## EDA on FOOTBALL players \*STATISTICS\* FROM FIFA

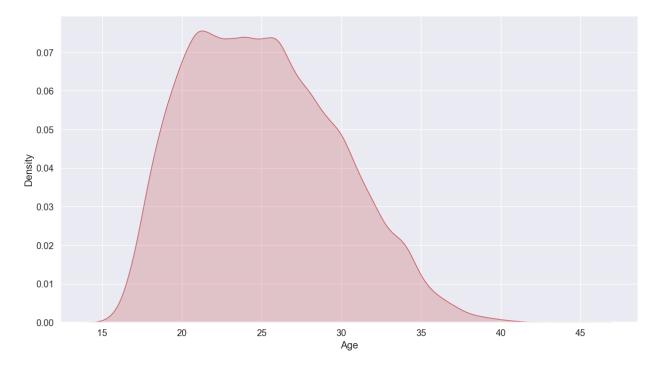
## Somya (100901887)

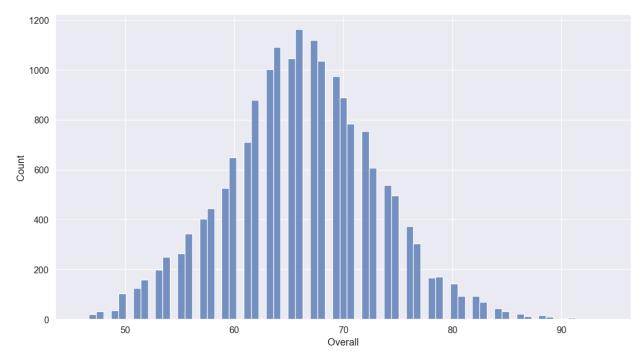
Source of data - https://www.kaggle.com

We performed EDA on raw data including removing null values from columns and replacing them with mean values. Cleaning data and detecting outliers such as an extremely high payment to a player or an unusual age, best way to deal with outlier is if they are not used in decision making, I would prefer to delete the cell however here I dropped the column as it was not significant and will not impact that much in training data.

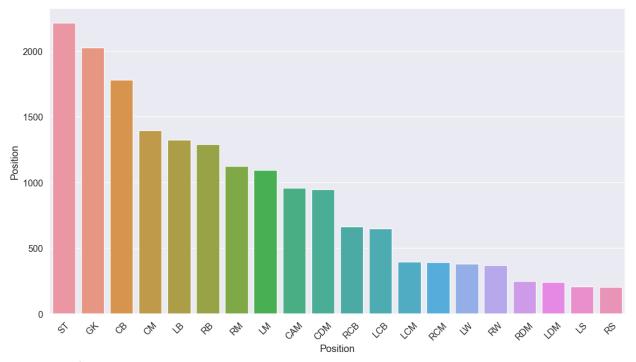
Below are my findings from the data -

- 1. Average age of player and most age gap is between 20 30.
- 2. What is the range of overall evaluation for the football players?

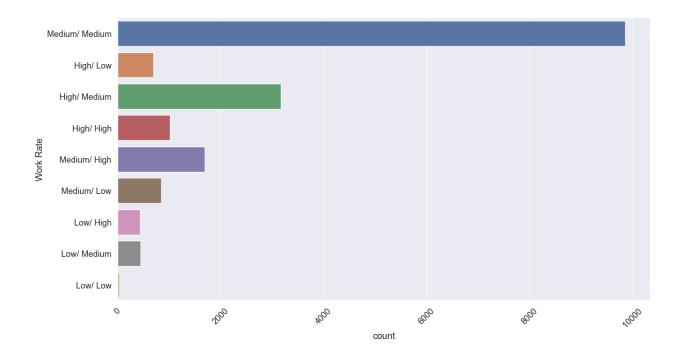




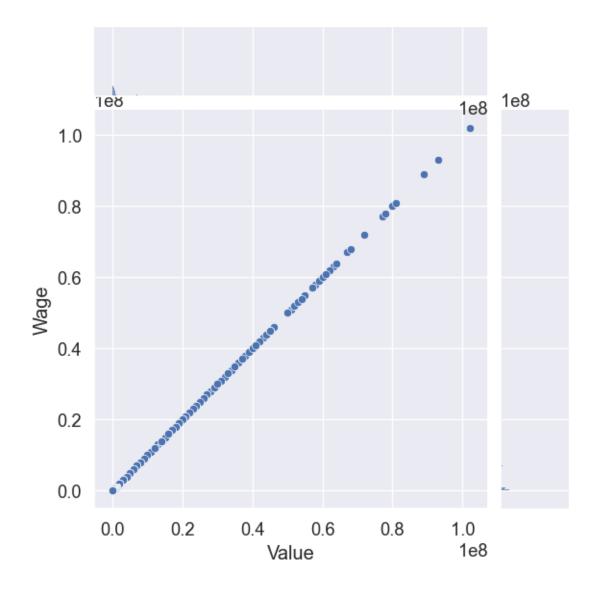
## 3- How many players in each position.

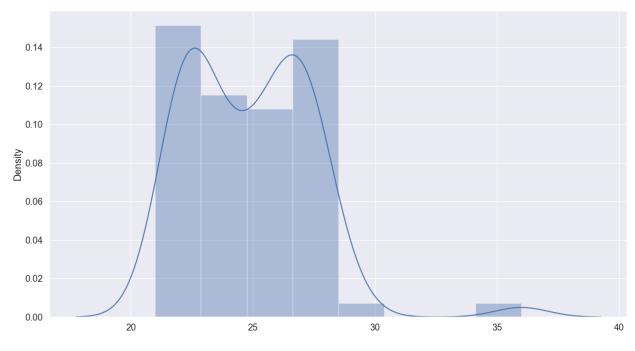


4-Number of players evaluated by there work rate.



5- What is the relation between the Value the FIFA put for the player and wage the players take in fact ?
6-what is the distribution of the average ages of the players strength

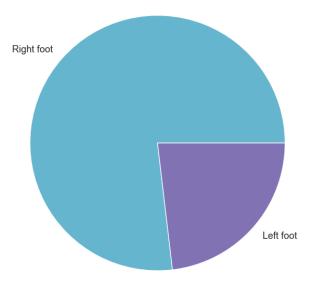




7- Which is the most preferred foot for the players?

 $8\mbox{-what}$  are the best 50 players evaluated by over all grade from the FIFA?

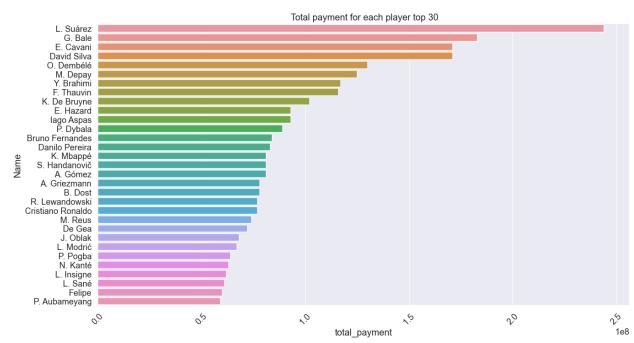
9-The best 10 goalkeepers' players.



										_
March	Age	Overall	Preferred Foot	Position	Height m	total payment	Wage	Raissas Clause	Contract Valid Until	
Page	34	94	Left	RF	1,7019	336	110	226.5	2021	L. Messi
LF   1,7272   2,000172   2,000000   172-1   2,000   E. Harried   2,000	26	92	Right	LW	1,7526	346	110	220.1	2022	Neymar Jr
Section   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,	27	91	Right	GC		72000130	72000000	130.6	2020	De Gea
201   Right RCM   1.7272				-		93000172	93000000	1721	2020	
Section   Signific RCS   1,0000   24,000000   16,0000000   16,0000000   10,000000   10,000000   10,000000   10,000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,00000000   10,00000000   10,00000000   10,00000000   10,00000000   10,0000000   10,00000000   10,00000000   10,00000000   10,00000000   10,00000000   10,00000000   10,0000000   10,00000000   10,0000000   10,00000000   10,00000000   10,0000000   10,0000000   10,0000000   10,00000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,0000000   10,00000000   10,0000000   10,00000000   10,0000000   10,0000000   10,0000000   10,0000000   10,000000										
201   Right   LCM   1,0000   202   70   150,0000   101,000   202   2019   T. Krison   202   202   T. Krison   202   T.			_							
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20	33	88	Right							
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LCD		-				2.0000				
10   10   10   10   10   10   10   10	**		юди	_						
19   60   Right   RM   1,7700   01000100   01000000   100.1   2002   K. Minappi   100   Right   LW   1,7020   200   73   150.2   2002   laco   1,7020   200   73   150.2   2002   laco   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   1,7020   200   200   1,7020   200   200   1,7020   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   200   20										
20	-	-								
17272   246		-								
COM 1,0512 165 59 124.4 2021 Casarion  CAM 1,0024 244 73 141.5 2020 C. Diffeses  Left RM 1,7202 200 C8 137.3 2020 M. Grand  LAM 1,0024 70 06 137.3 2020 M. Grand  10 00 Left ST 1,0024 10,000000 10,00000 12,00000 12,000000  20 00 Right UW 1,0250 02,000000 12,000000 12,000000 12,000000  10 00 Left LD 1,7202 42,000000 4300000 10,0000 10,0000 M. Findiques  10 00 Right GK 1,0004 40,00000 10,00000 74, 2019 C. Before  10 07 Right RF 1,7016 45,00000 04,000000 74, 2019 C. Before  21 07 Right RDM 1,0004 64,00012 64,000000 72, 2000 C. Married  22 07 Right LDM 1,0004 64,00012 64,000000 12, 2000 C. Married  23 07 Right LDM 1,0004 64,00012 64,000000 12, 2000 C. Married  24 07 Right LDM 1,0004 64,00012 64,000000 12, 2000 C. Married  25 07 Right LDM 1,0004 64,00012 64,000000 12, 2000 C. Married  26 07 Left CD 1,0000 71000000 12, 1000000 M. Hamilk  27 07 Left LD 1,7010 20000077 20000000 12, 1000000 RDM 1,00000 RDM 1,000000 RDM 1,000000 RDM 1,000000 RDM 1,0000000 RDM 1,000000 RDM 1,0000000 RDM 1,000000 RDM 1,0000000 RDM 1,000000 RDM 1,0000000 RDM 1,000000 RDM 1,000000 RDM 1,000000 RDM 1,000000 RDM 1,0000000 RDM 1,000000 RDM 1,000000 RDM 1,0000000 RDM 1,0000000 RDM 1,000000 RDM 1,0000000 RDM 1,000000 RDM 1,0000000 RDM 1,000000 RDM 1,0000000 RDM 1,00000000 RDM 1,0000000 RDM 1,00000000 R	**		Nogen.	Liv						
CAM 1,0034 244 73 541.5 2000 C C Cidente  Left RM 1,7226 306 69 137.3 2023 M Salah  LAM 1,0034 70 69 1.5 Jun 32,2019 J M Salah  20 00 Left 57 1,0512 10200000 00000000 122000000 002 002 G G Salah  27 00 Right LW 1,0250 0200001 02000000 10200000 002 002 G G Salah  40 00 Right CW 1,0250 0200001 0200000 102.4 2020 Mercelo  40 00 Right CW 1,0250 0400000 000 002 2022 Mercelo  40 00 Right CW 1,0004 0400000 7.4 2019 G G Salah  27 07 Right BDM 1,0004 0400000 7.4 2019 G G Salah  28 07 Right LOM 1,0250 0400000 102.0 2020 N H Henrick  29 07 Left CD 1,0000 71000000 122.5 2021 N Henrick  29 07 Left CD 1,0000 77000000 122.5 2020 N Henrick  20 07 Left CD 1,0000 77000000 122.5 2020 N Henrick  20 07 Left CD 1,0000 77000000 122.5 2020 N Henrick  20 07 Left CD 1,0000 77000000 77.9 2020 Joseph And Company  20 07 Left CD 1,0000 102 04000000 90.5 2020 K Koulkely  27 07 Right LCD 1,0706 51000000 71000000 90.5 2020 K Koulkely  27 07 Right LCD 1,0706 51000000 71000000 90.5 2020 K Koulkely  28 07 Left ST 1,0000 102 07000000 90.5 2020 K Koulkely  29 07 Right LCD 1,0706 51000000 71000000 90.5 2020 K Koulkely				cou						
Left 588 1.7526 206 69 137.3 2023 M. Smith  LAM 1,0034 70 69 1.1 Jan 20,2019 J. Rodriguez  20 00 Left 57 1,0572 10,000000 00000000 12,0000000 0 20020 G. Rodr  27 00 Right UW 1,0256 02000010 0000000 10544 2002 L. Insigne  30 00 Left LD 1,7556 43,000000 10,000000 00.2 2002 Mercolo  40 00 Right GaV 1,0000 40000007 4000000 77.4 2019 G. Rufell  21 07 Right RF 1,7010 40000007 4000000 77.5 2000 C. Mercolo  25 07 Right RDM 1,000 4000007 4000000 77.5 2000 C. Mercolo  26 07 Right LCM 1,0000 1125 46 70.1 2012 2021 R. Pright  27 Right LCM 1,0000 1125 46 92.3 2021 I. Rawside  28 07 Left CD 1,0000 5700010 57000000 12.1 1. Rawside  29 07 Left CD 1,0000 5700010 57000000 77.9 2000 S. Unori Alba  20 07 Left CD 1,0000 5700010 57000000 77.9 2000 S. Unori Alba  25 07 Left CD 1,0000 57000100 77.0 2000 S. Unori Alba  26 07 Left CD 1,0000 57000100 77.9 2000 S. Unori Alba  27 07 Right LCD 1,0704 57000000 77.9 2000 R. Linkship										
LAM 1,0004 79 GB 1.1 Jun 20,2019 J. Rodfguez  20 GB Laft ST 1,0742 10,2000000 0000000 12,0000000 J. Rodfguez  27 GB Right UW 1,02750 02,0000000 0000000 10,000000 J. Rodfguez  28 GB Right GB 1,1750 43,000000 40,000000 00.2 20,002 Morrodo  40 GB Right GB 1,1204 40,000000 10,000000 00.2 20,002 Morrodo  40 GB Right GB 1,1204 40,000000 7,4 20,000 J. Rodfguez  27 GR Right RF 1,17610 40,000000 7,5 20,000 J. Rodfguez  28 GT Right RF 1,17610 40,000000 10,000000 10,000 J. Rodfguez  29 GT Right LCM 1,0000 12,5 40 70,1 20,000 J. Rodfguez  40 GT Right LCM 1,0000 12,5 40 70,1 20,000 J. Rodfguez  40 GT Laft CD 1,0000 7,000000 7,000000 J. Rodfguez  41 GT Laft CD 1,0000 7,0000000 7,0 20,000000 J. Rodfguez  42 GT Laft CD 1,0000 7,0000000 7,0 20,000000 J. Rodfguez  43 GT Laft CD 1,0000 7,0000000 7,0 20,000000 J. Rodfguez  44 GT Laft CD 1,0000 7,0000000 7,0 20,000000 J. Rodfguez  45 GT Laft LD 1,7640 20,000077 20,0000000 7,0 20,000000 R. Linkshop  45 GT Laft ST 1,0000 160 C2 10,000000 P. Rodfguez  46 GT Laft ST 1,0000 160 C2 10,000000 P. Rodfguez  47 GT Right LCD 1,07740 510000000 7,0000000 P. S.			Lab						****	
20										
27   68   Right   LW   1.6250   42000165   62000000   405.4   2022   L Indigna	96	- 00	Late							_
10   10   10   10   10   10   10   10										
40   60   Right GK   1,3004   4000007   4000000   7.4   2019   G. Buffon	-			-						
27   Right RF 4.7618 42000070 42000000 70.5 2000 D. Marketon   25 07 Right RDM 4.2004 04000102 04000000 422.2 2024 R. Pingha   26 07 Right LCM 4.0000 425 44 76.4 2000 M. Hamille   RCM 4.0000 1464 46 82.3 2024 I. Rawleton   24 07 Laft CD 4.0000 277000104 277000000 77.9 2000 S. Ummille   26 07 Laft LD 4.7610 20000077 20000000 77.9 2000 S. Ummille   25 07 Laft LD 4.7610 20000077 20000000 77.9 2000 S. Ummille   25 07 Laft LD 4.7610 1402 62 420.3 2002 R. Lakshan   27 07 Right LCD 4.0786 51000000 27000000 92.5 2024 K. Koulkney										G. Buffon
25 67 Right ROM 14304 C400012 C4000000 1232 2004 P. Right  26 67 Right LCM 1,0206 1125 45 79.4 2002 Mt Hamilk  27 Laft CO 1,0206 5700012 57000000 121.5 2002 Local Lineside  28 67 Laft CD 1,0006 5700012 57000000 121.5 2002 Junel Alba  29 67 Laft LD 1,7010 20000077 20000000 177.9 2002 Junel Alba  25 67 Laft ST 1,0006 1102 CD 1,000000 1000000 P. R. Lineside  27 67 Right LCD 1,0796 51000000 57000000 92.5 2001 K. Koulkney	-	67	_	er.		4500076			2020	
30         87         Right         LCM         4,8260         125         4G         7k.1         2020         64 Memble           24         67         Lah         CD         1,2000         57000121         277000000         121.5         2022         5. Ummill           28         67         Lah         LD         1,7010         20000007         20000000         177.9         2000         Jendi Aba           25         67         Lah         57         1,4000         162         62         103.2         2022         R. Lishston           27         67         Right         LCD         4,279G         51000000         71000000         90.5         2021         K. Koulknity		67		ROM		64600123	64000000			
BCM         1,0000         144         45         95,3         2024         1,784805           24         67         Laft         CD         1,0000         57000121         27000000         121,1         2023         5, Umoli           29         67         Laft         LD         1,7040         20000077         20000000         77.9         2020         Jord Alta           25         67         Laft         ST         1,8000         102         C2         100.3         2022         R. Lokalus           27         67         Right         LCD         1,6794         51000000         24000000         90.5         2021         K. Koulksky										
24         67         Left         CD         4,0000         \$7000121         \$7000000         \$124.5         \$2023         \$3. Union           29         67         Left         LD         1,7010         \$3000007         \$2000000         77.9         \$2020         Jord After           25         67         Left         ST         1,9050         102         62         100.3         2022         R. Lokalu           27         67         Right         LCD         1,6796         51000000         51000000         90.5         2021         K. Koulksky	-									
29         67         Left         LD         4.76+0         20000077         20000000         77.9         2020         Jourd Alba           25         67         Left         57         1,8050         102         62         102.3         2022         R. Lokeshu           27         67         Right         LCD         1,879G         51000000         71000000         92.5         2021         K. Koulkesty	24	97	Late				57000000			
25 67 Laft 5T 1,8050 160 62 120.3 2002 R Luiteliu 27 67 Right LCD 1,6796 51000000 51000000 92.5 2021 K Koultely	29	_	Let	LO.	1,7010	20000077		77.9	2020	
27 07 Right LCG 1.0796 S1000000 S1000000 90.5 2021 K. Koulibely										
-										
25 07 Right ST 1,0034 170 64 114.5 2024 M. Icardi	25	67	Right	ST	1,0034	179	64	114.5	2021	M. Icardi

	total_payment	Contract Valid Until	Overall	Age	Nationality	Club	Strength	Height_m	GKDiving	GKHandling	GKKicking	GKPositioning	Reflexes
J. Oblak	68000144	2021	90	25	Slovenia	Atlético Madrid	78.0	1.8796	86.0	92.0	78.0	88.0	89.0
M. Neuer	38000062	2021	89	32	Germany	FC Bayern München	80.0	1.9304	90.0	86.0	91.0	87.0	87.0
M. ter Stegen	58000123	2022	89	26	Germany	FC Barcelona	79.0	1.8796	87.0	85.0	88.0	85.0	90.0
T. Courtois	166	2024	89	26	Belgium	Real Madrid	70.0	1.9812	85.0	91.0	72.0	86.0	88.0
H. Lloris	36000066	2022	88	31	France	Tottenham Hotspur	43.0	1.8796	88.0	84.0	68.0	83.0	92.0
S. Handanovič	81000000	2021	88	33	Slovenia	Inter	71.0	1.9304	87.0	86.0	69.0	89.0	89.0
G. Buffon	4000007	2019	88	40	Italy	Paris Saint- Germain	69.0	1.9304	88.0	87.0	74.0	90.0	83.0
K. Navas	92	2020	87	31	Costa Rica	Real Madrid	75.0	1.8542	90.0	81.0	75.0	82.0	90.0
Ederson	120	2025	86	24	Brazil	Manchester City	68.0	1.8796	85.0	80.0	91.0	82.0	87.0
Alisson	108	2024	85	25	Brazil	Liverpool	78.0	1.9050	83.0	81.0	85.0	84.0	88.0
<b>+</b>													4

## # Visualize the boxplot for the numerical columns to detect the outliers.



# Visualized total payment (wage +released clause payment) for each player of top 30

