```python
In [5]: import pandas as pd
        from matplotlib import pyplot as plt
        import seaborn as sns
```

```python
In [6]: fifa=pd.read_csv("C:\\Users\\admin_a\\Downloads\\players_20.csv")
```

```python
In [7]: fifa.head()
```

Out[7]:

	sofifa_id	player_url	short_name	long_name	age	dob	height_cm	weight_kg	nationality	club	...	lwb
0	158023	https://sofifa.com/player/158023/lionel-messi/...	L. Messi	Lionel Andrés Messi Cuccittini	32	1987-06-24	170	72	Argentina	FC Barcelona	...	68+2
1	20801	https://sofifa.com/player/20801/c-ronaldo-dos-...	Cristiano Ronaldo	Cristiano Ronaldo dos Santos Aveiro	34	1985-02-05	187	83	Portugal	Juventus	...	65+3
2	190871	https://sofifa.com/player/190871/neymar-da-sil...	Neymar Jr	Neymar da Silva Santos Junior	27	1992-02-05	175	68	Brazil	Paris Saint-Germain	...	66+3
3	200389	https://sofifa.com/player/200389/jan-oblak/20/...	J. Oblak	Jan Oblak	26	1993-01-07	188	87	Slovenia	Atlético Madrid	...	NaN
4	183277	https://sofifa.com/player/183277/eden-hazard/2...	E. Hazard	Eden Hazard	28	1991-01-07	175	74	Belgium	Real Madrid	...	66+3

5 rows × 104 columns

```python
In [8]: for col in fifa.columns:
            print(col)
```

```
sofifa_id
player_url
short_name
long_name
age
dob
height_cm
weight_kg
nationality
club
overall
potential
value_eur
wage_eur
player_positions
preferred_foot
international_reputation
weak_foot
skill_moves
work_rate
body_type
real_face
release_clause_eur
player_tags
team_position
team_jersey_number
loaned_from
joined
contract_valid_until
nation_position
nation_jersey_number
pace
shooting
passing
dribbling
defending
physic
gk_diving
gk_handling
gk_kicking
gk_reflexes
gk_speed
gk_positioning
player_traits
attacking_crossing
attacking_finishing
attacking_heading_accuracy
attacking_short_passing
attacking_volleys
skill_dribbling
skill_curve
```

```
        skill_fk_accuracy
        skill_long_passing
        skill_ball_control
        movement_acceleration
        movement_sprint_speed
        movement_agility
        movement_reactions
        movement_balance
        power_shot_power
        power_jumping
        power_stamina
        power_strength
        power_long_shots
        mentality_aggression
        mentality_interceptions
        mentality_positioning
        mentality_vision
        mentality_penalties
        mentality_composure
        defending_marking
        defending_standing_tackle
        defending_sliding_tackle
        goalkeeping_diving
        goalkeeping_handling
        goalkeeping_kicking
        goalkeeping_positioning
        goalkeeping_reflexes
        ls
        st
        rs
        lw
        lf
        cf
        rf
        rw
        lam
        cam
        ram
        lm
        lcm
        cm
        rcm
        rm
        lwb
        ldm
        cdm
        rdm
        rwb
        lb
        lcb
        cb
        rcb
        rb
```

In [9]: `fifa.shape`

Out[9]: (18278, 104)

In [10]: `fifa['nationality'].value_counts()`

Out[10]:
```
England                 1667
Germany                 1216
Spain                   1035
France                   984
Argentina                886
                        ...
Liberia                    1
São Tomé & Príncipe        1
Puerto Rico                1
Bahrain                    1
Indonesia                  1
Name: nationality, Length: 162, dtype: int64
```

In [11]: `fifa['nationality'].value_counts()[0:10]`

Out[11]:
```
England       1667
Germany       1216
Spain         1035
France         984
Argentina      886
Brazil         824
Italy          732
Colombia       591
Japan          453
Netherlands    416
Name: nationality, dtype: int64
```
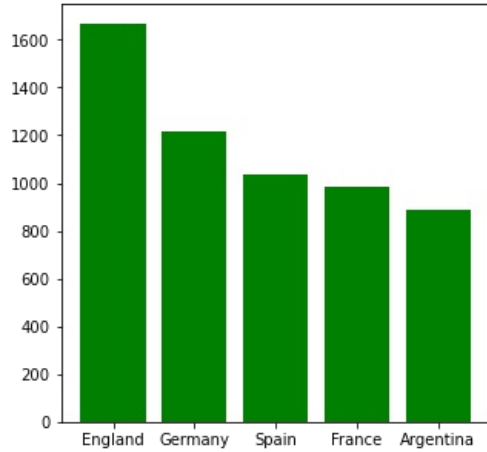
In [12]: `fifa['nationality'].value_counts()[0:5].keys()`

```
Out[12]:  Index(['England', 'Germany', 'Spain', 'France', 'Argentina'], dtype='object')
```

```
In [13]:  fifa['nationality'].value_counts()[0:5]
```

```
Out[13]:  England      1667
          Germany      1216
          Spain        1035
          France        984
          Argentina     886
          Name: nationality, dtype: int64
```

```
In [15]:  plt.figure(figsize=(5, 5))
          plt.bar(list(fifa['nationality'].value_counts()[0:5].keys()), list(fifa['nationality'].value_counts()[0:5]), co
          plt.show()
```



```
In [16]:  player_salary=fifa[['short_name','wage_eur']]
```

```
In [17]:  player_salary.head()
```

Out[17]:

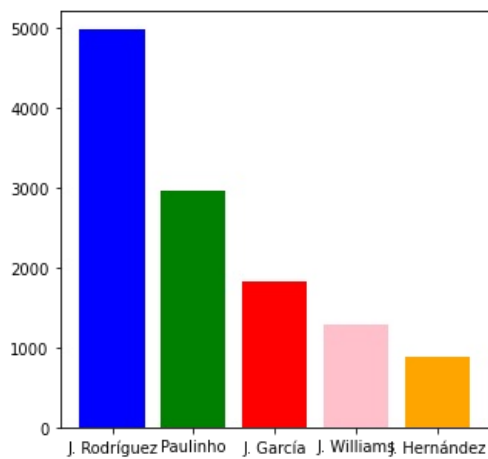|	short_name	wage_eur
0	L. Messi	565000
1	Cristiano Ronaldo	405000
2	Neymar Jr	290000
3	J. Oblak	125000
4	E. Hazard	470000

```
In [13]:  player_salary=player_salary.sort_values(by=['wage_eur'],ascending=False)
```

```
In [14]:  player_salary.head()
```

Out[14]:

	short_name	wage_eur
0	L. Messi	565000
4	E. Hazard	470000
1	Cristiano Ronaldo	405000
5	K. De Bruyne	370000
22	A. Griezmann	370000

```
In [24]:  plt.figure(figsize=(5, 5))
          plt.bar(list(player_salary['short_name'].value_counts()[0:5].keys()), list(player_salary['wage_eur'].value_coun
          plt.show()
```

```
In [25]:  fifa['nationality']=='Germany'
```

```
Out[25]:  0        False
          1        False
          2        False
          3        False
          4        False
                   ...
          18273    False
          18274    False
          18275    False
          18276    False
          18277    False
          Name: nationality, Length: 18278, dtype: bool
```

```
In [35]:  Germany=fifa[fifa['nationality']=='Germany']
          Germany.head()
```

Out[35]:

	sofifa_id	player_url	short_name	long_name	age	dob	height_cm	weight_kg	nationality	club	...	lw
6	192448	https://sofifa.com/player/192448/marc-andre-te...	M. ter Stegen	Marc-André ter Stegen	27	1992-04-30	187	85	Germany	FC Barcelona	...	Nal
31	167495	https://sofifa.com/player/167495/manuel-neuer/...	M. Neuer	Manuel Neuer	33	1986-03-27	193	92	Germany	FC Bayern München	...	Nal
36	182521	https://sofifa.com/player/182521/toni-kroos/20...	T. Kroos	Toni Kroos	29	1990-01-04	183	76	Germany	Real Madrid	...	75+
37	188350	https://sofifa.com/player/188350/marco-reus/20...	M. Reus	Marco Reus	30	1989-05-31	180	71	Germany	Borussia Dortmund	...	69+
49	178603	https://sofifa.com/player/178603/mats-hummels/...	M. Hummels	Mats Hummels	30	1988-12-16	191	94	Germany	Borussia Dortmund	...	77+

5 rows × 104 columns

```
In [36]:  Germany.sort_values(by=['height_cm'],ascending=False).head()
```

Out[36]:

	sofifa_id	player_url	short_name	long_name	age	dob	height_cm	weight_kg	nationality	club	.
8016	236831	https://sofifa.com/player/236831/aaron-seydel/...	A. Seydel	Aaron Seydel	23	1996-02-07	199	90	Germany	1. FSV Mainz 05	.
1217	200212	https://sofifa.com/player/200212/michael-esser...	M. Esser	Michael Esser	31	1987-11-22	198	97	Germany	Hannover 96	.
1389	199833	https://sofifa.com/player/199833/lars-unnersta...	L. Unnerstall	Lars Unnerstall	28	1990-07-20	198	103	Germany	PSV	.
11859	167437	https://sofifa.com/player/167437/dominik-stroh...	D. Stroh-Engel	Dominik Stroh-Engel	33	1985-11-27	197	94	Germany	SpVgg Unterhaching	.
13576	239746	https://sofifa.com/player/239746/lukas-watkowi...	L. Watkowiak	Lukas Watkowiak	23	1996-03-06	197	103	Germany	SV Wehen Wiesbaden	.

5 rows × 104 columns

```
In [37]:  Germany.sort_values(by=['weight_kg'],ascending=False).head()
```

	sofifa_id	player_url	short_name	long_name	age	dob	height_cm	weight_kg	nationality	club	...
13576	239746	https://sofifa.com/player/239746/lukas-watkowi...	L. Watkowiak	Lukas Watkowiak	23	1996-03-06	197	103	Germany	SV Wehen Wiesbaden	...
1389	199833	https://sofifa.com/player/199833/lars-unnersta...	L. Unnerstall	Lars Unnerstall	28	1990-07-20	198	103	Germany	PSV	...
518	179783	https://sofifa.com/player/179783/ralf-fahrmann...	R. Fährmann	Ralf Fährmann	30	1988-09-27	197	98	Germany	Norwich City	...
1217	200212	https://sofifa.com/player/200212/michael-esser...	M. Esser	Michael Esser	31	1987-11-22	198	97	Germany	Hannover 96	...
77	212190	https://sofifa.com/player/212190/niklas-sule/2...	N. Süle	Niklas Süle	23	1995-09-03	195	97	Germany	FC Bayern München	...

5 rows × 104 columns

```python
Germany.sort_values(by=['wage_eur'],ascending=False).head()
```

	sofifa_id	player_url	short_name	long_name	age	dob	height_cm	weight_kg	nationality	club	...
36	182521	https://sofifa.com/player/182521/toni-kroos/20...	T. Kroos	Toni Kroos	29	1990-01-04	183	76	Germany	Real Madrid	... 7
6	192448	https://sofifa.com/player/192448/marc-andre-te...	M. ter Stegen	Marc-André ter Stegen	27	1992-04-30	187	85	Germany	FC Barcelona	... !
55	222492	https://sofifa.com/player/222492/leroy-sane/20...	L. Sané	Leroy Sané	23	1996-01-11	183	75	Germany	Manchester City	... 6
146	186942	https://sofifa.com/player/186942/ilkay-gundoga...	I. Gündoğan	İlkay Gündoğan	28	1990-10-24	180	80	Germany	Manchester City	... 7
70	189596	https://sofifa.com/player/189596/thomas-muller...	T. Müller	Thomas Müller	29	1989-09-13	186	75	Germany	FC Bayern München	... 6

5 rows × 104 columns

```python
Germany[['short_name','wage_eur']].sort_values(by=['wage_eur'],ascending=False).head()
```

	short_name	wage_eur
36	T. Kroos	330000
6	M. ter Stegen	250000
55	L. Sané	195000
146	I. Gündoğan	180000
70	T. Müller	170000

```python
#SHOOTING
```

```python
player_shooting=fifa[['short_name','shooting']]
```

```python
player_shooting.sort_values(by=['shooting'],ascending=False).head()
```

	short_name	shooting
1	Cristiano Ronaldo	93.0
0	L. Messi	92.0
12	H. Kane	91.0
17	S. Agüero	90.0
205	F. Quagliarella	89.0

```python
#DEFENDING
```

```python
player_defending=fifa[['short_name','defending','nationality','club']]
player_defending.sort_values(by=['defending'],ascending=False).head()
```

	short_name	defending	nationality	club
16	G. Chiellini	90.0	Italy	Juventus
7	V. van Dijk	90.0	Netherlands	Liverpool
11	K. Koulibaly	89.0	Senegal	Napoli
35	D. Godín	89.0	Uruguay	Inter
49	M. Hummels	89.0	Germany	Borussia Dortmund

```python
real_madrid=fifa[fifa['club']=='Real Madrid']
```

```
In [63]: real_madrid.sort_values(by=['wage_eur'],ascending=False).head()
```

Out[63]:

	sofifa_id	player_url	short_name	long_name	age	dob	height_cm	weight_kg	nationality	club	...	lwb	
4	183277	https://sofifa.com/player/183277/eden-hazard/2...	E. Hazard	Eden Hazard	28	1991-01-07	175	74	Belgium	Real Madrid	...	66+3	6
8	177003	https://sofifa.com/player/177003/luka-modric/2...	L. Modrić	Luka Modrić	33	1985-09-09	172	66	Croatia	Real Madrid	...	81+3	8
36	182521	https://sofifa.com/player/182521/toni-kroos/20...	T. Kroos	Toni Kroos	29	1990-01-04	183	76	Germany	Real Madrid	...	75+3	7
18	155862	https://sofifa.com/player/155862/sergio-ramos-...	Sergio Ramos	Sergio Ramos García	33	1986-03-30	184	82	Spain	Real Madrid	...	80+3	8
46	165153	https://sofifa.com/player/165153/karim-benzema...	K. Benzema	Karim Benzema	31	1987-12-19	185	81	France	Real Madrid	...	62+3	6

5 rows × 104 columns

```
In [64]: real_madrid.sort_values(by=['shooting'],ascending=False).head()
```

Out[64]:

	sofifa_id	player_url	short_name	long_name	age	dob	height_cm	weight_kg	nationality	club	...	lwb
100	173731	https://sofifa.com/player/173731/gareth-bale/2...	G. Bale	Gareth Frank Bale	29	1989-07-16	185	82	Wales	Real Madrid	...	72+3
106	198710	https://sofifa.com/player/198710/james-rodrigu...	J. Rodríguez	James David Rodríguez Rubio	27	1991-07-12	180	75	Colombia	Real Madrid	...	67+3
4	183277	https://sofifa.com/player/183277/eden-hazard/2...	E. Hazard	Eden Hazard	28	1991-01-07	175	74	Belgium	Real Madrid	...	66+3
46	165153	https://sofifa.com/player/165153/karim-benzema...	K. Benzema	Karim Benzema	31	1987-12-19	185	81	France	Real Madrid	...	62+3
161	232432	https://sofifa.com/player/232432/luka-jovic/20...	L. Jović	Luka Jović	21	1997-12-23	182	85	Serbia	Real Madrid	...	55+2

5 rows × 104 columns

```
In [65]: real_madrid.sort_values(by=['defending'],ascending=False).head()
```

Out[65]:

	sofifa_id	player_url	short_name	long_name	age	dob	height_cm	weight_kg	nationality	club	...	lwb
18	155862	https://sofifa.com/player/155862/sergio-ramos-...	Sergio Ramos	Sergio Ramos García	33	1986-03-30	184	82	Spain	Real Madrid	...	80+3
42	200145	https://sofifa.com/player/200145/carlos-henriq...	Casemiro	Carlos Henrique Venancio Casimiro	27	1992-02-23	185	84	Brazil	Real Madrid	...	78+3
76	201535	https://sofifa.com/player/201535/raphael-varan...	R. Varane	Raphaël Varane	26	1993-04-25	191	81	France	Real Madrid	...	74+3
94	204963	https://sofifa.com/player/204963/daniel-carvaj...	Carvajal	Daniel Carvajal Ramos	27	1992-01-11	173	73	Spain	Real Madrid	...	83+3
332	240130	https://sofifa.com/player/240130/eder-gabriel-...	Éder Militão	Éder Gabriel Militão	21	1998-01-18	186	78	Brazil	Real Madrid	...	78+2

5 rows × 104 columns

```
In [66]: real_madrid['nationality'].value_counts()
```

Out[66]:
```
Spain                 13
Brazil                 6
France                 3
Belgium                2
Croatia                1
Germany                1
Costa Rica             1
Wales                  1
Colombia               1
Serbia                 1
Dominican Republic     1
Uruguay                1
Japan                  1
Name: nationality, dtype: int64
```

```
In [ ]:
```