```
In [13]:   import pandas as pd
           from matplotlib import pyplot as plt
```

```
In [3]:    fifa=pd.read_csv('E:/Users/myr/fifa_data.csv')
```

```
In [4]:    fifa.head()
```

Out[4]:

	sofifa_id	player_url	short_name	long_name	age	dob	height_cm	weight_kg	nationality	club	...	lwb	ldm
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	66+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	61+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	61+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	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	63+3

5 rows × 104 columns

```
In [5]:    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 [6]:
```python
fifa.shape
```

Out[6]: (18278, 104)

In [7]:
```python
fifa['nationality'].value_counts()
```

Out[7]:
```
England      1667
Germany      1216
Spain        1035
France        984
Argentina     886
             ...
Gibraltar       1
Malawi          1
Indonesia       1
Vietnam         1
Belize          1
Name: nationality, Length: 162, dtype: int64
```

In [8]:
```python
fifa['nationality'].value_counts()[0:10]
```

Out[8]:
```
England      1667
Germany      1216
Spain        1035
France        984
Argentina     886
Brazil        824
```

```
Italy          732
Colombia       591
Japan          453
Netherlands    416
Name: nationality, dtype: int64
```
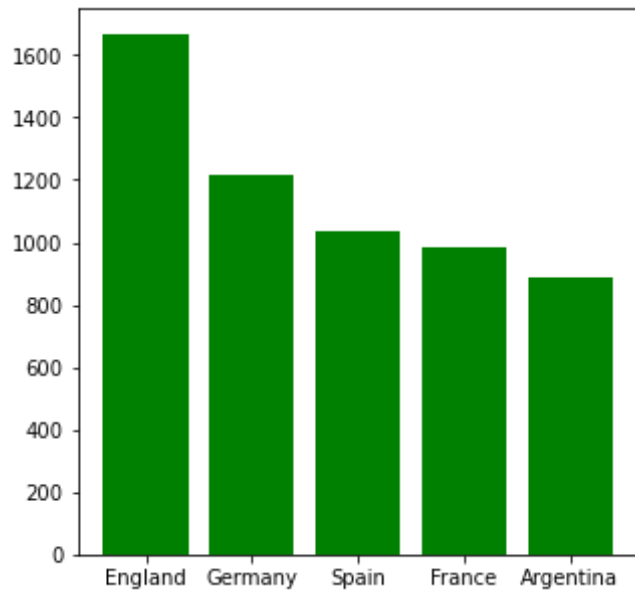
In [9]:
```python
fifa['nationality'].value_counts()[0:5].keys()
```

Out[9]: `Index(['England', 'Germany', 'Spain', 'France', 'Argentina'], dtype='object')`

In [10]:
```python
fifa['nationality'].value_counts()[0:5]
```

Out[10]:
```
England      1667
Germany      1216
Spain        1035
France        984
Argentina     886
Name: nationality, dtype: int64
```

In [16]:
```python
plt.figure(figsize=(5,5))
plt.bar(list(fifa['nationality'].value_counts()[0:5].keys()),list(fifa['nationality'].value_counts()[0:5]),color='g')
plt.show()
```

In [17]:
```python
player_salary=fifa[['short_name','wage_eur']]
```

In [18]:
```python
player_salary.head()
```

Out[18]:

	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 [20]:
```python
player_salary=player_salary.sort_values(by=['wage_eur'],ascending=False)
```
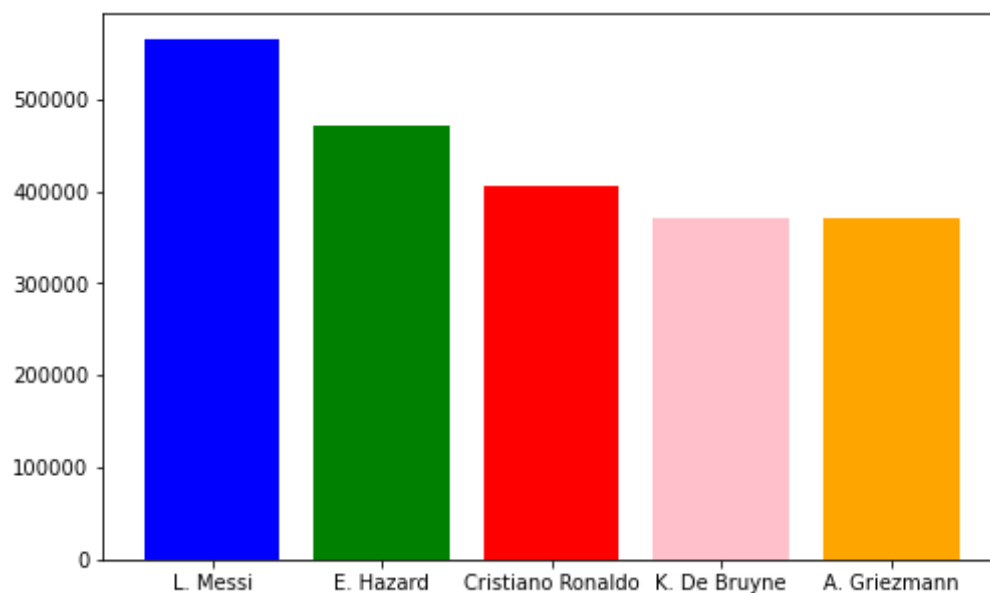
In [21]:

```
player_salary.head()
```

	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 [22]:
```python
plt.figure(figsize=(8,5))
plt.bar(list(player_salary['short_name'])[0:5],list(player_salary['wage_eur'])[0:5],color=['blue','green','red','pink
plt.show()
```


In [23]:
```python
fifa['nationality']=='germany'
```

```
Out[23]: 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 [26]:
```
Germany=fifa[fifa['nationality']=='Germany']
Germany.head(10)
```

Out[26]:

	sofifa_id	player_url	short_name	long_name	age	dob	height_cm	weight_kg	nationality	club	...	lwb	
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	...	NaN	
31	167495	https://sofifa.com/player/167495/manuel-neuer/...	M. Neuer	Manuel Neuer	33	1986-03-27	193	92	Germany	FC Bayern München	...	NaN	
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
37	188350	https://sofifa.com/player/188350/marco-reus/20...	M. Reus	Marco Reus	30	1989-05-31	180	71	Germany	Borussia Dortmund	...	69+3	6
49	178603	https://sofifa.com/player/178603/mats-hummels/...	M. Hummels	Mats Hummels	30	1988-12-16	191	94	Germany	Borussia Dortmund	...	77+3	8
55	222492	https://sofifa.com/player/222492/leroy-sane/20...	L. Sané	Leroy Sané	23	1996-01-11	183	75	Germany	Manchester City	...	65+2	5
61	212622	https://sofifa.com/player/212622/joshua-kimmic...	J. Kimmich	Joshua Kimmich	24	1995-02-08	176	73	Germany	FC Bayern München	...	83+3	8
70	189596	https://sofifa.com/player/189596/thomas-muller...	T. Müller	Thomas Müller	29	1989-09-13	186	75	Germany	FC Bayern München	...	69+3	6
77	212190	https://sofifa.com/player/212190/niklas-sule/2...	N. Süle	Niklas Süle	23	1995-09-03	195	97	Germany	FC Bayern München	...	71+2	7

	sofifa_id	player_url	short_name	long_name	age	dob	height_cm	weight_kg	nationality	club	...	lwb
109	235790	https://sofifa.com/player/235790/kai-havertz/2...	K. Havertz	Kai Havertz	20	1999-06-11	188	83	Germany	Bayer 04 Leverkusen	...	65+2

10 rows × 104 columns

In [27]:
```python
Germany.sort_values(by=['height_cm'],ascending=False).head()
```

Out[27]:

	sofifa_id	player_url	short_name	long_name	age	dob	height_cm	weight_kg	nationality	club	...	lw
8016	236831	https://sofifa.com/player/236831/aaron-seydel/...	A. Seydel	Aaron Seydel	23	1996-02-07	199	90	Germany	1. FSV Mainz 05	...	46+
1217	200212	https://sofifa.com/player/200212/michael-esser...	M. Esser	Michael Esser	31	1987-11-22	198	97	Germany	Hannover 96	...	Nal
1389	199833	https://sofifa.com/player/199833/lars-unnersta...	L. Unnerstall	Lars Unnerstall	28	1990-07-20	198	103	Germany	PSV	...	Nal
11859	167437	https://sofifa.com/player/167437/dominik-stroh...	D. Stroh-Engel	Dominik Stroh-Engel	33	1985-11-27	197	94	Germany	SpVgg Unterhaching	...	39+
13576	239746	https://sofifa.com/player/239746/lukas-watkowi...	L. Watkowiak	Lukas Watkowiak	23	1996-03-06	197	103	Germany	SV Wehen Wiesbaden	...	Nal

5 rows × 104 columns

In [28]:
```python
Germany.sort_values(by=['weight_kg'],ascending=False).head()
```

Out[28]:

	sofifa_id	player_url	short_name	long_name	age	dob	height_cm	weight_kg	nationality	club	...	lwb
13576	239746	https://sofifa.com/player/239746/lukas-watkowi...	L. Watkowiak	Lukas Watkowiak	23	1996-03-06	197	103	Germany	SV Wehen Wiesbaden	...	NaN
1389	199833	https://sofifa.com/player/199833/lars-unnersta...	L. Unnerstall	Lars Unnerstall	28	1990-07-20	198	103	Germany	PSV	...	NaN

	sofifa_id	player_url	short_name	long_name	age	dob	height_cm	weight_kg	nationality	club	...	lwb
518	179783	https://sofifa.com/player/179783/ralf-fahrmann...	R. Fährmann	Ralf Fährmann	30	1988-09-27	197	98	Germany	Norwich City	...	NaN
1217	200212	https://sofifa.com/player/200212/michael-esser...	M. Esser	Michael Esser	31	1987-11-22	198	97	Germany	Hannover 96	...	NaN
77	212190	https://sofifa.com/player/212190/niklas-sule/2...	N. Süle	Niklas Süle	23	1995-09-03	195	97	Germany	FC Bayern München	...	71+2

5 rows × 104 columns

In [29]:
```python
Germany.sort_values(by=['wage_eur'],ascending=False).head()
```

Out[29]:

	sofifa_id	player_url	short_name	long_name	age	dob	height_cm	weight_kg	nationality	club	...	lwb	
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
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	...	NaN	
55	222492	https://sofifa.com/player/222492/leroy-sane/20...	L. Sané	Leroy Sané	23	1996-01-11	183	75	Germany	Manchester City	...	65+2	5
146	186942	https://sofifa.com/player/186942/ilkay-gundoga...	I. Gündoğan	İlkay Gündoğan	28	1990-10-24	180	80	Germany	Manchester City	...	76+3	7
70	189596	https://sofifa.com/player/189596/thomas-muller...	T. Müller	Thomas Müller	29	1989-09-13	186	75	Germany	FC Bayern München	...	69+3	6

5 rows × 104 columns

In [30]:
```python
Germany[['short_name','wage_eur']].sort_values(by=['wage_eur'],ascending=False).head()
```

Out[30]:

	short_name	wage_eur
36	T. Kroos	330000

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

In [32]:
```python
player_shooting=fifa[['short_name','shooting']]
```

In [33]:
```python
player_shooting.sort_values(by=['shooting'],ascending=False).head()
```

Out[33]:

	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

In [34]:
```python
player_defending=fifa[['short_name','defending','nationality','club']]
```

In [36]:
```python
player_defending.sort_values(by=['defending'],ascending=False).head()
```

Out[36]:

	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

	short_name	defending	nationality	club
49	M. Hummels	89.0	Germany	Borussia Dortmund

In [ ]: