

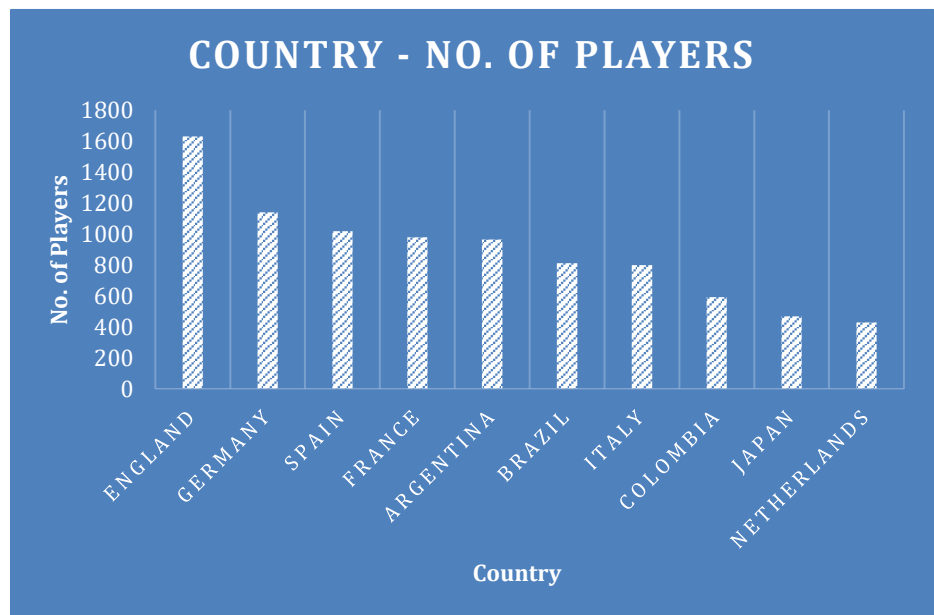
DATA ANALYTICS USING EXCEL

PROJECT : FIFA 2018

In this project, we will be looking at the player data provided by FIFA which contains information such as personal details, wages, physical attributes, technical skills, potential and their positional strengths. This is primarily data of FIFA 2018. Through this project, you will get a glimpse of insights behind the beautiful game and the kind of information and decisions a football manager goes through. Explore the data and attempt all the below asked questions in a step-by-step manner:

1. Prepare a rank ordered list of top 10 countries with most players. Which countries are producing the most numbers of footballers that plays at this level?

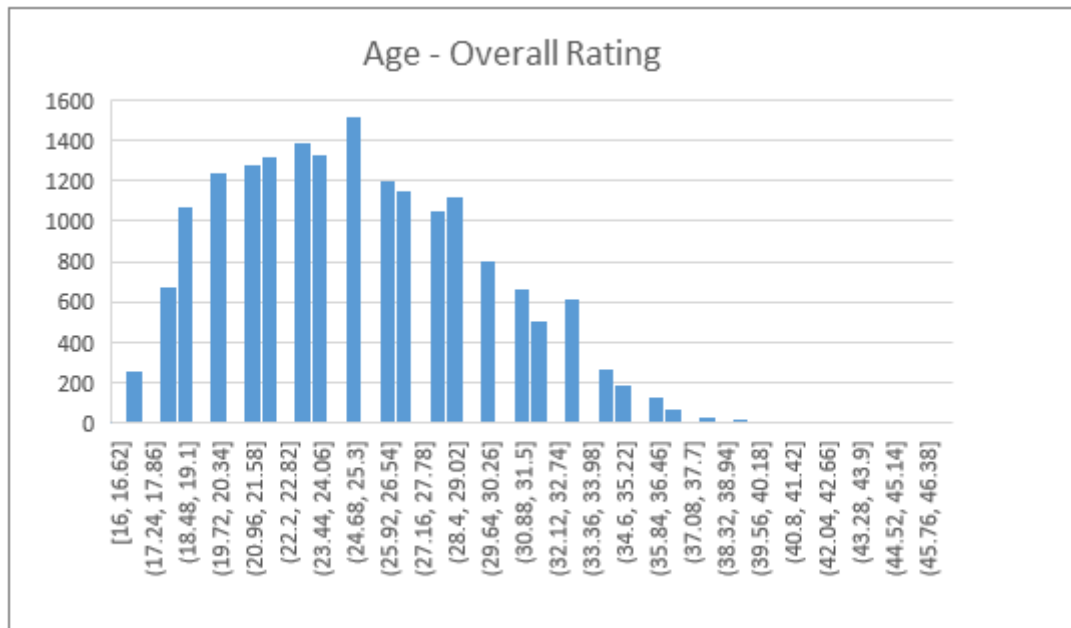
Country	No. of Players
England	1630
Germany	1140
Spain	1019
France	978
Argentina	965
Brazil	812
Italy	799
Colombia	592
Japan	469
Netherlands	429



Observation :

England is producing the most no. of players.

- Plot the distribution of overall rating vs. age of players. Interpret what is the age after which a player stops improving?

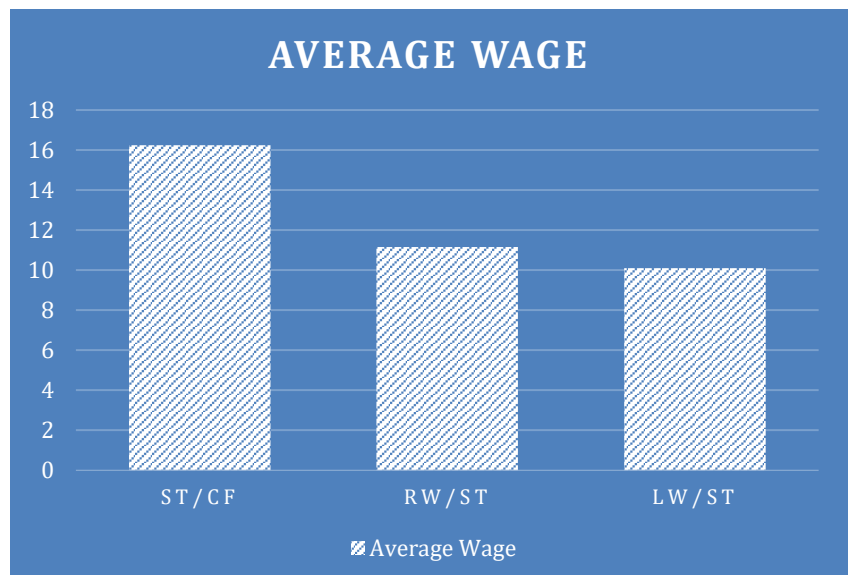


Observation:

From the histogram, we can say that a player stops improving after the age of 25 yrs.

- Which type of offensive players tends to get paid the most: the striker, the right-winger, or the left-winger?

Offensive Position	Average Wage
ST/CF	16.25
RW/ST	11.16
LW/ST	10.1



Observation:

Players in ST/ CF position are earning the highest among the offensive positions.

4. Top 5 players for every preferred position in terms of overall as well as potential points.
Who were the best in 2018? Who were destined to be the future superstars in that year?

Best Players - Combined

Forward-Combined		
Name	Overall	Potential
Cristiano Ronaldo	94	94
L. Messi	93	93
Neymar	92	94
L. Suarez	92	92
R. Lewandowski	91	91

Best Players - Overall

Forward-Overall		
Name	Overall	Potential
Cristiano Ronaldo	94	94
L. Messi	93	93
Neymar	92	94
L. Suarez	92	92
R. Lewandowski	91	91

Future Superstars

Forward-Potential		
Name	Overall	Potential
Cristiano Ronaldo	94	94
Neymar	92	94
K. Mbappe	83	94
L. Messi	93	93
P. Dybala	88	93

Mid Field-Combined

Name	Overall	Potential
T. Kroos	90	90
K. De Bruyne	89	92
A. Sanchez	89	89
L. Modiac	89	89
Thiago	88	90

Mid Field-Overall

Name	Overall	Potential
T. Kroos	90	90
K. De Bruyne	89	92
A. Sanchez	89	89
L. Modiac	89	89
Thiago	88	90

Mid Field-Potential

Name	Overall	Potential
K. De Bruyne	89	92
P. Pogba	87	92
Marco Asensio	84	92
O. Dembele	83	92
M. Verratti	87	91

Defence-Combined

Name	Overall	Potential
Sergio Ramos	90	90
G. Chiellini	89	89
L. Bonucci	88	88
J. Boateng	88	88
D. GodAn	88	88

Defence-Overall

Name	Overall	Potential
Sergio Ramos	90	90
G. Chiellini	89	89
L. Bonucci	88	88
J. Boateng	88	88
D. GodAn	88	88

Defence-Potential

Name	Overall	Potential
R. Varane	85	92
Sergio Ramos	90	90
G. Chiellini	89	89
E. Bailly	84	89
A. Laporte	84	89

Goal Keeper-Combined

Name	Overall	Potential
M. Neuer	92	92
De Gea	90	92
T. Courtois	89	92
G. Buffon	89	89
J. Oblak	88	93

Goal Keeper-Overall

Name	Overall	Potential
M. Neuer	92	92
De Gea	90	92
T. Courtois	89	92
G. Buffon	89	89
J. Oblak	88	93

Goal Keeper-Potential

Name	Overall	Potential
G. Donnarumma	82	94
J. Oblak	88	93
M. Neuer	92	92
De Gea	90	92
T. Courtois	89	92

5. Which club(s) have the maximum share of players from England? Which club(s) have the maximum share of players from Spain? Which club(s) have the maximum share of players from Germany?

England	
Club	No. of Players
Bolton Wanderers	24
Shrewsbury	24

Spain	
Club	No. of Players
CA Osasuna	27
Athletic Club de Bilbao	26

Germany	
Club	No. of Players
Holstein Kiel	26
SSV Jahn Regensburg	23
FC Magdeburg	23
Chemnitzer FC	23
FC Carl Zeiss Jena	23
FSV Zwickau	23
Hallescher FC	23
Karlsruher SC	23
SpVgg Unterhaching	23
SV Meppen	23

6. Are the wages of a player influenced by the potential of a player? Check it out for players with age Between 16 to 28?

Observation:

We perform ANOVA Test and observe that the p-value is 0 which suggests that there is strong evidence that the wages of players are influenced by the potential of the players.

7. Do Strikers score higher on "Aggression" than defenders do? Group both the set of players (from an overall score of 80 to 85) and compare their average aggression levels. Which particular position has the highest aggression as a given (players with an overall score of 80 to 90)?

Ho : mean(Aggression Score of Defender) = mean(Aggression Score of Striker)

H1 : mean(Aggression Score of Defender) > mean(Aggression Score of Striker)

Observation:

On performing Two Sample t-Test Assuming Unequal Variances, we reject the null hypothesis. There is strong evidence to say that defenders score significantly higher than Strikers on Aggression Score.

Top 5 positions with highest aggression scores are :

Position	Aggression
CM CDM CB	90
CB CDM	89
CM CB CDM	88
RB CB	87.5
LWB LB	87

8. Which of the player characteristics (skills) are correlated on an aggregated level (check for players between overall score of 75 to 90). Comment on interesting and obvious insights.

Using correlation matrix, we get the following observations:

- Goal Keeping Skills are mostly highly negatively related to all the other skills.
- Goal Keeping Skills show high positive correlation to each other.
- Defensive Skills like Standing and Sliding tackle show high positive correlation.
- Short Passing is strongly correlated with Shot Power (0.79), Sprint Speed (0.51), Stamina (0.78), Vision (0.65), Volleys (0.71).
- Short Passing is moderately correlated with Sliding Tackle (0.45), Standing Tackle (0.49).
- Shot Power is strongly correlated with Sprint Speed (0.54), Stamina (0.69), Vision (0.58), Volleys (0.8).
- Sliding Tackle is strongly correlated with Stamina (0.51), Standing Tackle (0.97).

- Sliding Tackle is moderately correlated with Strength (0.38).
- Sprint Speed is strongly correlated with Stamina (0.59), Volleys (0.54).
- Sprint Speed is moderately correlated with Volleys (0.54).
- Stamina is strongly correlated with Standing Tackle (0.54), Volleys (0.56).
- Standing Tackle is moderately correlated with Strength (0.36).
- Strength is moderately negatively correlated with Vision (-0.31).
- Vision is strongly correlated with Volleys (0.69).
- Long Shots is strongly correlated with Penalties (0.8), Positioning (0.88), Short Passing (0.79), Shot Power (0.88), Sprint Speed (0.55), Stamina (0.64), Vision (0.73), Volleys (0.86).
- Marking is strongly correlated with Sliding Tackle (0.97), Standing Tackle (0.96).
- Marking is moderately correlated with Short Passing (0.42), Stamina (0.48), Strength (0.38).
- Long Passing is strongly correlated with (0.68), Marking (0.53), Penalties (0.56), Positioning (0.588), Short Passing (0.88), Shot Power (0.68), Sliding Tackle (0.56), Stamina (0.69), Standing Tackle (0.6), Vision (0.6), Volleys (0.54).
- Long Passing is moderately correlated with Sprint Speed (0.36).
- Penalties is strongly correlated with Positioning (0.80), Short Passing (0.7), Shot Power (0.76), Stamina (0.53), Vision (0.64), Volleys (0.82).
- Penalties is moderately correlated with Sprint Speed (0.38).
- Reactions is moderately correlated with Vision (0.33).
- Positioning is strongly correlated with Short Passing (0.79), Shot Power (0.81), Sprint Speed (0.63), Stamina (0.67), Vision (0.73), Volleys (0.88).
- Interceptions is strongly correlated with Long Passing (0.6), Marking (0.94), Sliding tackle (0.94), Stamina (0.52), Standing Tackle (0.95).
- Interceptions is moderately correlated with Short Passing (0.48), Strength (0.34).
- GK Reflexes is strongly correlated with GK Handling (0.97), GK Kicking (0.97), GK Positioning (0.97), GK Reflexes (0.98).
- GK Reflexes is strongly negatively correlated with Heading Accuracy (-0.78), Interceptions (-0.51), Long Passing (-0.75), Long Shots (-0.72), Penalties (-0.66),

Positioning (-0.72), Short Passing (-0.87), Shot Power (-0.8), Sliding Tackle (-0.5), Sprint Speed (-0.53), Stamina (-0.77), Standing Tackle (-0.54), Volleys (-0.65).

- GK Reflexes is moderately negatively correlated with Marking (-0.48), Vision (-0.43).
- GK Positioning is strongly correlated with GK Handling (0.97), GK Kicking (0.97), GK Positioning (0.97), GK Reflexes (0.98).
- GK Positioning is strongly negatively correlated with Heading Accuracy (-0.78), Interceptions (-0.51), Long Passing (-0.75), Long Shots (-0.72), Penalties (-0.66), Positioning (-0.72), Short Passing (-0.87), Shot Power (-0.8), Sliding Tackle (-0.5), Sprint Speed (-0.53), Stamina (-0.77), Standing Tackle (-0.54), Volleys (-0.65).
- GK Positioning is moderately negatively correlated with Marking (-0.48), Vision (-0.43).
- GK Kicking is strongly correlated with GK Handling (0.97), GK Kicking (0.97), GK Positioning (0.97), GK Reflexes (0.98).
- GK Kicking is strongly negatively correlated with Heading Accuracy (-0.78), Interceptions (-0.51), Long Passing (-0.75), Long Shots (-0.72), Penalties (-0.66), Positioning (-0.72), Short Passing (-0.87), Shot Power (-0.8), Sliding Tackle (-0.5), Sprint Speed (-0.53), Stamina (-0.77), Standing Tackle (-0.54), Volleys (-0.65).
- GK Kicking is moderately negatively correlated with Marking (-0.48), Vision (-0.43).
- GK Handling is strongly correlated with GK Handling (0.97), GK Kicking (0.97), GK Positioning (0.97), GK Reflexes (0.98).
- GK Handling is strongly negatively correlated with Heading Accuracy (-0.78), Interceptions (-0.51), Long Passing (-0.75), Long Shots (-0.72), Penalties (-0.66), Positioning (-0.72), Short Passing (-0.87), Shot Power (-0.8), Sliding Tackle (-0.5), Sprint Speed (-0.53), Stamina (-0.77), Standing Tackle (-0.54), Volleys (-0.65).
- GK Handling is moderately negatively correlated with Marking (-0.48), Vision (-0.43).
- GK Diving is strongly correlated with GK Handling (0.97), GK Kicking (0.97), GK Positioning (0.97), GK Reflexes (0.98).
- GK Diving is strongly negatively correlated with Heading Accuracy (-0.78), Interceptions (-0.51), Long Passing (-0.75), Long Shots (-0.72), Penalties (-0.66), Positioning (-0.72), Short Passing (-0.87), Shot Power (-0.8), Sliding Tackle (-0.5), Sprint Speed (-0.53), Stamina (-0.77), Standing Tackle (-0.54), Volleys (-0.65).
- GK Diving is moderately negatively correlated with Marking (-0.48), Vision (-0.43).

- Free Kick Accuracy is strongly correlated with Long Passing (0.67), Long Shots (0.83), Penalties (0.78), Positioning (0.75), Short Passing (0.73), Shot Power (0.75), Stamina (0.53), Vision (0.7), Volleys (0.76).
- Free Kick Accuracy is moderately correlated with Heading Accuracy (0.32), Sprint Speed (0.43).
- Free Kick Accuracy is strongly negatively correlated with GK Diving (-0.63), GK handling (-0.63), GK Kicking (-0.62), GK Positioning (-0.63), GK Reflexes (-0.63).
- Finishing is strongly correlated with Free Kick Accuracy (0.74), Long Passing (0.72), Long Shots (0.87), Penalties (0.77), Positioning (0.9), Short Passing (0.7), Shot Power (0.78), Sprint tackle (0.58), Stamina (0.56), Vision (0.7), Volleys (0.9).
- Finishing is moderately correlated with Heading Accuracy (0.4).
- Finishing is strongly negatively correlated with GK Diving (-0.64), GK handling (-0.64), GK Kicking (-0.64), GK Positioning (-0.65), GK Reflexes (-0.65).
- Dribbling is strongly correlated with Finishing (0.84), Free Kick Accuracy (0.77), Long Passing (0.72), Long Shots (0.87), Penalties (0.77), Positioning (0.9), Sprint Speed (0.7), Stamina (0.73), Vision (0.72), Volleys (0.83).
- Dribbling is moderately correlated with Heading Accuracy (0.49).
- Dribbling is strongly negatively correlated with GK Diving (-0.82), GK handling (-0.82), GK Kicking (-0.81), GK Positioning (-0.82), GK Reflexes (-0.82).
- Curve is strongly correlated with Dribbling (0.87), Finishing (0.8), Free Kick Accuracy (0.86), Long Passing (0.68), Long Shots (0.86), Penalties (0.78), Positioning (0.85), Short Passing (0.79), Shot Power (0.78), Sprint Speed (0.56), Stamina (0.62), Vision (0.73), Volleys (0.81).
- Curve is strongly negatively correlated with GK Diving (-0.7), GK Handling (-0.7), GK Kicking (-0.7), GK Positioning (-0.7), GK Reflexes (-0.7).
- Curve is moderately negatively correlated with Heading Accuracy (0.37).
- Crossing is strongly correlated with Curve (0.87), Dribbling (0.87), Finishing (0.72), Free Kick Accuracy (0.77), Long Passing (0.75), Long Shots (0.81), Penalties (0.69), Positioning (0.81), Short Passing (0.83), Shot Power (0.75), Sprint Speed (0.62), Stamina (0.7), Vision (0.68), Volleys (0.73).
- Crossing is strongly negatively correlated with GK Diving (-0.75), GK Handling (-0.75), GK Kicking (-0.74), GK Positioning (-0.75), GK Reflexes (-0.75).
- Crossing has moderate correlation with Heading Accuracy (0.41), Standing Tackle (0.31). Ball Control is strongly correlated with Composure (0.74), Crossing (0.86), Curve (0.85), Dribbling (0.95), Finishing (0.8), Free Kick Accuracy (0.76), Heading Accuracy (0.6), Long Passing (0.78), Long Shots (0.85), Penalties (0.77), Positioning

- (0.87), Short Passing (0.93), Shot Power (0.84), Sprint Speed (0.61), Stamina (0.77), Vision (0.67), Volleys (0.8).
- Ball Control is moderately correlated with Interception (0.34), Sliding Tackle (0.31), Standing Tackle (0.36).
 - Ball Control is strongly negatively correlated with GK Diving (-0.89), GK Handling (-0.89), GK Kicking (-0.87), GK Positioning (-0.89), GK Reflexes (-0.89).
 - Composure is strongly correlated with Crossing (0.6), Curve (0.61), Dribbling (0.68), Finishing (0.58), Free Kick Accuracy (0.57), Heading Accuracy (0.55), Long Passing (0.65), Long Shots (0.63), Short Passing (0.73), Shot Power (0.66), Stamina (0.58), Vision (0.51), Volleys (0.6).
 - Composure is moderately correlated with Interceptions (0.36), Marking (0.3), Reactions (0.34), Sliding Tackle (0.33), Sprint Speed (0.39), Standing Tackle (0.37).
 - Composure is strongly negatively correlated with GK Diving (-0.7), GK Handling (-0.7), GK Kicking (-0.7), GK Positioning (-0.7), GK Reflexes (-0.7).
 - Balance is strongly correlated with Ball Control (0.655), Crossing (0.67), Curve (0.68), Dribbling (0.74), Finishing (0.65), Free Kick Accuracy (0.57), Long Shots (0.58), Penalties (0.5), Positioning (0.64), Short Passing (0.57), Sprint Speed (0.62), Stamina (0.5), Vision (0.58), Volleys (0.56).
 - Balance is moderately correlated with Composure (0.4), Long Passing (0.47).
 - Balance is moderately negatively correlated with GK Diving (-0.47), GK Handling (-0.47), GK Kicking (-0.45), GK Positioning (-0.47), GK Reflexes (-0.47).
 - Balance is strongly negatively correlated with Strength (-0.52).
 - Agility is strongly correlated with Balance (0.84), Ball Control (0.65), Crossing (0.67), Curve (0.68), Dribbling (0.74), Finishing (0.65), Free Kick Accuracy (0.57), Long Shots (0.63), Penalties (0.54), Positioning (0.70), Short Passing (0.56), Shot Power (0.51), Sprint Tackle (0.73), Stamina (0.51), Volleys (0.58).
 - Agility is moderately correlated with Composure (0.4), Long Passing (0.44).
 - Agility is moderately negatively correlated with GK Diving (-0.45), GK Handling (-0.45), GK Kicking (-0.44), GK Positioning (-0.46), GK Reflexes (-0.46).
 - Agility is strongly negatively correlated with Strength (-0.52).
 - Acceleration is strongly correlated with Agility (0.83), Balance (0.74), Ball Control (0.63), Crossing (0.65), Curve (0.62), Dribbling (0.73), Finishing (0.62), Free Kick Accuracy (0.5), Long Shots (0.59), Penalties (0.5), Positioning (0.67), Short passing (0.53), Shot Power (0.54), Sprint Speed (0.92), Stamina (0.57), Volleys (0.58).

- Acceleration is very strongly correlated with Agility (0.83) and Sprint Speed (0.92).
- Acceleration shows moderate to strong negative correlation with GK Diving (-0.5), GK Handling (-0.51), GK Kicking (0.49), GK Positioning (-0.51), GK Reflexes (-0.51), Strength (-0.37).
- Acceleration has moderate correlation with Composure (0.39), Long Passing (0.39), Vision (0.47).
- Aggression shows strong correlation with Heading Accuracy (0.79), Interceptions (0.73), Long Passing (0.53), Marking (0.73), Short Passing (0.54), Sliding Tackle (0.73), Stamina (0.62), Standing Tackle (0.76).
- Aggression is moderately correlated with Ball Control (0.47), Composure (0.48), Crossing (0.36), Dribbling (0.36), Long Shots (0.32).
- Aggression is strongly negatively correlated with GK Diving (-0.65), GK Handling (-0.65), GK Kicking (-0.65), GK Positioning (-0.65), GK Reflexes (-0.64).

9. There is an additional worksheet provided called Football Leagues which have information about the clubs which are part of some of the famous football leagues such as EPL, Ligue1, LaLiga, Bundesliga, Serie A, Eredivisie, MLS, Premiera Liga. Use this information to create a new variable called League type. Map the clubs by leagues and put all the remaining clubs in a type called 'Others'.

Bundesliga	English Premier League	Eredivisie	LaLiga
FC Bayern Munich	Manchester United	Ajax	Real Madrid CF
Bayer 04 Leverkusen	Chelsea	Feyenoord	FC Barcelona
FC Schalke 04	Manchester City	PSV	Atlético Madrid
RB Leipzig	Arsenal	FC Utrecht	Athletic Club de Bilbao
Borussia Mönchengladbach	Tottenham Hotspur	FC Groningen	Villarreal CF
TSG 1899 Hoffenheim	Liverpool	Vitesse	Real Sociedad
SV Werder Bremen	Leicester City	AZ Alkmaar	UD Las Palmas
VfL Wolfsburg	Southampton	SC Heerenveen	RC Celta de Vigo
Hertha BSC Berlin	Everton	ADO Den Haag	Valencia CF
Eintracht Frankfurt	Swansea City	Heracles Almelo	Sevilla FC
Hannover 96	Stoke City	Willem II	RCD Espanyol
FC Augsburg	West Ham United	Excelsior	SD Eibar
VfB Stuttgart	Watford	PEC Zwolle	RC Deportivo de La Coruña
FSV Mainz 05	Bournemouth	VVV-Venlo	Real Betis Balompí
SC Freiburg	Crystal Palace	NAC Breda	Málaga CF
Fortuna Düsseldorf	West Bromwich Albion		Getafe CF
FC Nürnberg	Burnley		Deportivo Alavés
	Newcastle United		Levante UD
	Brighton & Hove Albion		Granada CF
	Aston Villa		Girona CF
	Wolverhampton Wanderers		Rayo Vallecano
	Fulham		Real Sporting de Gijón
	Huddersfield Town		CA Osasuna
	Birmingham City		Real Zaragoza
	Cardiff City		Real Valladolid
	Charlton Athletic		SD Huesca
	Bolton Wanderers		
	Blackburn Rovers		
	Barnsley		
	Bradford City		
	Coventry City		
	Blackpool		

Ligue 1	MLS	Premiera Liga
Paris Saint-Germain	Toronto FC	Sporting CP
AS Monaco	New York City Football Club	FC Porto
AS Saint-Étienne	Chicago Fire Soccer Club	SL Benfica
Olympique de Marseille	Montreal Impact	SC Braga
Olympique Lyonnais	LA Galaxy	Rio Ave FC
OGC Nice	Atlanta United FC	Atletico Nacional Medellin
Girondins de Bordeaux	Portland Timbers	Vitória Guimarães
Angers SCO	Columbus Crew SC	Grupo Desportivo de Chaves
LOSC Lille	Seattle Sounders FC	CS Marítimo
FC Nantes	Colorado Rapids	Vitória Setúbal
Dijon FCO	New England Revolution	CF Os Belenenses
Montpellier Hérault SC	Vancouver Whitecaps FC	Boavista FC
En Avant de Guingamp	Sporting Kansas City	Portimonense SC
Stade Rennais FC	San Jose Earthquakes	Moreirense FC
Toulouse FC	Philadelphia Union	CD Feirense
SM Caen	New York Red Bulls	Tondela
Amiens SC Football	FC Dallas	
RC Strasbourg	D.C. United	
Nîmes Olympique	Orlando Pirates	
Stade de Reims	Real Salt Lake	
	Minnesota Thunder	
	Houston Dynamo	

Serie A	Others
Juventus	Borussia Dortmund
Napoli	Milan
Inter	Beşiktaş JK
Roma	1. FC Köln
Torino	Atalanta
Lazio	Spartak Moscow
Genoa	Shakhtar Donetsk
Sassuolo	Galatasaray SK
Sampdoria	Lokomotiv Moscow
Fiorentina	Zenit St. Petersburg
Chievo Verona	Antalyaspor
Bologna	CSKA Moscow
Udinese	Fenerbahçe SK
Ferrara (SPAL)	Tigres U.A.N.L.
Cagliari	San Lorenzo de Almagro
Frosinone	FC Krasnodar
Empoli	U.N.A.M.
Parma	Vissel Kobe

10. Figure out the top 30 clubs by their average spend on wages. Create an additional variable called club category where category 1 represents the top 10 club based on the average wages, category 2 represents clubs that lie in the range of 11 – 20, category 3 represents the club that lies in the range of 21- 30 and category 4 represents all the left-over clubs.

Club	Avg. Spend on Wages	Club Category
Real Madrid CF	3625	1
FC Barcelona	2755	1
FC Bayern Munich	2633	1
Chelsea	2200	1
Juventus	1875	1
Manchester United	1730	1
Manchester City	1712	1
Paris Saint-Germain	1331	1
Arsenal	1097	1
Tottenham Hotspur	905	1
Liverpool	760	2
Atlético Madrid	652	2
Borussia Dortmund	539	2
Inter	491	2
Napoli	476	2
Roma	446	2
Milan	325	2
AS Monaco	248	2
RB Leipzig	143	2
Everton	115	2
Villarreal CF	105	3
Beşiktaş JK	94	3
Southampton	89	3
Leicester City	88	3
Athletic Club de Bilbao	74	3
UD Las Palmas	68	3
Bayer Leverkusen	61	3
Atalanta	60	3
Olympique de Marseille	60	3
Olympique Lyonnais	60	3

11. Use the additional 2 variables that you have created to predict the wages of a player using linear regression.

- Regression Equation based on Overall Rating, Potential Rating, Position & Wage Category of Team :

$$\text{Wage} = 1.3(\text{Overall}) + 0.267(\text{Potential}) + 1.45(\text{Center Position}) + 1.22(\text{Right Position}) + 0.83(\text{Left Position}) + 0(\text{GK}) + 46.12(\text{Wage Category}_1) + 0(\text{Wage Category}_2) - 18.95(\text{Wage Category}_3) - 31(\text{Wage Category}_4) - 70.622$$

- Regression Equation based on Position & Wage Category of Team :

$$\text{Wage} = 4.31(\text{Center Position}) + 3.8(\text{Right Position}) + 3.68(\text{Left Position}) + 0(\text{GK}) + 48.52(\text{Wage Category}_1) + 0(\text{Wage Category}_2) - 22.65(\text{Wage Category}_3) - 46.91(\text{Wage Category}_4) - 51.90$$

12. As a National coach of France team, you want to compare the national team of England, Spain, Italy and Germany to understand the competition. The formation of the teams is restricted to 4-3-3 (4 defenders, 3 midfielders, 3 forwards, 1 Goal Keeper) and players with overall value of more than 75 are preferred, now form the best team for each of the mentioned countries and compare them. Note down all the insights that you as a business analyst should share with the coach.

France :

Position	Name
LW	F. Ribery
CF	K. Benzema
RW	A. Griezmann
LM	D. Payet
CM	P. Pogba
RM	O. Dembele
LB	L. Kurzawa
CB	R. Varane
CB	A. Laporte
RB	K. Zouma
GK	H. Lloris

England :

Position	Name
LW	J. Lingard
CF	H. Kane
RW	R. Barkley
LM	D. Alli
CM	A. Lallana
RM	R. Barkley
LB	D. Rose
CB	G. Cahill
CB	E. Dier
RB	K. Walker
GK	J. Hart

Spain :

Position	Name
LW	Marco Asensio
CF	Diego Costa
RW	Pedro
LM	Iniesta
CM	Thiago
RM	Isco
LB	Jordi Alba
CB	Sergio Ramos
CB	Gerrard Pique
RB	Azpilicueta
GK	De Gea

Italy :

Position	Name
LW	L. Insigne
CF	A. Belotti
RW	A. Florenzi
LM	F. Bernardeschi
CM	M. Verratti
RM	D. De Rossi
LB	D. Criscito
CB	G. Chiellini
CB	L. Bonucci
RB	M. Darmian
GK	G. Buffon

Germany :

Position	Name
LW	M. Özil
CF	T. Müller
RW	M. Reus
LM	J. Draxler
CM	T. Kroos
RM	K. Bellarabi
LB	J. Hector
CB	J. Boateng
CB	M. Hummels
RB	A. Rüdiger
GK	M. Neuer

Strong Areas				
France	England	Spain	Italy	Germany
Potential Rating	Age (Youngest Team)	Overall Rating	Balance	Composure
Acceleration	Aggression	Value	Jumping	Crossing
Free Kick Accuracy	Heading Accuracy	Agility	Sliding Tackle	GK Handling
GK Diving	Long Shots	Curve	Stamina	GK Kicking
GK Reflexes	Marking	Dribbling	Standing Tackle	Long Passing
Offensive Skills	Shot Power	Finishing		Reactions
	Strength	GK Positioning		Vision
		Interceptions		GK Skills
		Penalties		
		Positioning		
		Short Passing		
		Volleys		
		Skills (without GK)		
		Skills (with GK)		
		Defensive Skills		

Observations:

Insights
<ul style="list-style-type: none">• France is the strongest team in Attack, whereas, Spain is the strongest team in terms of Defense.• Germany is the best in Goal Keeping Skills.• Team France is having 2 players from the same club i.e. Real Madrid CF.• Team England is having 4 players from the same club i.e. Tottenham Hotspur.• Team Spain is having 3 players from the same club i.e. FC Barcelona and another 3 players from Chelsea and other 3 from Real Madrid CF.• Team Italy is having 3 players from the same club i.e. Juventus and other 2 players from Roma.• Team Germany is having 4 players from the same club i.e. FC Bayern Munich.
