In [1]:
```python
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
%matplotlib inline
```

In [2]:
```python
ar=pd.read_csv(r'C:\Users\Prateek\Desktop\players_20.csv')
ar.head()
```

Out[2]:

	sofifa_id	player_url	short_name	long_name	age	dob	height_cm
0	158023	https://sofifa.com/player/158023/lionel-messi/...	L. Messi	Lionel Andrés Messi Cuccittini	32	1987-06-24	170
1	20801	https://sofifa.com/player/20801/c-ronaldo-dos-...	Cristiano Ronaldo	Cristiano Ronaldo dos Santos Aveiro	34	1985-02-05	187
2	190871	https://sofifa.com/player/190871/neymar-da-sil...	Neymar Jr	Neymar da Silva Santos Junior	27	1992-02-05	175
3	200389	https://sofifa.com/player/200389/jan-oblak/20/...	J. Oblak	Jan Oblak	26	1993-01-07	188
4	183277	https://sofifa.com/player/183277/eden-hazard/2...	E. Hazard	Eden Hazard	28	1991-01-07	175

5 rows × 104 columns

In [3]:
```python
# Delete the player_url
del ar['player_url']
ar.head()
```

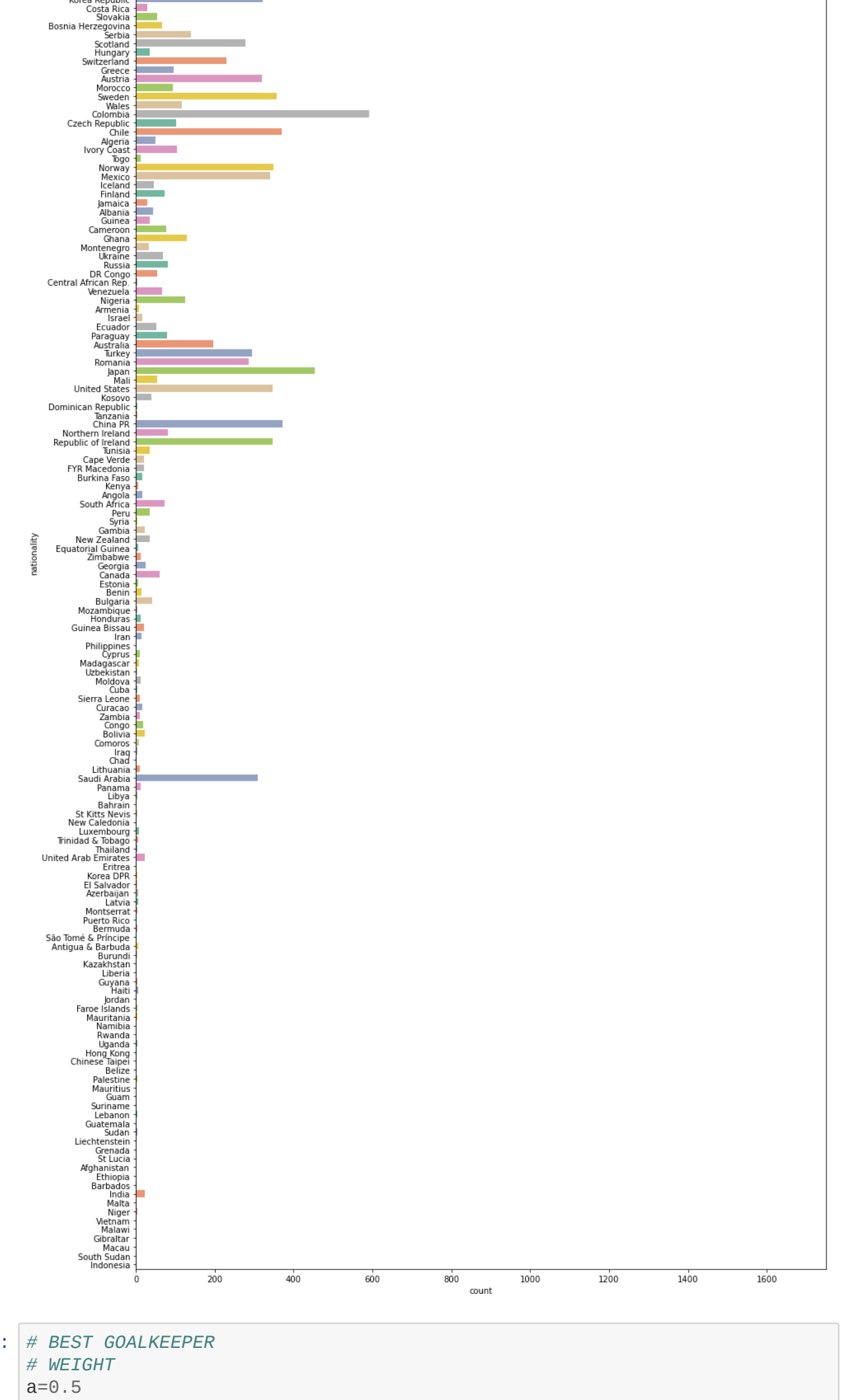
Out[3]:

	sofifa_id	short_name	long_name	age	dob	height_cm	weight_kg	nationality	club	ov
0	158023	L. Messi	Lionel Andrés Messi Cuccittini	32	1987-06-24	170	72	Argentina	FC Barcelona	
1	20801	Cristiano Ronaldo	Cristiano Ronaldo dos Santos Aveiro	34	1985-02-05	187	83	Portugal	Juventus	
2	190871	Neymar Jr	Neymar da Silva Santos Junior	27	1992-02-05	175	68	Brazil	Paris Saint-Germain	
3	200389	J. Oblak	Jan Oblak	26	1993-01-07	188	87	Slovenia	Atlético Madrid	
4	183277	E. Hazard	Eden Hazard	28	1991-01-07	175	74	Belgium	Real Madrid	

5 rows × 103 columns

In [4]:
```python
plt.figure(figsize=(15,32))
sns.countplot(y=ar.nationality,palette='Set2')
```

Out[4]: <matplotlib.axes._subplots.AxesSubplot at 0x17e5e84ee50>



In [5]:
```python
# BEST GOALKEEPER
# WEIGHT
a=0.5
b=1
c=1.5
d=2
ar.info()
```

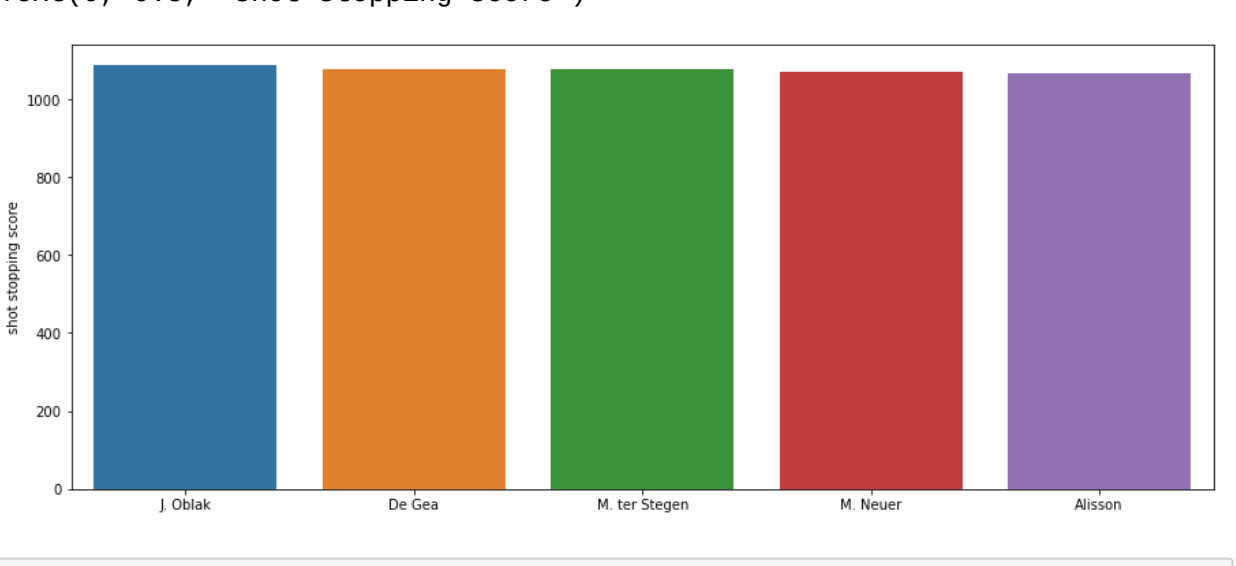
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 18278 entries, 0 to 18277
Columns: 103 entries, sofifa_id to rb
dtypes: float64(16), int64(45), object(42)
memory usage: 14.4+ MB
```

In [6]:
```python
ar['Gk_shotstopper']=(d*ar.goalkeeping_diving+d*ar.goalkeeping_handling+
a*ar.goalkeeping_kicking+c*ar.goalkeeping_positioning+d*ar.goalkeeping_r
eflexes+b*ar.gk_diving+a*ar.gk_handling+a*ar.gk_kicking+b*ar.gk_reflexes
+a*ar.gk_speed+b*ar.gk_positioning)
ar['Gk_ballhandler']=(a*ar.goalkeeping_diving+d*ar.goalkeeping_handling+
d*ar.goalkeeping_kicking+c*ar.goalkeeping_positioning+d*ar.goalkeeping_r
eflexes+b*ar.gk_diving+a*ar.gk_handling+d*ar.gk_kicking+b*ar.gk_reflexes
+c*ar.gk_speed+b*ar.gk_positioning)
```

In [7]:
```python
plt.figure(figsize=(15,6))

# plotting data and plot
sd1=ar.sort_values("Gk_shotstopper",ascending=False)[:5]
x1=np.array(list(sd1["short_name"]))
y1=np.array(list(sd1["Gk_shotstopper"]))
sns.barplot(x1,y1)
plt.ylabel("shot stopping score")
```

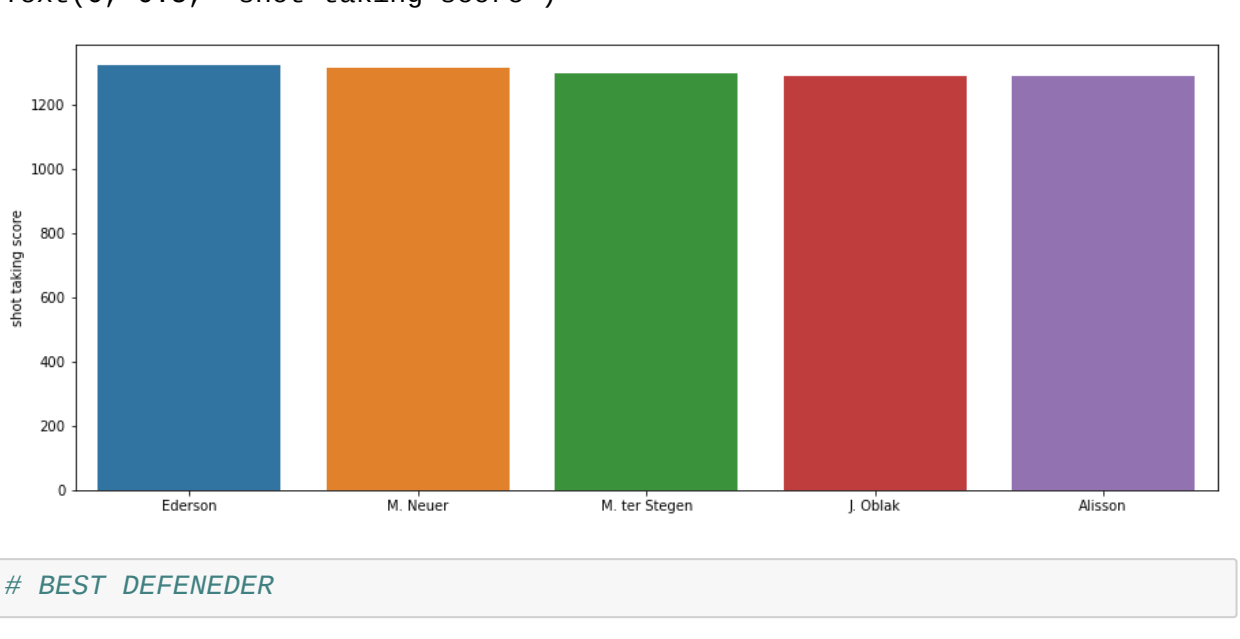
Out[7]: Text(0, 0.5, 'shot stopping score')



In [8]:
```python
plt.figure(figsize=(15,6))

sd2=ar.sort_values("Gk_ballhandler",ascending=False)[:5]
x1=np.array(list(sd2["short_name"]))
y1=np.array(list(sd2["Gk_ballhandler"]))
sns.barplot(x1,y1)
plt.ylabel("shot taking score")
```

Out[8]: Text(0, 0.5, 'shot taking score')



In [9]:
```python
# BEST DEFENEDER
```

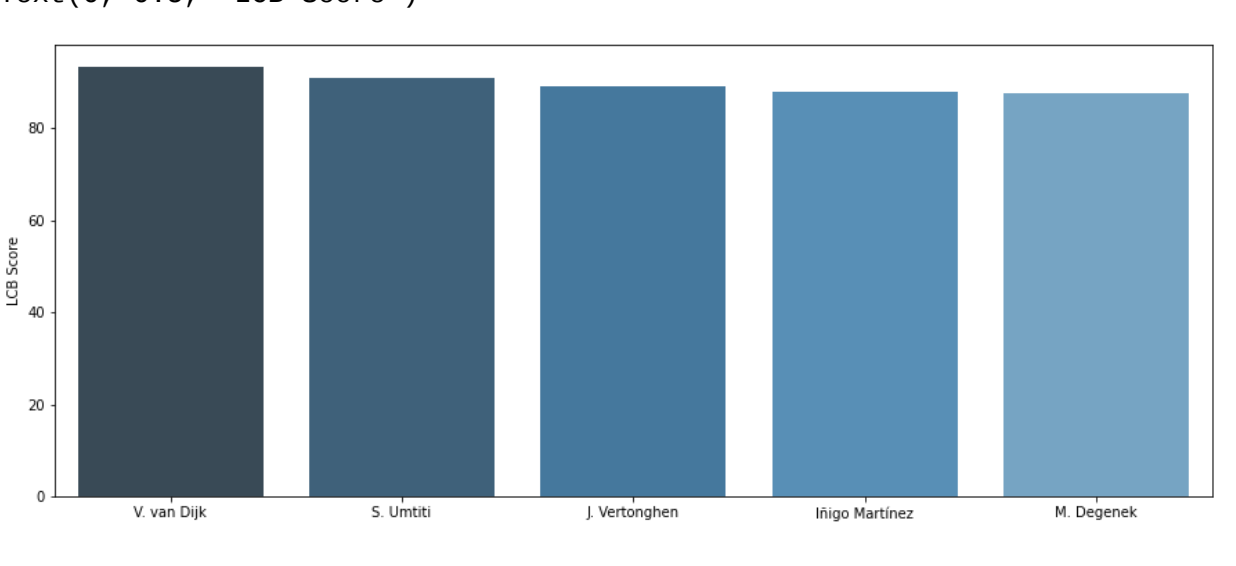
In [10]:
```python
ar["ar_center_back"]=(b*ar.pace+c*ar.shooting+d*ar.passing+a*ar.dribblin
g+d*ar.defending+c*ar.physic +a*ar.skill_fk_accuracy+b*ar.skill_long_pas
sing+a*ar.skill_ball_control+b*ar.movement_acceleration+b*ar.movement_ac
celeration+d*ar.movement_sprint_speed+c*ar.movement_agility+d*ar.movemen
t_reactions+c*ar.movement_reactions+b*ar.movement_balance+c*ar.power_sho
t_power+b*ar.power_jumping+b*ar.power_stamina+c*ar.power_strength+d*ar.p
ower_long_shots+b*ar.mentality_aggression+b*ar.mentality_interceptions)/
(6*b+7*d+3*c)
ar["ar_wb_wing_back"]=(d*ar.pace+d*ar.shooting+c*ar.passing+c*ar.dribbli
ng+b*ar.defending+b*ar.physic +c*ar.skill_fk_accuracy+b*ar.skill_long_pa
ssing+a*ar.skill_ball_control+b*ar.movement_acceleration+b*ar.movement_a
cceleration+d*ar.movement_sprint_speed+c*ar.movement_agility+d*ar.moveme
nt_reactions+c*ar.movement_reactions+b*ar.movement_balance+c*ar.power_sh
ot_power+b*ar.power_jumping+b*ar.power_stamina+c*ar.power_strength+d*ar.
power_long_shots+b*ar.mentality_aggression+c*ar.mentality_interceptions)
```

In [11]:
```python
#plotting center back
```

In [12]:
```python
plt.figure(figsize=(15,6))
sd=ar[(ar['nation_position'] =='LCB')].sort_values('ar_center_back',asce
nding=False)[:5]
x2=np.array(list(sd['short_name']))
y2=np.array(list(sd['ar_center_back']))

sns.barplot(x2, y2, palette=sns.color_palette("Blues_d"))
plt.ylabel("LCB Score")
```

Out[12]: Text(0, 0.5, 'LCB Score')

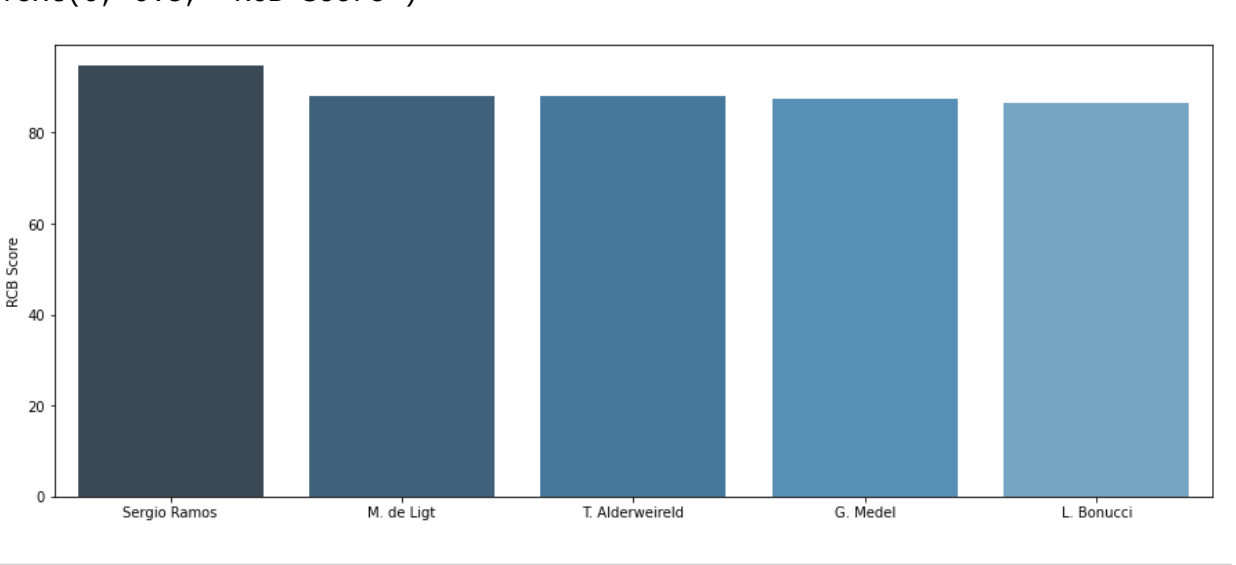


In [13]:
```python
#plotting RCB
```

In [14]:
```python
plt.figure(figsize=(15,6))
sd3=ar[(ar['nation_position'] =='RCB')].sort_values('ar_center_back',asc
ending=False)[:5]
x2=np.array(list(sd3['short_name']))
y2=np.array(list(sd3['ar_center_back']))

sns.barplot(x2, y2, palette=sns.color_palette("Blues_d"))
plt.ylabel("RCB Score")
```

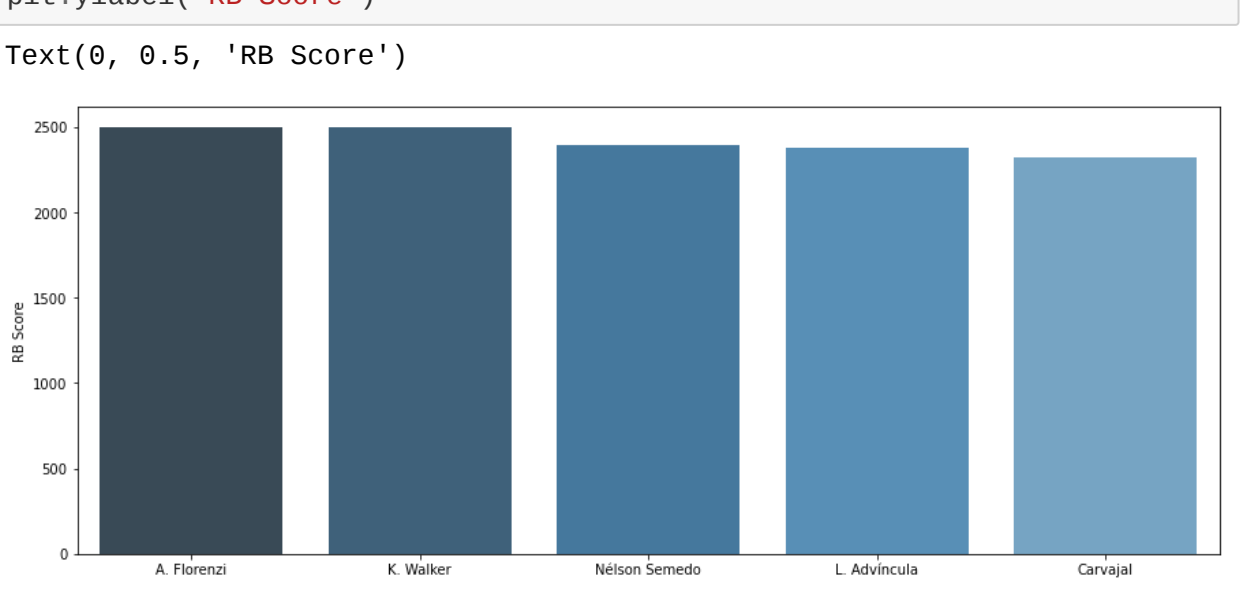
Out[14]: Text(0, 0.5, 'RCB Score')



In [15]:
```python
#PLOTTING RIGHT BACK
plt.figure(figsize=(15,6))
sd4=ar[(ar['nation_position'] =='RB')].sort_values('ar_wb_wing_back',asc
ending=False)[:5]
x2=np.array(list(sd4['short_name']))
y2=np.array(list(sd4['ar_wb_wing_back']))

sns.barplot(x2, y2, palette=sns.color_palette("Blues_d"))
plt.ylabel("RB Score")
```

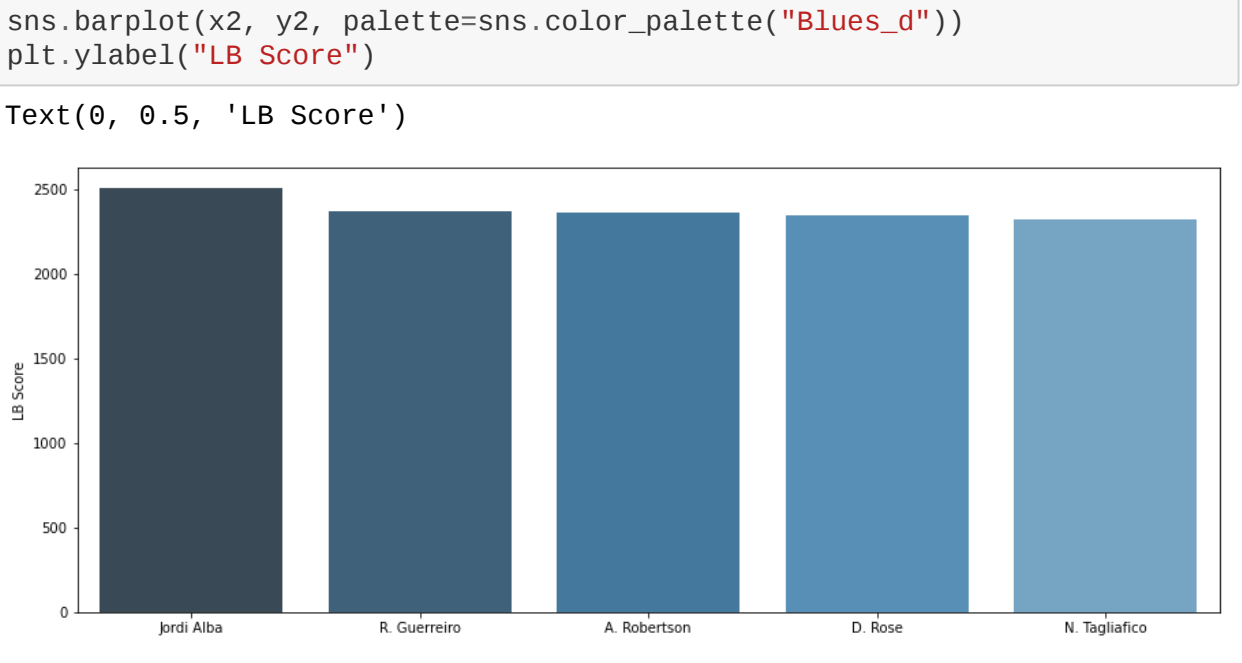
Out[15]: Text(0, 0.5, 'RB Score')



In [16]:
```python
#PLOTTING LEFT BACK
plt.figure(figsize=(15,6))
sd5=ar[(ar['nation_position'] =='LB')].sort_values('ar_wb_wing_back',asc
ending=False)[:5]
x2=np.array(list(sd5['short_name']))
y2=np.array(list(sd5['ar_wb_wing_back']))

sns.barplot(x2, y2, palette=sns.color_palette("Blues_d"))
plt.ylabel("LB Score")
```

Out[16]: Text(0, 0.5, 'LB Score')

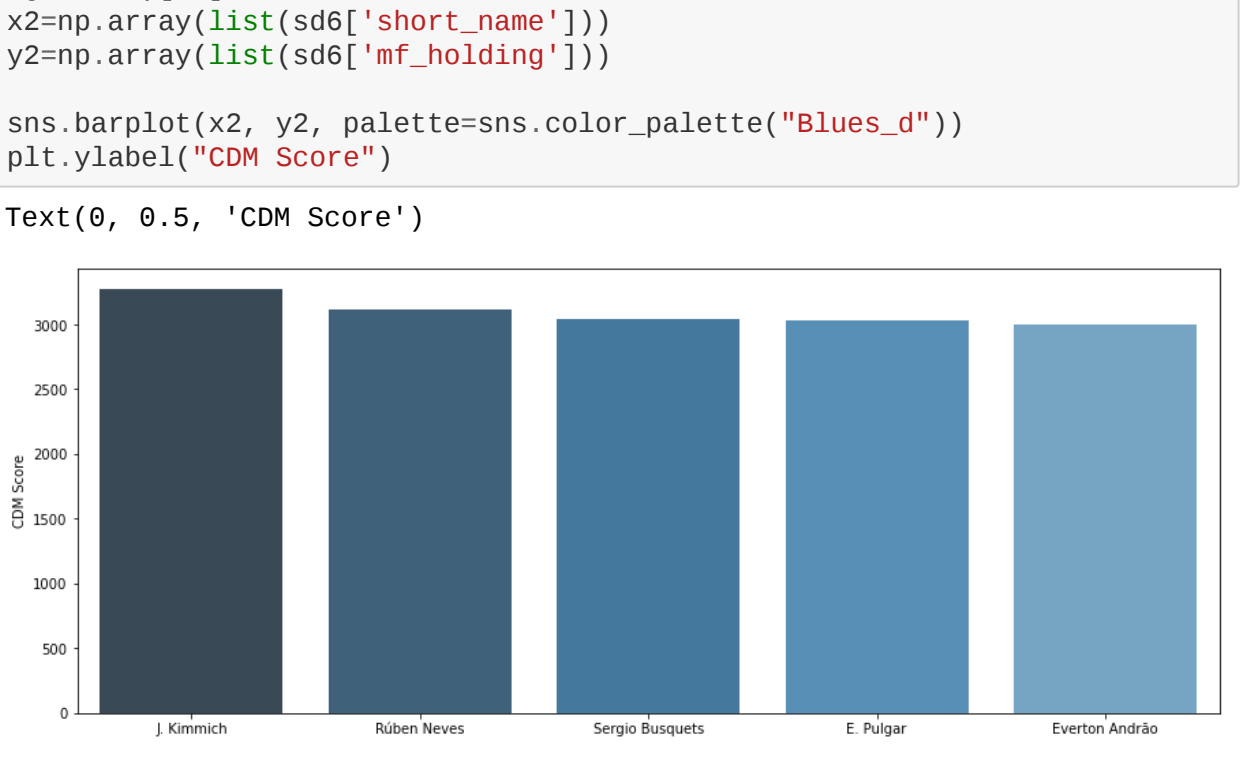


In [17]:
```python
#MIDFIELDER CHARACTERISTIC ACCORDING TO POSITION
ar['mf_holding']=(c*ar.pace+b*ar.shooting+d*ar.passing+a*ar.dribbling+d*
ar.defending+b*ar.physic+b*ar.attacking_short_passing+b*ar.attacking_vol
leys+a*ar.skill_dribbling+c*ar.skill_curve+b*ar.skill_fk_accuracy+c*ar.s
kill_long_passing+d*ar.skill_ball_control+b*ar.movement_acceleration+d*a
r.movement_sprint_speed+b*ar.movement_agility+d*ar.movement_reactions+b*
ar.movement_balance+c*ar.power_shot_power+c*ar.power_jumping+b*ar.power_s
tamina+c*ar.power_strength+b*ar.power_long_shots+a*ar.mentality_aggress
ion+d*ar.mentality_interceptions+b*ar.mentality_positioning+c*ar.mentali
ty_vision+b*ar.mentality_penalties+b*ar.mentality_composure+a*ar.defendi
ng_marking+c*ar.defending_standing_tackle+d*ar.defending_sliding_tackle)
ar["mf_left"]=(c*ar.pace+b*ar.shooting+d*ar.passing+c*ar.dribbling+b*ar.
defending+b*ar.physic+c*ar.attacking_short_passing+c*ar.attacking_volley
s+c*ar.skill_dribbling+c*ar.skill_curve+d*ar.skill_fk_accuracy+a*ar.ski
l_long_passing+d*ar.skill_ball_control+d*ar.movement_acceleration+d*ar.m
ovement_sprint_speed+d*ar.movement_agility+c*ar.movement_reactions+b*ar.
movement_balance+b*ar.power_shot_power+c*ar.power_jumping+b*ar.power_sta
mina+b*ar.power_strength+a*ar.power_long_shots+c*ar.mentality_aggression
+b*ar.mentality_interceptions+d*ar.mentality_positioning+c*ar.mentality_
vision+b*ar.mentality_penalties+b*ar.mentality_composure+a*ar.defending_
marking+b*ar.defending_standing_tackle+b*ar.defending_sliding_tackle)
ar["mf_right"]=(c*ar.pace+c*ar.shooting+d*ar.passing+c*ar.dribbling+b*ar
.defending+b*ar.physic+d*ar.attacking_short_passing+c*ar.attacking_volle
ys+c*ar.skill_dribbling+c*ar.skill_curve+c*ar.skill_fk_accuracy+c*ar.ski
ll_long_passing+d*ar.skill_ball_control+c*ar.movement_acceleration+d*ar.
movement_sprint_speed+d*ar.movement_agility+d*ar.movement_reactions+b*ar
.movement_balance+c*ar.power_shot_power+c*ar.power_jumping+c*ar.power_st
amina+b*ar.power_strength+d*ar.power_long_shots+c*ar.mentality_aggressio
n+b*ar.mentality_interceptions+d*ar.mentality_positioning+c*ar.mentality
_vision+c*ar.mentality_penalties+b*ar.mentality_composure+a*ar.defending
_marking+b*ar.defending_standing_tackle+b*ar.defending_sliding_tackle)
```

In [18]:
```python
#PLOTTING HOLDING MED-FIELDER
plt.figure(figsize=(15,6))
sd6=ar[(ar['nation_position'] =='CDM')].sort_values('mf_holding',ascendi
ng=False)[:5]
x2=np.array(list(sd6['short_name']))
y2=np.array(list(sd6['mf_holding']))

sns.barplot(x2, y2, palette=sns.color_palette("Blues_d"))
plt.ylabel("CDM Score")
```

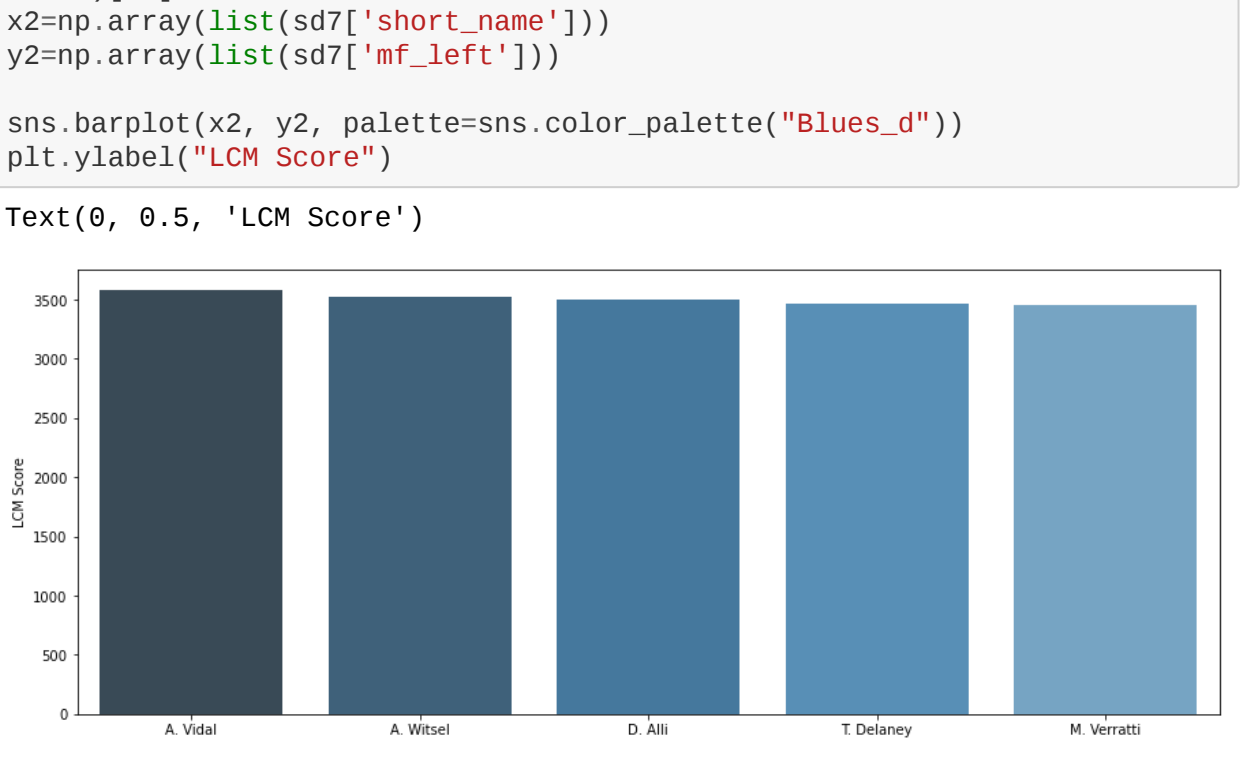
Out[18]: Text(0, 0.5, 'CDM Score')



In [19]:
```python
#PLOTTING ATTACKING LEFT MIDFIELDER
plt.figure(figsize=(15,6))
sd7=ar[(ar['nation_position'] =='LCM')].sort_values('mf_left',ascending=
False)[:5]
x2=np.array(list(sd7['short_name']))
y2=np.array(list(sd7['mf_left']))

sns.barplot(x2, y2, palette=sns.color_palette("Blues_d"))
plt.ylabel("LCM Score")
```

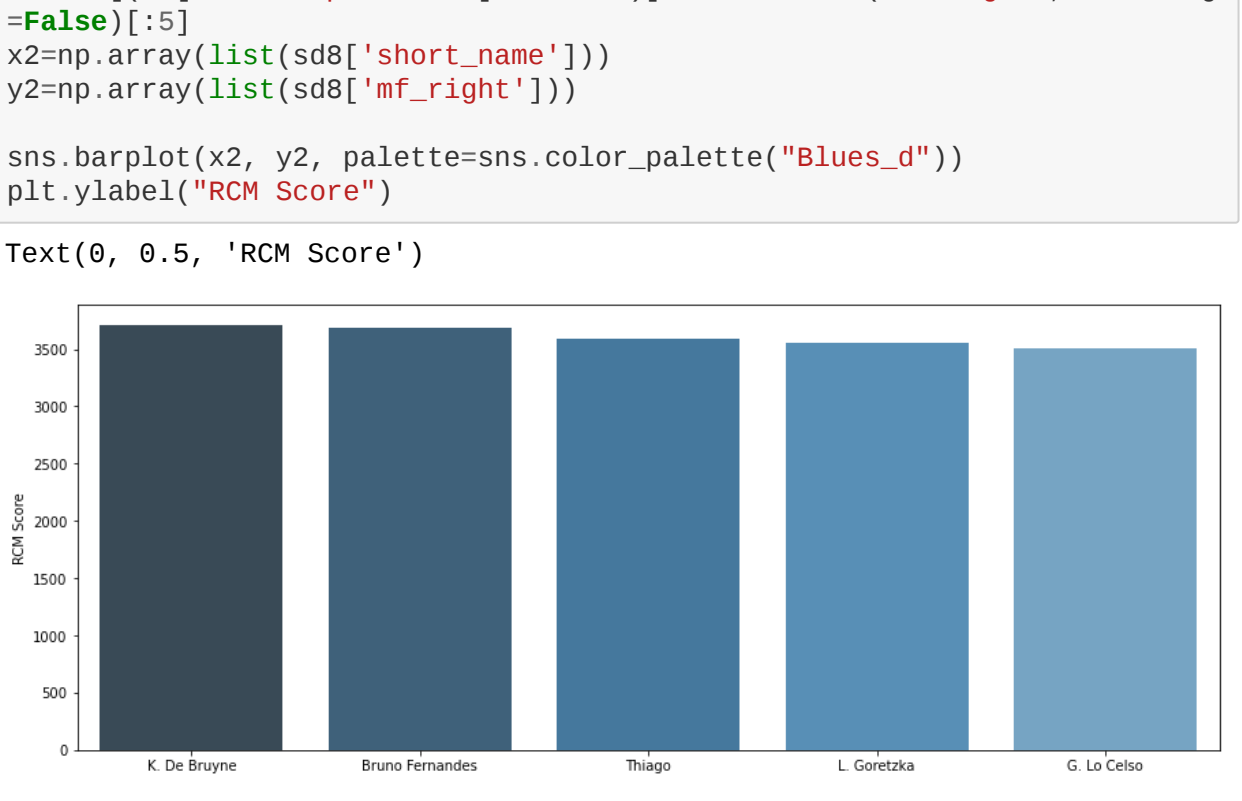
Out[19]: Text(0, 0.5, 'LCM Score')



In [20]:
```python
#PLOTTING RIGHT ATTACKING MID-FEILDER
plt.figure(figsize=(15,6))
sd8=ar[(ar['nation_position'] =='RCM')].sort_values('mf_right',ascending
=False)[:5]
x2=np.array(list(sd8['short_name']))
y2=np.array(list(sd8['mf_right']))

sns.barplot(x2, y2, palette=sns.color_palette("Blues_d"))
plt.ylabel("RCM Score")
```

Out[20]: Text(0, 0.5, 'RCM Score')



In [21]:
```python
#PLOTTING ATTACKER
ar['at_leftWinger']=(d*ar.pace+d*ar.shooting+c*ar.passing+d*ar.dribbling
+a*ar.defending+b*ar.physic+c*ar.attacking_short_passing+d*ar.attacking_
volleys+d*ar.skill_dribbling+d*ar.skill_curve+d*ar.skill_fk_accuracy+c*a
r.skill_long_passing+d*ar.skill_ball_control+d*ar.movement_acceleration+
d*ar.movement_sprint_speed+d*ar.movement_agility+c*ar.movement_reactions
+b*ar.movement_balance+d*ar.power_shot_power+c*ar.power_jumping+b*ar.pow
er_stamina+c*ar.power_strength+a*ar.power_long_shots+d*ar.mentality_aggr
ession+b*ar.mentality_interceptions+d*ar.mentality_positioning+c*ar.ment
ality_vision+d*ar.mentality_penalties+b*ar.mentality_composure+a*ar.defe
nding_marking+a*ar.defending_standing_tackle+a*ar.defending_sliding_tack
le)
ar['at_forward']=(c*ar.pace+d*ar.shooting+c*ar.passing+b*ar.dribbling+a*
ar.defending+d*ar.physic+d*ar.attacking_short_passing+d*ar.attacking_vol
leys+c*ar.skill_dribbling+d*ar.skill_curve+d*ar.skill_fk_accuracy+a*ar.s
kill_long_passing+d*ar.skill_ball_control+d*ar.movement_acceleration+d*a
r.movement_sprint_speed+c*ar.movement_agility+d*ar.movement_reactions+b*
ar.movement_balance+d*ar.power_shot_power+b*ar.power_jumping+b*ar.power_
stamina+d*ar.power_strength+a*ar.power_long_shots+b*ar.mentality_aggress
ion+a*ar.mentality_interceptions+d*ar.mentality_positioning+c*ar.mentali
ty_vision+d*ar.mentality_penalties+c*ar.mentality_composure+a*ar.defendi
ng_marking+a*ar.defending_standing_tackle+a*ar.defending_sliding_tackle)
ar['at_rightWinger']=(d*ar.pace+c*ar.shooting+c*ar.passing+d*ar.dribblin
g+a*ar.defending+b*ar.physic+c*ar.attacking_short_passing+d*ar.attacking
_volleys+d*ar.skill_dribbling+d*ar.skill_curve+d*ar.skill_fk_accuracy+c*
ar.skill_long_passing+d*ar.skill_ball_control+d*ar.movement_acceleration
+d*ar.movement_sprint_speed+d*ar.movement_agility+c*ar.movement_reaction
s+b*ar.movement_balance+d*ar.power_shot_power+c*ar.power_jumping+d*ar.po
wer_stamina+c*ar.power_strength+a*ar.power_long_shots+d*ar.mentality_agg
ression+b*ar.mentality_interceptions+d*ar.mentality_positioning+c*ar.men
tality_vision+d*ar.mentality_penalties+b*ar.mentality_composure+a*ar.def
ending_marking+a*ar.defending_standing_tackle+a*ar.defending_sliding_tac
kle)
```

In [22]:
```python
#PLOTTING LEFT WINGER
plt.figure(figsize=(15,6))
sd9=ar[(ar['nation_position'] =='LW')].sort_values('at_leftWinger',ascen
ding=False)[:5]
x2=np.array(list(sd9['short_name']))
y2=np.array(list(sd9['at_leftWinger']))

sns.barplot(x2, y2, palette=sns.color_palette("Blues_d"))
plt.ylabel("LW Score")
```

Out[22]: Text(0, 0.5, 'LW Score')

In [23]:
```python
#PLOTTING FORWARD
plt.figure(figsize=(15,6))
sd10=ar[(ar['nation_position'] =='ST')].sort_values('at_forward',ascendi
ng=False)[:5]
x2=np.array(list(sd10['short_name']))
y2=np.array(list(sd10['at_forward']))

sns.barplot(x2, y2, palette=sns.color_palette("Blues_d"))
plt.ylabel("CF Score")
```

Out[23]: Text(0, 0.5, 'CF Score')

In [24]:
```python
#PLOTTING RIGHT WINGER
plt.figure(figsize=(15,6))
sd11=ar[(ar['nation_position'] =='RW')].sort_values('at_rightWinger',asc
ending=False)[:5]
x2=np.array(list(sd11['short_name']))
y2=np.array(list(sd11['at_rightWinger']))

sns.barplot(x2, y2, palette=sns.color_palette("Blues_d"))
plt.ylabel("RW Score")
```

Out[24]: Text(0, 0.5, 'RW Score')

In [ ]: