
         0
                5344
         # MAX value in column
 In [ ]:
In [66]: match = pandas.read_sql("""select MAX(home_team_goal), MAX(away_team_goal)
                                      From match;""",connection)
         match
            MAX(home_team_goal) MAX(away_team_goal)
Out[66]:
         0
                             10
                                                  9
         # MEAN
In [
                  pandas.read_sql("""select AVG(home_team_goal),AVG(away_team_goal)
         match =
                                      From match;""",connection)
         match
```

```
AVG(home_team_goal) AVG(away_team_goal)
Out[67]:
                        1.544594
                                            1.160938
          0
          # GROUP BY
In [68]:
          match = pandas.read_sql("""select AVG(home_team_goal),AVG(away_team_goal)
In [69]:
                                       From match
                                       GROUP BY season;""",connection)
          match
Out[69]:
             AVG(home_team_goal) AVG(away_team_goal)
          0
                        1.505412
                                            1.101924
                        1.541176
                                            1.131269
          2
                        1.548466
                                             1.135276
                        1.572671
                                            1.143789
          3
                        1.550000
          4
                                             1.222699
                        1.578826
          5
                                             1.187995
          6
                        1.520301
                                            1.155489
          7
                        1.543897
                                             1.210764
          #Rename variables with Alias.
 In [
          match = pandas.read_sql("""select AVG(home_team_goal) AS Average_goals_home,AVG(away_team_goal) AS Average_goals_away
                                       From match
                                       GROUP BY season;""",connection)
          match
```

Out[3]:		Average_goals_home	Average_goals_away
	0	1.505412	1.101924
	1	1.541176	1.131269
	2	1.548466	1.135276
	3	1.572671	1.143789
	4	1.550000	1.222699
	5	1.578826	1.187995
	6	1.520301	1.155489
	7	1.543897	1.210764

Out[9]:		season	Average_goals_home	Average_goals_away
	0	2008/2009	5007	3665
	1	2010/2011	5048	3701
	2	2011/2012	5064	3683
	3	2012/2013	5053	3986
	4	2014/2015	5055	3842
	5	2015/2016	5135	4027

```
In []: # Have info on a Table
In [10]: infos = pandas.read_sql("""PRAGMA table_info(match);""",connection)
infos
```

Out[10]:	cid		name	type	notnull	dflt_value	pk
	0	0	id	INTEGER	0	None	1
	1	1	country_id	INTEGER	0	None	0
	2	2	league_id	INTEGER	0	None	0
	3	3	season	TEXT	0	None	0
	4	4	stage	INTEGER	0	None	0
	•••						
	110	110	GBD	NUMERIC	0	None	0
	111	111	GBA	NUMERIC	0	None	0
	112	112	BSH	NUMERIC	0	None	0
	113	113	BSD	NUMERIC	0	None	0
	114	114	BSA	NUMERIC	0	None	0

Out[12]:		id	country_id	league_id	season	stage	date	match_api_id	home_team_api_id	away_team_api_id	home_team_goal	•••	SJ
	0	1	1	1	2008/2009	1	2008- 08-17 00:00:00	492473	9987	9993	1		4.0
	1	2	1	1	2008/2009	1	2008- 08-16 00:00:00	492474	10000	9994	0		3.8
	2	3	1	1	2008/2009	1	2008- 08-16 00:00:00	492475	9984	8635	0		2.5
	3	4	1	1	2008/2009	1	2008- 08-17 00:00:00	492476	9991	9998	5		7.5
	4	5	1	1	2008/2009	1	2008- 08-16 00:00:00	492477	7947	9985	1		1.7
	•••												
	25974	25975	24558	24558	2015/2016	9	2015- 09-22 00:00:00	1992091	10190	10191	1		Na
	25975	25976	24558	24558	2015/2016	9	2015- 09-23 00:00:00	1992092	9824	10199	1		Na
	25976	25977	24558	24558	2015/2016	9	2015- 09-23 00:00:00	1992093	9956	10179	2		Na
	25977	25978	24558	24558	2015/2016	9	2015- 09-22 00:00:00	1992094	7896	10243	0		Na
	25978	25979	24558	24558	2015/2016	9	2015- 09-23 00:00:00	1992095	10192	9931	4		Na

4

```
In [13]: # Table info
         infos = pandas.read_sql("""PRAGMA table_info(Country);""",connection)
         infos
                         type notnull dflt_value pk
Out[13]:
            cid name
                   id INTEGER
             0
                                    0
                                          None
            1 name
                         TEXT
                                          None 0
In [14]: countries = pandas.read_sql(""" SELECT *
                                      FROM Country;""",connection)
          countries
Out[14]:
                id
                        name
          0
                       Belgium
                       England
          1 1729
              4769
                        France
          3 7809
                      Germany
          4 10257
                          Italy
          5 13274 Netherlands
                        Poland
          6 15722
                      Portugal
          7 17642
          8 19694
                      Scotland
          9 21518
                         Spain
          10 24558
                    Switzerland
         # Make a join between 2 tables
 In [ ]:
         # https://www.geek-share.com/detail/2792034027.html
         match = pandas.read_sql("""SELECT country.*,* FROM MATCH
                                     INNER JOIN country
                                     ON match.country_id==country_id;""",connection)
         match
```

Out[3]:		id	name	id	country_id	league_id	season	stage	date	match_api_id	home_team_api_id	•••	VCD	VCA	GBH
	0	1	Belgium	1	1	1	2008/2009	1	2008- 08-17 00:00:00	492473	9987		3.4	4.5	1.78
	1	1729	England	1	1	1	2008/2009	1	2008- 08-17 00:00:00	492473	9987		3.4	4.5	1.78
	2	4769	France	1	1	1	2008/2009	1	2008- 08-17 00:00:00	492473	9987		3.4	4.5	1.78
	3	7809	Germany	1	1	1	2008/2009	1	2008- 08-17 00:00:00	492473	9987		3.4	4.5	1.78
	4	10257	Italy	1	1	1	2008/2009	1	2008- 08-17 00:00:00	492473	9987		3.4	4.5	1.78
	•••														
	285764	15722	Poland	25979	24558	24558	2015/2016	9	2015- 09-23 00:00:00	1992095	10192		NaN	NaN	NaN
	285765	17642	Portugal	25979	24558	24558	2015/2016	9	2015- 09-23 00:00:00	1992095	10192		NaN	NaN	NaN
	285766	19694	Scotland	25979	24558	24558	2015/2016	9	2015- 09-23 00:00:00	1992095	10192		NaN	NaN	NaN
	285767	21518	Spain	25979	24558	24558	2015/2016	9	2015- 09-23 00:00:00	1992095	10192		NaN	NaN	NaN
	285768	24558	Switzerland	25979	24558	24558	2015/2016	9	2015- 09-23 00:00:00	1992095	10192		NaN	NaN	NaN

285769 rows × 119 columns

4

•

t[4]:	ho	ome_team_api_id	away_team_api_id	home_team_goal	away_team_goal	name
	0	9987	9993	1	1	Belgium
	1	9987	9993	1	1	England
	2	9987	9993	1	1	France
	3	9987	9993	1	1	Germany
	4	9987	9993	1	1	Italy
	•••					
	285764	10192	9931	4	3	Poland
	285765	10192	9931	4	3	Portugal
	285766	10192	9931	4	3	Scotland
	285767	10192	9931	4	3	Spain
	285768	10192	9931	4	3	Switzerland

Out[2]:		id	team_api_id	team_fifa_api_id	team_long_name	team_short_name
	0	1	9987	673.0	KRC Genk	GEN
	1	2	9993	675.0	Beerschot AC	ВАС
	2	3	10000	15005.0	SV Zulte-Waregem	ZUL
	3	4	9994	2007.0	Sporting Lokeren	LOK
	4	5	9984	1750.0	KSV Cercle Brugge	CEB
	•••					
	294	49479	10190	898.0	FC St. Gallen	GAL
	295	49837	10191	1715.0	FC Thun	THU
	296	50201	9777	324.0	Servette FC	SER
	297	50204	7730	1862.0	FC Lausanne-Sports	LAU
	298	51606	7896	NaN	Lugano	LUG

Out[5]:		team_long_name	away_team_api_id	home_team_goal	away_team_goal	name
	0	KRC Genk	9993	1	1	Belgium
	1	KRC Genk	9993	1	1	England
	2	KRC Genk	9993	1	1	France
	3	KRC Genk	9993	1	1	Germany
	4	KRC Genk	9993	1	1	Italy
	•••					
	285764	BSC Young Boys	9931	4	3	Poland
	285765	BSC Young Boys	9931	4	3	Portugal
	285766	BSC Young Boys	9931	4	3	Scotland
	285767	BSC Young Boys	9931	4	3	Spain
	285768	BSC Young Boys	9931	4	3	Switzerland

Out[3]

:		team_long_name	away_team_api_id	home_team_goal	away_team_goal	name
	0	KRC Genk	9993	1	1	Belgium
	1	KRC Genk	9993	1	1	England
	2	KRC Genk	9993	1	1	France
	3	KRC Genk	9993	1	1	Germany
	4	KRC Genk	9993	1	1	Italy
	•••					
	285764	BSC Young Boys	9931	4	3	Poland
	285765	BSC Young Boys	9931	4	3	Portugal
	285766	BSC Young Boys	9931	4	3	Scotland
	285767	BSC Young Boys	9931	4	3	Spain
	285768	BSC Young Boys	9931	4	3	Switzerland

Out[5]:		home_team	away_team	home_team_goal	away_team_goal	name
	0	KRC Genk	Beerschot AC	1	1	Belgium
	1	SV Zulte-Waregem	Sporting Lokeren	0	0	Belgium
	2	KSV Cercle Brugge	RSC Anderlecht	0	3	Belgium
	3	KAA Gent	RAEC Mons	5	0	Belgium
	4	FCV Dender EH	Standard de Liège	1	3	Belgium
	•••					
:	25974	FC St. Gallen	FC Thun	1	0	Switzerland
:	25975	FC Vaduz	FC Luzern	1	2	Switzerland
:	25976	Grasshopper Club Zürich	FC Sion	2	0	Switzerland
:	25977	Lugano	FC Zürich	0	0	Switzerland
:	25978	BSC Young Boys	FC Basel	4	3	Switzerland

Out[4]:

	home_team	away_team	home_team_goal	away_team_goal	name
0	Olympique Lyonnais	Toulouse FC	3	0	France
1	Stade Rennais FC	Olympique de Marseille	4	4	France
2	FC Lorient	FC Nantes	3	0	France
3	Girondins de Bordeaux	Le Havre AC	4	0	France
4	AS Monaco	AS Nancy-Lorraine	3	1	France
•••					
481	Paris Saint-Germain	En Avant de Guingamp	3	0	France
482	SC Bastia	Toulouse FC	3	0	France
483	Girondins de Bordeaux	Olympique Lyonnais	3	1	France
484	En Avant de Guingamp	AS Monaco	3	3	France
485	FC Lorient	Girondins de Bordeaux	3	2	France

486 rows × 5 columns

In [ ]: