

## Importing Libraries

```
In [2]: import pandas as pd
import matplotlib.pyplot as plt
%matplotlib inline
import seaborn as sns
sns.set_style('darkgrid')
```

## Read csv File

```
In [3]: df=pd.read_csv("players_22.csv", low_memory=False)
df.head(10)
```

Out[3]:

	sofifa_id	player_url	short_name	long_name	player_positions	overall	potential	value_eur	wage_eur	ag
0	158023	https://sofifa.com/player/158023/lionel-messi/...	L. Messi	Lionel Andrés Messi Cuccittini	RW, ST, CF	93	93	78000000.0	320000.0	3
1	188545	https://sofifa.com/player/188545/robert-lewand...	R. Lewandowski	Robert Lewandowski	ST	92	92	119500000.0	270000.0	3
2	20801	https://sofifa.com/player/20801/c-ronaldo-dos-...	Cristiano Ronaldo	Cristiano Ronaldo dos Santos Aveiro	ST, LW	91	91	45000000.0	270000.0	3
3	190871	https://sofifa.com/player/190871/neymar-da-sil...	Neymar Jr	Neymar da Silva Santos Júnior	LW, CAM	91	91	129000000.0	270000.0	2
4	192985	https://sofifa.com/player/192985/kevin-de-bruy...	K. De Bruyne	Kevin De Bruyne	CM, CAM	91	91	125500000.0	350000.0	3
5	200389	https://sofifa.com/player/200389/jan-oblak/220002	J. Oblak	Jan Oblak	GK	91	93	112000000.0	130000.0	2
6	231747	https://sofifa.com/player/231747/kylian-mbappe...	K. Mbappé	Kylian Mbappé Lottin	ST, LW	91	95	194000000.0	230000.0	2
7	167495	https://sofifa.com/player/167495/manuel-neuer/...	M. Neuer	Manuel Peter Neuer	GK	90	90	13500000.0	86000.0	3
8	192448	https://sofifa.com/player/192448/marc-andre-te...	M. ter Stegen	Marc-André ter Stegen	GK	90	92	99000000.0	250000.0	2
9	202126	https://sofifa.com/player/202126/harry-kane/22...	H. Kane	Harry Kane	ST	90	90	129500000.0	240000.0	2

10 rows × 110 columns

In [ ]:

In [4]: #view all columns

```
In [5]: pd.set_option("display.max_columns",None)
df.head()
```

Out[5]:

	sofifa_id	player_url	short_name	long_name	player_positions	overall	potential	value_eur	wage_eur	ag
0	158023	https://sofifa.com/player/158023/lionel-messi/...	L. Messi	Lionel Andrés Messi Cuccittini	RW, ST, CF	93	93	78000000.0	320000.0	3
1	188545	https://sofifa.com/player/188545/robert-lewandowski...	R. Lewandowski	Robert Lewandowski	ST	92	92	119500000.0	270000.0	3
2	20801	https://sofifa.com/player/20801/cristiano-ronaldo-dos-santos-aveiro...	Cristiano Ronaldo	Cristiano Ronaldo dos Santos Aveiro	ST, LW	91	91	45000000.0	270000.0	3
3	190871	https://sofifa.com/player/190871/neymar-da-silva-santos-junior...	Neymar Jr	Neymar da Silva Santos Júnior	LW, CAM	91	91	129000000.0	270000.0	2
4	192985	https://sofifa.com/player/192985/kevin-de-bruyne...	K. De Bruyne	Kevin De Bruyne	CM, CAM	91	91	125500000.0	350000.0	3

## Drop unnecessary column

```
In [6]: df=df.drop(["sofifa_id","player_url","long_name","dob","height_cm","weight_kg","club_team_id",
               "league_level","club_position","club_jersey_number","club_loaned_from","club_joined","club_contract_valid_until",
               "nationality_id","nation_team_id","nation_jersey_number","body_type","real_face",
               "release_clause_eur","player_tags","player_traits","player_face_url","club_logo_url","club_flag_url",
               "nation_logo_url","nation_flag_url","ls","st","rs","lw","lf","rf","rw","lam","cam","lm",
```

```
"lcm", "cm", "rcm", "rm", "lwb", "ldm", "rdm", "rwb", "lb", "lb", "lcb", "cb", "rcb", "rb", "rb", "gk",
"cf", "ram", "cdm"], axis=1)
df.head()
```

Out[6]:

	short_name	player_positions	overall	potential	value_eur	wage_eur	age	club_name	league_name	nationality_name	nation_position
0	L. Messi	RW, ST, CF	93	93	78000000.0	320000.0	34	Paris Saint-Germain	French Ligue 1	Argentina	RW
1	R. Lewandowski	ST	92	92	119500000.0	270000.0	32	FC Bayern München	German 1. Bundesliga	Poland	RS
2	Cristiano Ronaldo	ST, LW	91	91	45000000.0	270000.0	36	Manchester United	English Premier League	Portugal	ST
3	Neymar Jr	LW, CAM	91	91	129000000.0	270000.0	29	Paris Saint-Germain	French Ligue 1	Brazil	NaN
4	K. De Bruyne	CM, CAM	91	91	125500000.0	350000.0	30	Manchester City	English Premier League	Belgium	RCM

Now we will consider teams which are qualifies into worldcup.

In [7]:

```
teams_worldcup = [
    'Qatar', 'Brazil', 'Belgium', 'France', 'Argentina', 'England', 'Spain', 'Portugal',
    'Mexico', 'Netherlands', 'Denmark', 'Germany', 'Uruguay', 'Switzerland', 'United States', 'Croatia',
    'Senegal', 'Iran', 'Japan', 'Morocco', 'Serbia', 'Poland', 'South Korea', 'Tunisia',
    'Cameroon', 'Canada', 'Ecuador', 'Saudi Arabia', 'Ghana', 'Wales', 'Costa Rica', 'Australia']
df = df[df['nationality_name'].isin(teams_worldcup)]
df
```

Out[7]:

	short_name	player_positions	overall	potential	value_eur	wage_eur	age	club_name	league_name	nationality_name	nation_pos
0	L. Messi	RW, ST, CF	93	93	78000000.0	320000.0	34	Paris Saint-Germain	French Ligue 1	Argentina	
1	R. Lewandowski	ST	92	92	119500000.0	270000.0	32	FC Bayern München	German 1. Bundesliga	Poland	
2	Cristiano Ronaldo	ST, LW	91	91	45000000.0	270000.0	36	Manchester United	English Premier League	Portugal	
3	Neymar Jr	LW, CAM	91	91	129000000.0	270000.0	29	Paris Saint-Germain	French Ligue 1	Brazil	
4	K. De Bruyne	CM, CAM	91	91	125500000.0	350000.0	30	Manchester City	English Premier League	Belgium	
...	...	...	...	...	...	...	...	...	...	...	...
19183	F. Emmings	GK	48	73	130000.0	500.0	17	Minnesota United FC	USA Major League Soccer	United States	
19197	J. Neal	CB	48	69	140000.0	500.0	17	LA Galaxy	USA Major League Soccer	United States	
19216	H. Wiles-Richards	GK	48	65	110000.0	1000.0	19	Bristol City	English League Championship	England	
19217	J. Affonso	CM	48	55	90000.0	500.0	23	Cerro Largo Fútbol Club	Uruguayan Primera División	Uruguay	
19230	N. Saliba	CM	47	69	150000.0	500.0	17	Club de Foot Montréal	USA Major League Soccer	Canada	

12266 rows × 57 columns

In [ ]:

```
In [8]: rows,columns=df.shape
```

```
In [9]: columns
```

```
Out[9]: 57
```

```
In [10]: rows
```

```
Out[10]: 12266
```

```
In [ ]:
```

```
In [11]: df.describe()
```

	overall	potential	value_eur	wage_eur	age	weak_foot	skill_moves	international_reputation	...
<b>count</b>	12266.000000	12266.000000	1.224600e+04	12256.000000	12266.000000	12266.000000	12266.000000	12266.000000	10894.000000
<b>mean</b>	66.424833	71.875591	3.280923e+06	10254.361129	25.059922	2.966248	2.365074	1.108022	68.181000
<b>std</b>	6.763040	5.876304	8.473582e+06	21627.722021	4.730115	0.668311	0.778492	0.401371	11.100000
<b>min</b>	47.000000	55.000000	1.500000e+04	500.000000	16.000000	1.000000	1.000000	1.000000	28.000000
<b>25%</b>	62.000000	68.000000	5.250000e+05	2000.000000	21.000000	3.000000	2.000000	1.000000	62.000000
<b>50%</b>	66.000000	72.000000	1.100000e+06	3000.000000	24.000000	3.000000	2.000000	1.000000	69.000000
<b>75%</b>	71.000000	76.000000	2.300000e+06	10000.000000	28.000000	3.000000	3.000000	1.000000	76.000000
<b>max</b>	93.000000	95.000000	1.940000e+08	350000.000000	54.000000	5.000000	5.000000	5.000000	97.000000

```
◀ ━━━━━━ ▶
```

```
In [ ]:
```

```
In [12]: df.describe(include="0")
```

Out[12]:

	short_name	player_positions	club_name	league_name	nationality_name	nation_position	preferred_foot	work_rate
<b>count</b>	12266	12266	12256	12256	12266	368	12266	12266
<b>unique</b>	11663	581	687	55	30	25	2	9
<b>top</b>	J. Rodríguez	CB	Sevilla FC	Argentina Primera División	England	SUB	Right	Medium/Medium
<b>freq</b>	9	1556	32	680	1719	192	9305	6457

In [ ]:

## Data Cleaning.

In [13]: `df.ffill(axis=0)`

Out[13]:

	short_name	player_positions	overall	potential	value_eur	wage_eur	age	club_name	league_name	nationality_name	nation_pos
0	L. Messi	RW, ST, CF	93	93	78000000.0	320000.0	34	Paris Saint-Germain	French Ligue 1	Argentina	
1	R. Lewandowski	ST	92	92	119500000.0	270000.0	32	FC Bayern München	German 1. Bundesliga	Poland	
2	Cristiano Ronaldo	ST, LW	91	91	45000000.0	270000.0	36	Manchester United	English Premier League	Portugal	
3	Neymar Jr	LW, CAM	91	91	129000000.0	270000.0	29	Paris Saint-Germain	French Ligue 1	Brazil	
4	K. De Bruyne	CM, CAM	91	91	125500000.0	350000.0	30	Manchester City	English Premier League	Belgium	
...	...	...	...	...	...	...	...	...	...	...	...
19183	F. Emmings	GK	48	73	130000.0	500.0	17	Minnesota United FC	USA Major League Soccer	United States	
19197	J. Neal	CB	48	69	140000.0	500.0	17	LA Galaxy	USA Major League Soccer	United States	
19216	H. Wiles-Richards	GK	48	65	110000.0	1000.0	19	Bristol City	English League Championship	England	
19217	J. Affonso	CM	48	55	90000.0	500.0	23	Cerro Largo Fútbol Club	Uruguayan Primera División	Uruguay	
19230	N. Saliba	CM	47	69	150000.0	500.0	17	Club de Foot Montréal	USA Major League Soccer	Canada	

12266 rows × 57 columns

In [ ]:

## Sort Data-table by overall and potential value.

```
In [14]: df.sort_values(by=['overall', 'potential'], ascending=False, inplace=True)  
df
```

Out[14]:

	short_name	player_positions	overall	potential	value_eur	wage_eur	age	club_name	league_name	nationality_name	nation_pos
0	L. Messi	RW, ST, CF	93	93	78000000.0	320000.0	34	Paris Saint-Germain	French Ligue 1	Argentina	
1	R. Lewandowski	ST	92	92	119500000.0	270000.0	32	FC Bayern München	German 1. Bundesliga	Poland	
6	K. Mbappé	ST, LW	91	95	194000000.0	230000.0	22	Paris Saint-Germain	French Ligue 1	France	
2	Cristiano Ronaldo	ST, LW	91	91	45000000.0	270000.0	36	Manchester United	English Premier League	Portugal	
3	Neymar Jr	LW, CAM	91	91	129000000.0	270000.0	29	Paris Saint-Germain	French Ligue 1	Brazil	
...	...	...	...	...	...	...	...	...	...	...	...
19183	F. Emmings	GK	48	73	130000.0	500.0	17	Minnesota United FC	USA Major League Soccer	United States	
19197	J. Neal	CB	48	69	140000.0	500.0	17	LA Galaxy	USA Major League Soccer	United States	
19216	H. Wiles-Richards	GK	48	65	110000.0	1000.0	19	Bristol City	English League Championship	England	
19217	J. Affonso	CM	48	55	90000.0	500.0	23	Cerro Largo Fútbol Club	Uruguayan Primera División	Uruguay	
19230	N. Saliba	CM	47	69	150000.0	500.0	17	Club de Foot Montréal	USA Major League Soccer	Canada	

12266 rows × 57 columns

◀  ▶

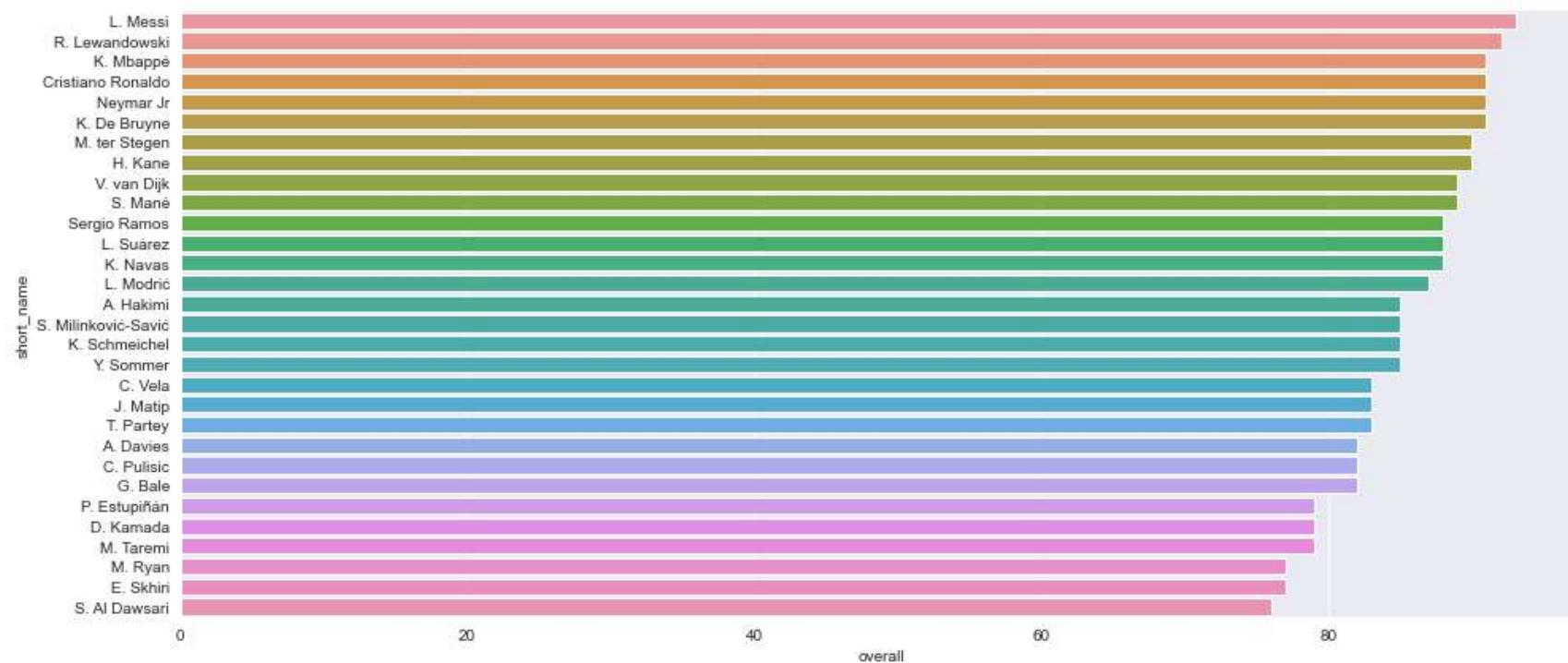
## Find The Best Player From Each Nation.

```
In [15]: df_best_players = df.copy()
df_best_players = df_best_players.drop_duplicates('nationality_name').reset_index(drop=True)
```

## Visualization for Best Players.

```
In [16]: fig, ax = plt.subplots(figsize=(14, 6), tight_layout=True)
sns.barplot(x="overall", y="short_name", data=df_best_players)
```

Out[16]: <AxesSubplot:xlabel='overall', ylabel='short\_name'>

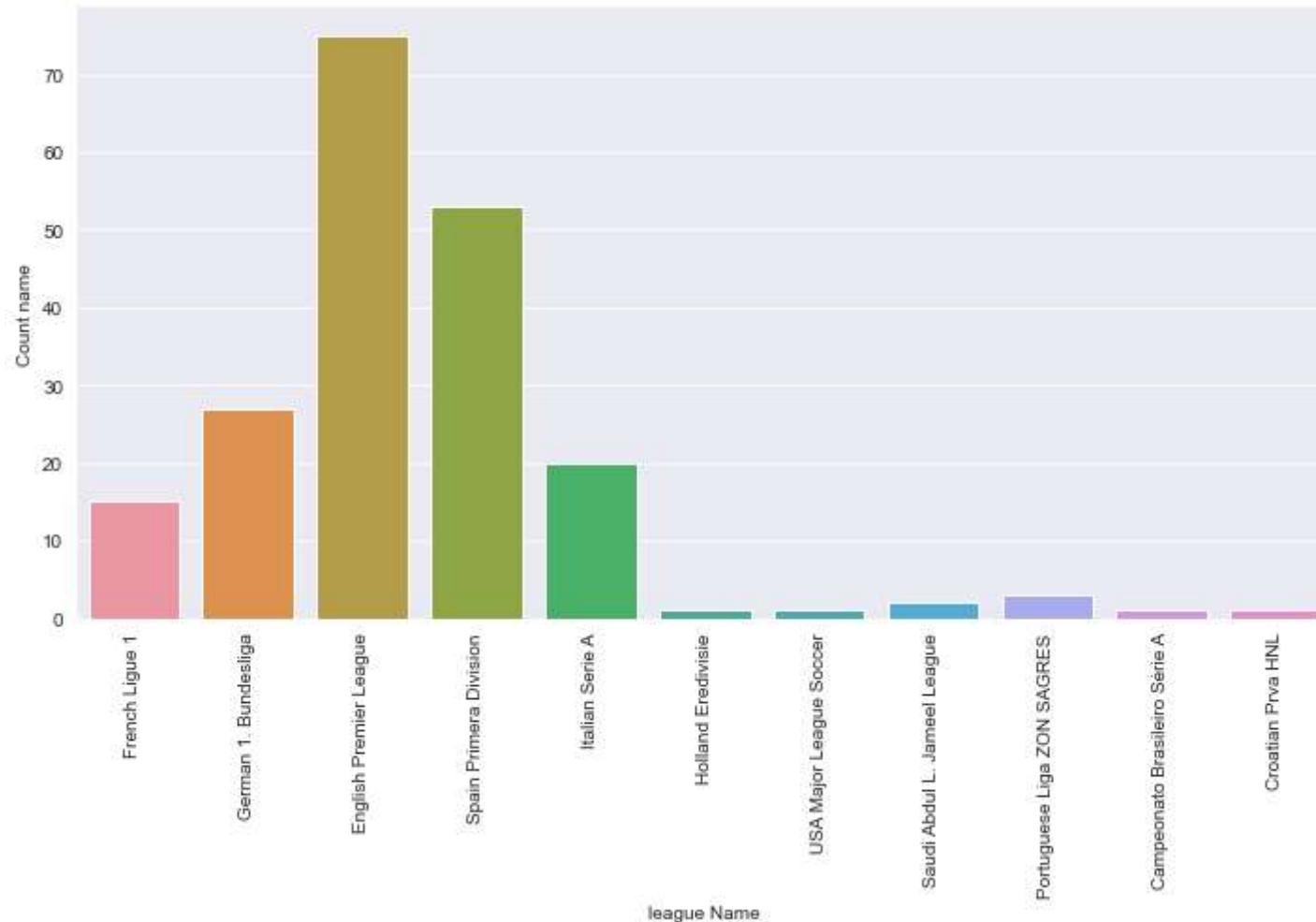


Observation: Messi is best player among all best player country wise

In which Football league players play most?

```
In [17]: # Here we consider top 200 player only
```

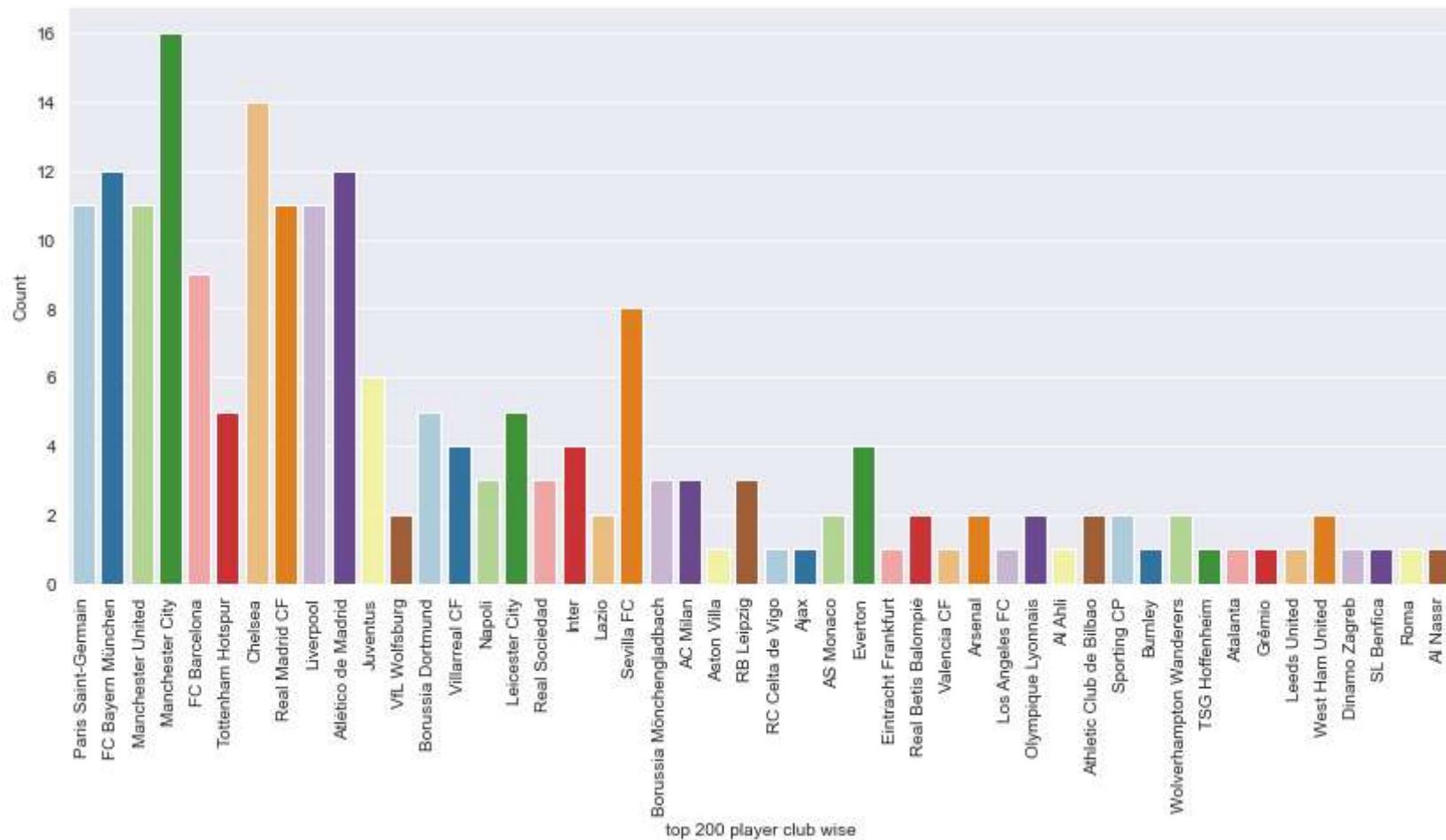
```
In [18]: plt.figure(figsize=(12,6))
sns.countplot(x="league_name", data=df.head(200))
plt.xticks(rotation=90)
plt.xlabel("league Name")
plt.ylabel("Count name")
plt.show()
```



**observation: In top 200 player, Most player play in English premier League**

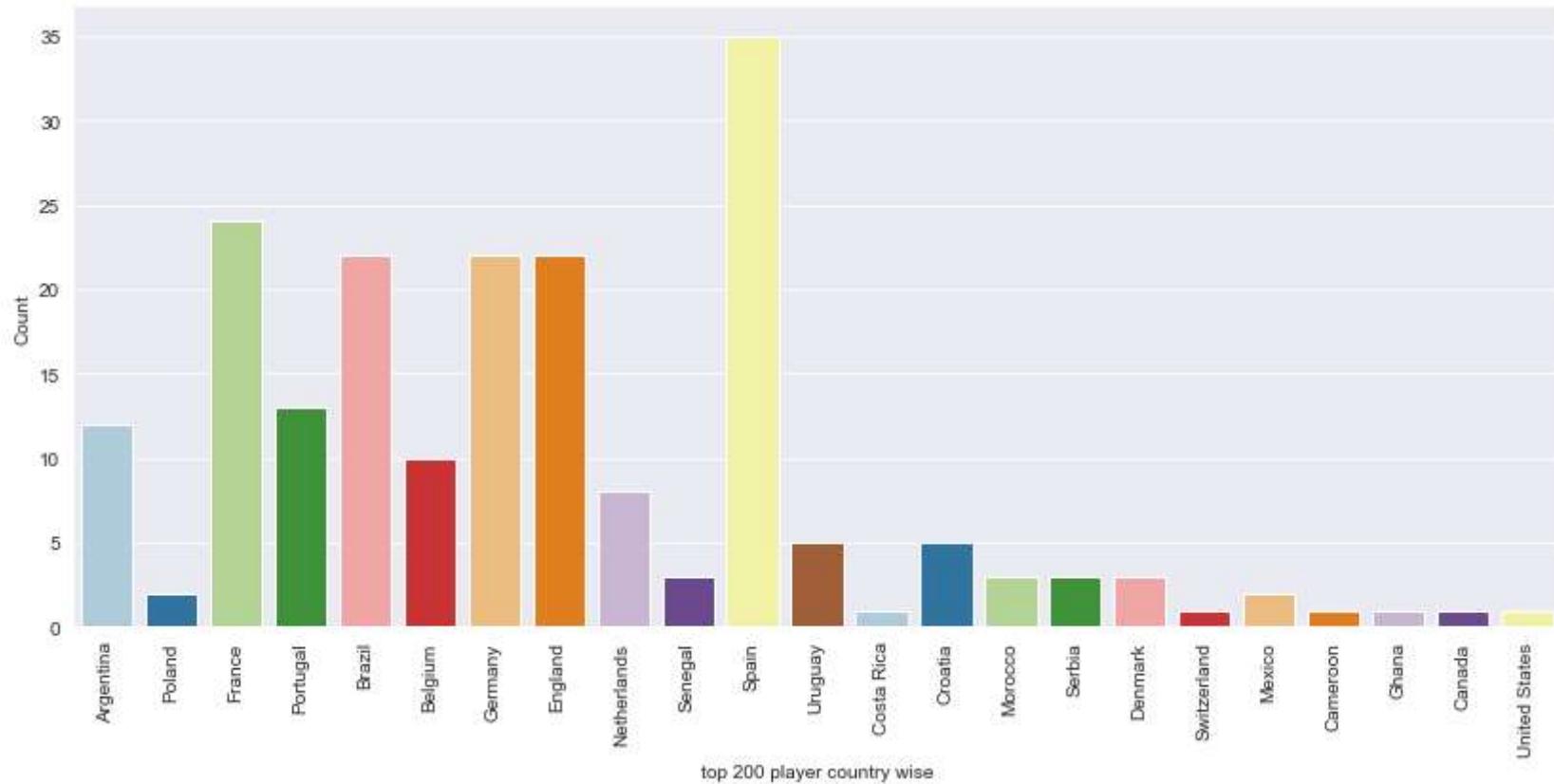
```
In [19]: plt.figure(figsize=(14,6))
sns.countplot(x="club_name", data=df.head(200), palette="Paired")
```

```
plt.xticks(rotation=90)
plt.xlabel("top 200 player club wise",)
plt.ylabel("Count")
plt.show()
```



**Observation: Manchester City team have highest player in top 200.**

```
In [20]: plt.figure(figsize=(14,6))
sns.countplot(x="nationality_name", data=df.head(200), palette="Paired")
plt.xticks(rotation=90)
plt.xlabel("top 200 player country wise",)
plt.ylabel("Count")
plt.show()
```



Observation: spanish players are highest in Top 200 player.

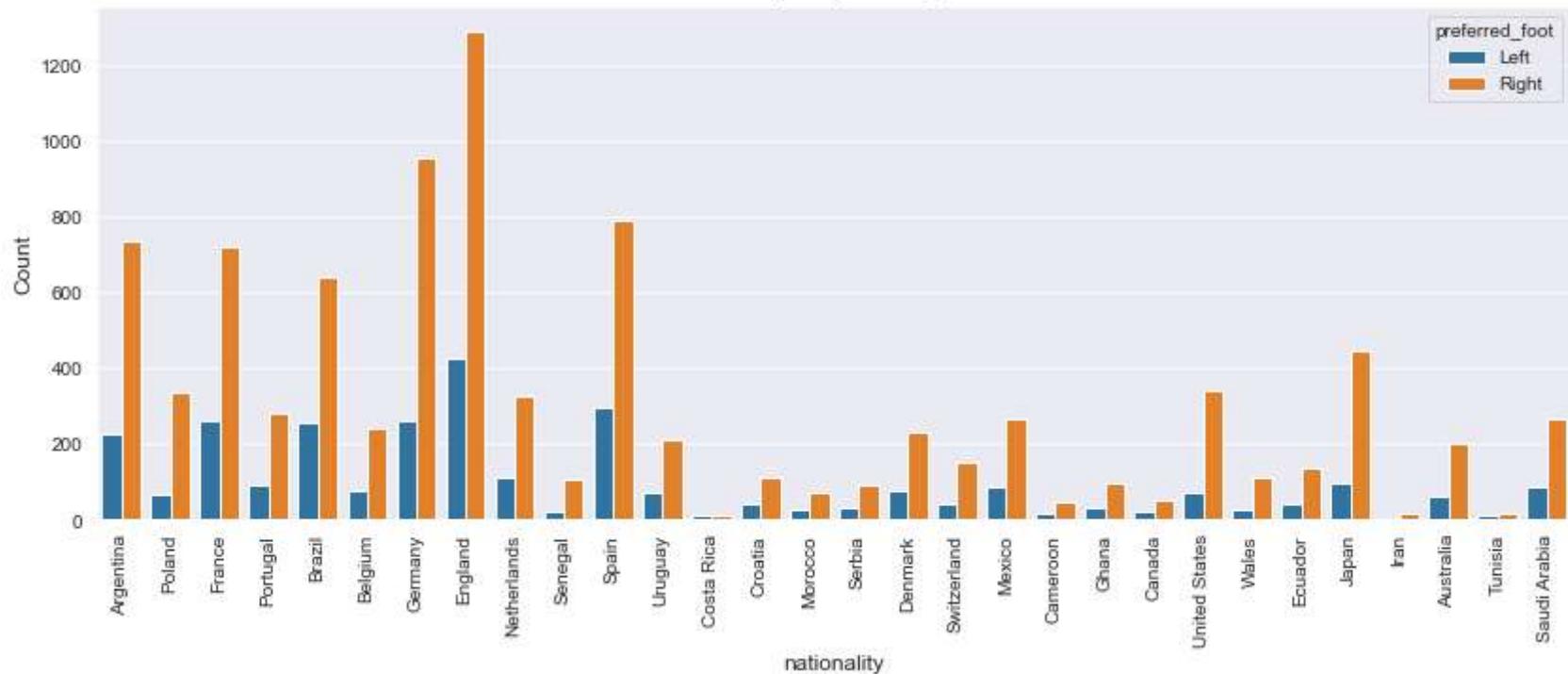
In [ ]:

Which country have highest Right footer player?

```
In [21]: plt.figure(figsize=(14,5))
ax=sns.countplot(x="nationality_name",hue='preferred_foot',data=df)
plt.xticks(rotation=90)
ax.set(title="Nationality v/s preferred_foot ")
plt.xlabel('nationality',size=12)
plt.ylabel('Count',size=12)
```

Out[21]: Text(0, 0.5, 'Count')

Nationality v/s preferred\_foot



Observation: England have Highest Right Footer player

Top 10 expensive player by market value.

```
In [22]: expensive_player=df.groupby(["short_name"])[["value_eur"]].sum().reset_index()
expensive_player.head(5)
```

```
Out[22]:    short_name  value_eur
0      A. Abaz  1200000.0
1      A. Abdi  1700000.0
2  A. Abedzadeh  2400000.0
3      A. Abqar  700000.0
4      A. Acevedo  100000.0
```

```
In [23]: expensive_player.sort_values(by=['value_eur'], ascending=False, inplace=True)  
expensive_player.head(10)
```

Out[23]:

	short_name	value_eur
5960	K. Mbappé	194000000.0
4030	H. Kane	131400000.0
8506	Neymar Jr	129000000.0
5817	K. De Bruyne	125500000.0
3461	F. de Jong	119500000.0
9349	R. Lewandowski	119500000.0
5282	J. Sancho	116500000.0
10432	T. Alexander-Arnold	114000000.0
4946	J. Kimmich	108000000.0
9503	R. Sterling	107500000.0

```
In [24]: # Converting the value into million.
```

```
In [25]: expensive_player.value_eur = (expensive_player.value_eur.astype(float)/1000000).astype(str) + 'M'  
expensive_player.head(10)
```

Out[25]:

	short_name	value_eur
5960	K. Mbappé	194.0M
4030	H. Kane	131.4M
8506	Neymar Jr	129.0M
5817	K. De Bruyne	125.5M
3461	F. de Jong	119.5M
9349	R. Lewandowski	119.5M
5282	J. Sancho	116.5M
10432	T. Alexander-Arnold	114.0M
4946	J. Kimmich	108.0M
9503	R. Sterling	107.5M

In [ ]:

## Which league have higest market value?

```
In [26]: expensive_league=df.groupby(["league_name"])[["value_eur"]].sum().reset_index().sort_values("value_eur", ascending=False)
expensive_league.head(10)
```

Out[26]:

	league_name	value_eur
17	English Premier League	7.471630e+09
45	Spain Primera Division	6.608850e+09
21	German 1. Bundesliga	3.779230e+09
19	French Ligue 1	3.490570e+09
28	Italian Serie A	2.625975e+09
38	Portuguese Liga ZON SAGRES	1.729720e+09
4	Campeonato Brasileiro Série A	1.394130e+09
0	Argentina Primera División	1.290605e+09
25	Holland Eredivisie	1.194455e+09
46	Spanish Segunda División	1.028720e+09

In [27]: `# now to convert into value into Million`In [28]: `expensive_league.value_eur = (expensive_league.value_eur.astype(float)/1000000).astype(str) + 'M'`In [29]: `expensive_league.head(10)`

Out[29]:

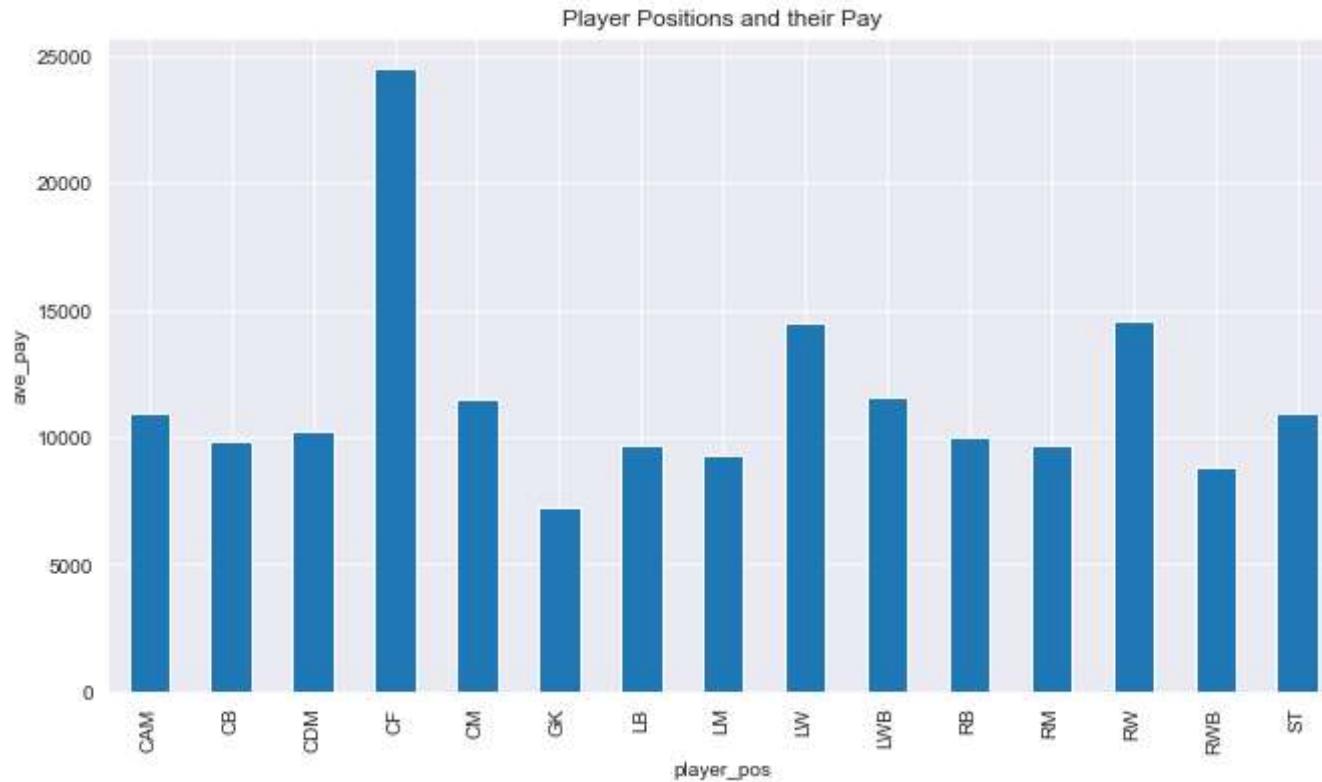
	league_name	value_eur
17	English Premier League	7471.63M
45	Spain Primera Division	6608.85M
21	German 1. Bundesliga	3779.23M
19	French Ligue 1	3490.57M
28	Italian Serie A	2625.975M
38	Portuguese Liga ZON SAGRES	1729.72M
4	Campeonato Brasileiro Série A	1394.13M
0	Argentina Primera División	1290.605M
25	Holland Eredivisie	1194.455M
46	Spanish Segunda División	1028.72M

**Observation: English Premier League have Highest value.**

**Which player position get Highest average pay?**

```
In [30]: df['player_pos'] = df.player_positions.str.split(',').str[0]
df.drop(columns='player_positions', inplace=True)
```

```
In [31]: avg_pay = df.groupby("player_pos")['wage_eur'].mean().round(2)
axes = avg_pay.plot(kind='bar', x='avg_pay', y="player_pos", figsize=(11,6));
axes.set_ylabel('ave_pay')
axes.set_title("Player Positions and their Pay");
```



**Observation: Central forward position have highest pay.**

In [ ]:

**which country player get highest wage?**

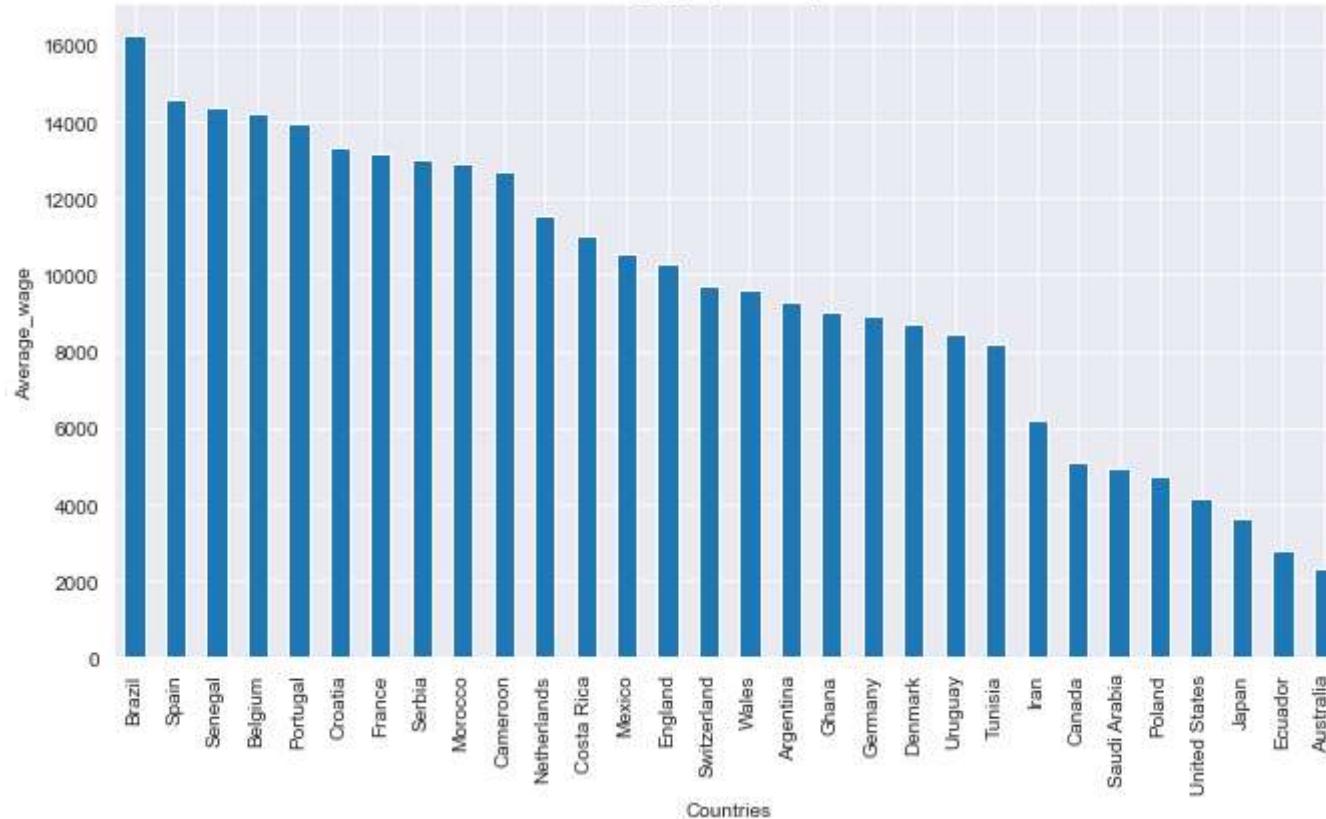
```
In [32]: high_wage=df.groupby(["nationality_name"])["wage_eur"].mean().sort_values(ascending=False)  
high_wage.head(10).round(2)
```

```
Out[32]: nationality_name
Brazil      16266.22
Spain       14599.22
Senegal     14390.16
Belgium     14214.22
Portugal    13966.62
Croatia     13317.53
France      13164.39
Serbia      13001.22
Morocco     12904.46
Cameroon    12713.85
Name: wage_eur, dtype: float64
```

```
In [33]: high_wage.plot(kind="bar", figsize=(11,6))
plt.xlabel("Countries")
plt.ylabel("Average_wage")
plt.title("Average_wage Country wise")
```

```
Out[33]: Text(0.5, 1.0, 'Average_wage Country wise')
```

Average\_wage Country wise



Observation: Brazilian player get Highest wage.

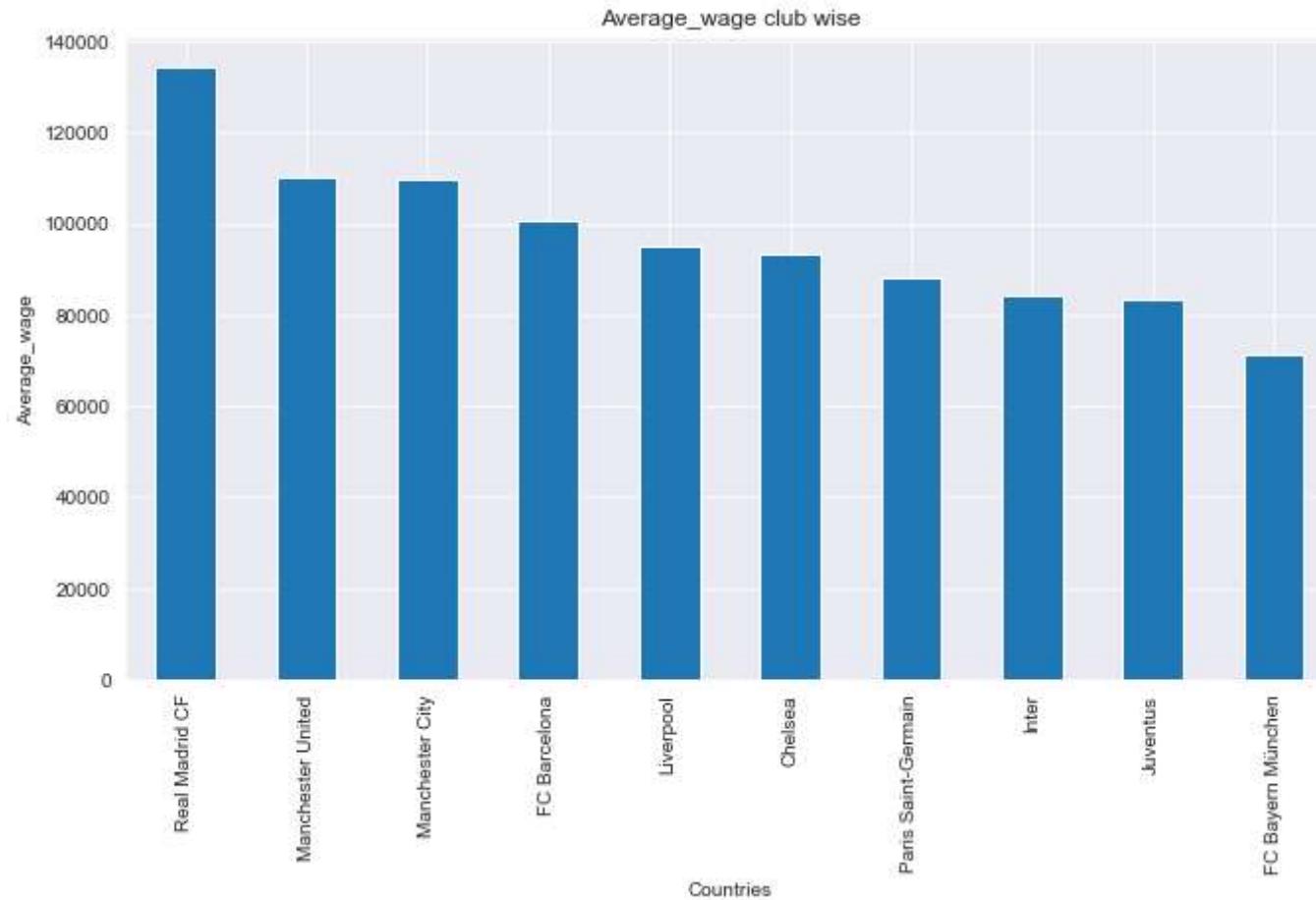
Which club team give highest wages?

```
In [34]: high_wage=df.groupby(["club_name"])["wage_eur"].mean().sort_values(ascending=False)
high_wage.head(10).round(2)
```

```
Out[34]: club_name
          Real Madrid CF      134166.67
          Manchester United   110285.71
          Manchester City     109846.67
          FC Barcelona        100750.00
          Liverpool           95148.15
          Chelsea              93366.67
          Paris Saint-Germain  88225.81
          Inter                 84416.67
          Juventus             83583.33
          FC Bayern München    71333.33
          Name: wage_eur, dtype: float64
```

```
In [35]: high_wage.head(10).plot(kind="bar", figsize=(11,6))
plt.xlabel("Countries")
plt.ylabel("Average_wage")
plt.title("Average_wage club wise")
```

```
Out[35]: Text(0.5, 1.0, 'Average_wage club wise')
```



**Observation: Real Madrid CF give highest wages**

In [ ]:

**Which team is youngest team?**

```
In [36]: age=df.groupby(["nationality_name"])["age"].mean().sort_values(ascending=True)
age.head(10).round(2)
```

```
Out[36]: nationality_name
Netherlands    23.94
Wales          24.09
Belgium         24.18
Denmark         24.21
Canada          24.22
England         24.27
Poland          24.32
United States   24.37
Australia       24.44
Switzerland     24.44
Name: age, dtype: float64
```

**Observation: Netherland team is youngest Team**

In [ ]:

**Which Team Player good at passing the ball?**

```
In [37]: pass_ball=df.groupby(["nationality_name"])["passing"].mean().sort_values(ascending=False)
pass_ball.head(10).round(2)
```

```
Out[37]: nationality_name
Spain          62.27
Morocco        62.07
Brazil          61.70
Portugal        61.61
Iran            60.88
Tunisia         60.53
Belgium         60.50
Costa Rica      60.27
Argentina       60.19
Netherlands     59.72
Name: passing, dtype: float64
```

**Observation: Spanish players Good at passing ball**

**Which team player good at defending?**

```
In [38]: defend=df.groupby(["nationality_name"])["defending"].mean().sort_values(ascending=False)
defend.head(10).round(2)
```

```
Out[38]: nationality_name
Croatia      56.00
Spain        54.89
Netherlands  54.87
Portugal     54.86
Mexico       54.56
Cameroon     54.40
Serbia       54.17
France       53.84
Brazil        53.33
Switzerland   53.23
Name: defending, dtype: float64
```

**Obeservation: Crotian player are good at defending.**

```
In [ ]:
```

## Best Top 10 CF Players

```
In [39]: df[df.player_pos == 'CF'].head(10)
```

Out[39]:

	short_name	overall	potential	value_eur	wage_eur	age	club_name	league_name	nationality_name	nation_position	preferred_foot
11	K. Benzema	89	89	66000000.0	350000.0	33	Real Madrid CF	Spain Primera Division	France	CF	Right
41	P. Dybala	87	88	93000000.0	160000.0	27	Juventus	Italian Serie A	Argentina	SUB	Left
86	M. Depay	85	86	63000000.0	220000.0	27	FC Barcelona	Spain Primera Division	Netherlands	ST	Right
85	Roberto Firmino	85	85	54000000.0	185000.0	29	Liverpool	English Premier League	Brazil	NaN	Right
100	D. Mertens	84	84	20500000.0	105000.0	34	Napoli	Italian Serie A	Belgium	RF	Right
198	João Félix	83	91	82000000.0	61000.0	21	Atlético de Madrid	Spain Primera Division	Portugal	SUB	Right
246	Anderson Talisca	82	83	35500000.0	61000.0	27	Al Nassr	Saudi Abdul L. Jameel League	Brazil	NaN	Left
346	J. Correa	81	82	31000000.0	76000.0	26	Inter	Italian Serie A	Argentina	SUB	Right
298	M. Kruse	81	81	16500000.0	45000.0	33	1. FC Union Berlin	German 1. Bundesliga	Germany	NaN	Left
423	João Pedro	80	80	21000000.0	46000.0	29	Cagliari	Italian Serie A	Brazil	NaN	Right

In [ ]:

## Top 10 Goal keeper

In [40]: df[df.player\_pos == 'GK'].head(10)

Out[40]:

	short_name	overall	potential	value_eur	wage_eur	age	club_name	league_name	nationality_name	nation_position	preferred_foot	
8	M. ter Stegen	90	92	99000000.0	250000.0	29	FC Barcelona	Spain Primera Division	Germany	NaN	Right	
7	M. Neuer	90	90	135000000.0	86000.0	35	FC Bayern München	German 1. Bundesliga	Germany	GK	Right	
12	T. Courtois	89	91	85500000.0	250000.0	29	Real Madrid CF	Spain Primera Division	Belgium	GK	Left	
18	Ederson	89	91	94000000.0	200000.0	27	Manchester City	English Premier League	Brazil	NaN	Left	
20	Alisson	89	90	82000000.0	190000.0	28	Liverpool	English Premier League	Brazil	NaN	Right	
26	K. Navas	88	88	15500000.0	130000.0	34	Paris Saint-Germain	French Ligue 1	Costa Rica	NaN	Right	
31	H. Lloris	87	87	13500000.0	125000.0	34	Tottenham Hotspur	English Premier League	France	GK	Left	
34	W. Szczęsny	87	87	42000000.0	105000.0	31	Juventus	Italian Serie A	Poland	GK	Right	
54	K. Casteels	86	87	52000000.0	88000.0	29	VfL Wolfsburg	German 1. Bundesliga	Belgium	NaN	Left	
70	K. Schmeichel	85	85	9000000.0	115000.0	34	Leicester City	English Premier League	Denmark	GK	Right	

In [ ]:

## Which player positions have highest workrate

In [41]:

```
work_rate=df.groupby("work_rate")["player_pos"].max()
work_rate
```

```
Out[41]:
```

work_rate	
High/High	ST
High/Low	ST
High/Medium	ST
Low/High	RWB
Low/Low	ST
Low/Medium	RWB
Medium/High	ST
Medium/Low	ST
Medium/Medium	ST

Name: player\_pos, dtype: object

**Observation: ST(striker) positon have highest workload, also notice that Striker position also get highest wage.**

In [ ]: