<pre>tables = pd.read_html(request.text) # for table in tables: # display(table) league_table = tables[8] game_schedule = tables[11] display(league_table) display(game_schedule)</pre>		
1 2 Real Madrid 48 19 15 3 1 40 2 3 Athletic Bilbao 41 20 12 5 3 38	Classificação ou de 24 +22 Fase de grupos da Liga dos Campeões da UE 11 +29 Fase de grupos da Liga dos Campeões da UE 20 +18 Fase de grupos da Liga dos Campeões da UE 22 +14 Fase de grupos da Liga dos Campeões da UE	EFA de EFA de
4 5 Atlético de Madrid 38 19 12 2 5 39 5 6 Real Sociedad 32 20 8 8 4 31 6 7 Betis 31 20 7 10 3 21 7 8 Las Palmas 28 20 8 4 8 19 8 9 Getafe 26 19 6 8 5 24 9 10 Valencia 26 19 7 5 7 22	19 +2 17 +2 25 -1	2024–25 NaN NaN NaN NaN
10 11 Rayo Vallecano 23 19 5 8 6 18 11 12 Osasuna 22 19 6 4 9 22 12 13 Alavés 20 20 5 5 10 18 13 14 Mallorca 19 20 3 10 7 18 14 15 Villarreal 19 20 5 4 11 27 15 16 Celta de Vigo 17 20 3 8 9 21 16 17 Sevilla 16 20 3 7 10 25	29 -7 27 -9 24 -6 41 -14 30 -9	NaN NaN NaN NaN NaN NaN NaN
17 18 Cádiz 15 19 2 9 8 14 18 19 Granada 11 20 2 5 13 22 19 20 Almería 6 20 0 6 14 19 Casa \ Fora ALA ALM ATH ATM BAR BE 0 Alavés — 1-0 0-2 NaN NaN 1-	26 -12 Zona de rebaixamento à Segunda Divisão Espanda -19 Zona de rebaixamento à Segunda Divisão Espanda -24 Zona de rebaixamento à Segunda Divisão Espanda -24 Zona de rebaixamento à Segunda Divisão Espanda CEL GET GRA LPA MLL OSA RA-1 NaN NaN NaN 3-1 0-1 NaN 0-2 NaN -0 NaN 2-3 NaN 2-2 1-2 0-0 NaN 0-2	spanho AY RMA RSO SEV VAL VIL AN 0-1 NAN 4-3 1-0 NAN
2 Athletic Bilbao NaN 3-0 — 2-0 NaN 4- 3 Atlético de Madrid 2-1 2-1 NaN — NaN Na 4 Barcelona 2-1 3-2 1-0 1-0 — 5- 5 Betis NaN NaN NaN NaN NaN NaN NaN 6 Cádiz 1-0 1-1 NaN NaN NaN NaN NaN	-2 3-0 4-3 2-2 NaN 1-0 NaN NaN 4 aN 3-2 NaN 3-3 3-1 NaN 1-0 NaN Na -0 2-0 3-2 NaN NaN NaN NaN NaN Na -0 1-1 NaN NaN 1-0 1-0 2-0 2-1 Na	1-0 0-2 2-1 NaN 2-2 NaN laN 3-1 2-1 1-0 NaN 3-1 laN 1-2 NaN 1-0 NaN NaN laN 1-1 NaN a 3-0 1-0 laN 3-1 0-0 0-3 0-0 2-2 NaN 3-1
10 Granada NaN NaN NaN NaN 2-2 1- 11 Las Palmas NaN NaN 1-1 2-1 1-2 Na 12 Mallorca 0-0 NaN 0-0 NaN 2-2 Na 13 Osasuna NaN 1-0 0-2 0-2 1-2 Na	aN NaN 1-0 3-0 NaN 1-0 5-3 NaN Na -1 2-0 NaN 1-1 — NaN 3-2 NaN 0 aN 1-1 2-1 2-0 1-0 — 1-1 NaN 0 aN NaN 1-1 0-0 NaN NaN — 3-2 Na aN NaN NaN NaN 2-0 1-1 NaN — 1	NaN NaN 0-3 NaN NaN 2-1 NaN 0-2 NaN 0-3 NaN 2-3 NaN 0-0 NaN NaN 3-0 NaN NaN 1-0 1-1 0-1
15 Real Madrid NaN NaN NaN a a Na 16 Real Sociedad 1-1 NaN 3-0 NaN 0-1 0- 17 Sevilla 2-3 5-1 0-2 NaN NaN 1- 18 Valencia NaN NaN NaN 3-0 1-1 Na	aN NaN NaN 2-1 2-0 2-0 1-0 4-0 00-00-00 NaN 1-1 4-3 5-3 NaN 1-0 NaN NaN 0-1 NaN NaN 0-3 NaN 1-0 NaN NaN 2-00 0-0 NaN 1-0 1-0 NaN 1-2 NaN 0-2 NaN 3-2 NaN NaN 1-2 NaN 3-1 Na	D-0 — 2-1 NaN 5-1 4-1 IaN NaN — 2-1 NaN NaN 2-2 1-1 NaN — 1-2 1-1 IaN NaN 0-1 NaN — 3-1
<pre>Team Names Mapping : team_names = list(game_schedule["Casa \ Fora" nicknames = list(game_schedule.columns[1:]) print(team_names) print(nicknames) dict_teams = dict(zip(nicknames, team_names)) print(dict_teams)</pre>		
la', 'Valencia', 'Villarreal'] ['ALA', 'ALM', 'ATH', 'ATM', 'BAR', 'BET', 'CA {'ALA': 'Alavés', 'ALM': 'Almería', 'ATH': 'At	AD', 'CEL', 'GET', 'GIR', 'GRA', 'LPA', 'MLL thletic Bilbao', 'ATM': 'Atlético de Madrid' Y': 'Rayo Vallecano', 'RMA': 'Real Madrid', Frame ndex('Casa \ Fora') ted.unstack().reset_index()	diz', 'Celta de Vigo', 'Getafe', 'Girona', 'Granada', 'Las Palmas', 'Mallorca', 'Osasuna', 'Rayo Vallecano', 'Real Madrid', 'Real Sociedad' L', 'OSA', 'RAY', 'RMA', 'RSO', 'SEV', 'VAL', 'VIL'] ', 'BAR': 'Barcelona', 'BET': 'Betis', 'CAD': 'Cádiz', 'CEL': 'Celta de Vigo', 'GET': 'Getafe', 'GIR': 'Girona', 'GRA': 'Granada', 'LPA': ' 'RSO': 'Real Sociedad', 'SEV': 'Sevilla', 'VAL': 'Valencia', 'VIL': 'Villarreal'} sa \ Fora": "home", 0: "result"})
<pre>def adjust_team_nickname(line): nickname = line["away"] name = dict_teams[nickname] return name game_schedule_adjusted["away"] = game_schedul game_schedule_adjusted = game_schedule_adjust display(game_schedule_adjusted) away home result 1 Alavés Almería NaN</pre>		
2 Alavés Athletic Bilbao NaN 3 Alavés Atlético de Madrid 2–1 4 Alavés Barcelona 2–1 5 Alavés Betis NaN 394 Villarreal Rayo Vallecano 1–1		
395 Villarreal Real Madrid 4–1 396 Villarreal Real Sociedad NaN 397 Villarreal Sevilla 1–1 398 Villarreal Valencia 3–1 380 rows × 3 columns Completed and Upcoming Game	es Analysis	
game_schedule_adjusted["result"] = game_schedule_adjusted	ed[game_schedule_adjusted[<mark>"result"].</mark> str.cont d[~game_schedule_adjusted[<mark>"result"].</mark> str.cont	
4 Alavés Barcelona 2–1 6 Alavés Cádiz 1–0 7 Alavés Celta de Vigo 1–1 8 Alavés Getafe 1–0 392 Villarreal Mallorca 0–1 394 Villarreal Rayo Vallecano 1–1		
395 Villarreal Real Madrid 4–1 397 Villarreal Sevilla 1–1 398 Villarreal Valencia 3–1 195 rows × 3 columns away home 1 Alavés Almería		
2 Alavés Athletic Bilbao 5 Alavés Betis 10 Alavés Granada 11 Alavés Las Palmas 384 Villarreal Barcelona		
387 Villarreal Celta de Vigo 389 Villarreal Girona 393 Villarreal Osasuna 396 Villarreal Real Sociedad 185 rows × 2 columns Completed Games Analysis: Goa	al Breakdown	
completed_games_table[["home_goals", "away_gocompleted_games_table = completed_games_table completed_games_table["home_goals"] = completed_games_table["away_goals"] = completed_games_table["away_goals"] = completed_games_table)	<pre>oals"]] = completed_games_table["result"].st e.drop(columns=["result"]) ted_games_table["home_goals"].astype(int)</pre>	r.split("-", expand=True)
away home home_goals away_goa 3 Alavés Atlético de Madrid 2 4 Alavés Barcelona 2	als 1 1	
7 Alavés Celta de Vigo 1 8 Alavés Getafe 1	0 1 0 1 1	
397 Villarreal Sevilla 1 398 Villarreal Valencia 3 195 rows × 4 columns Team Performance: Average Go home_goals_average = completed_games_table.gr home_goals_average = home_goals_average.renam	roupby("home").mean(numeric_only= True)	d", "away_goals": "home_goals_conceded"})
	me(columns={"home_goals": "away_goals_concededededededededededededededededededed	<pre>Jed", "away_goals": "away_goals_scored"})</pre>
Barcelona 2.100000 1.100 Betis 1.300000 0.400 Celta de Vigo 0.800000 1.300	0000 0000 0000 0000	
Granada 1.444444 2.000 Las Palmas 1.272727 0.727 Mallorca 0.888889 0.777 Osasuna 0.900000 1.200 Rayo Vallecano 1.000000 1.777	7273 7778 0000 7778	
Real Madrid 2.444444 0.444 Real Sociedad 1.800000 1.100 Sevilla 1.363636 1.636 Valencia 1.333333 0.555 Villarreal 1.700000 2.100 away_goals_conceded away_goals_sconceded away_goals_sconceded	0000 6364 5556 0000	
Alavés 1.454545 0.7273 Almería 2.500000 0.9000 Athletic Bilbao 0.888889 1.2223 Atlético de Madrid 1.333333 1.7773 Barcelona 1.222222 1.6660 Betis 1.600000 0.9000	2222 2778 3667	
Celta de Vigo 1.700000 1.3000 Cádiz 1.777778 0.5558 Getafe 1.900000 1.5000 Girona 1.100000 2.1000 Granada 2.100000 0.7000 Las Palmas 1.000000 0.6000	5556 5000 5000 5000	
Mallorca 1.600000 0.9000 Osasuna 1.888889 1.4444 Rayo Vallecano 0.777778 1.0000 Real Madrid 0.700000 1.8000 Real Sociedad 1.000000 1.3000 Sevilla 1.333333 1.111 Valencia 1.800000 1.0000	0000 0000 0000 11111	
Team Statistics: Comprehensive statistics_table = home_goals_average.merge(astatistics_table = statistics_table.reset_indistatistics_table = statistics_table.rename(codisplay(statistics_table) team home goals scored home goals of	e Analysis away_goals_average, left_index=True, right_i dex()	index= True)
0 Alavés 1.111111 1 Almería 0.900000 2 Athletic Bilbao 2.454545 3 Atlético de Madrid 2.300000 4 Barcelona 2.100000 5 Betis 1.300000	1.222222 1.454545 0.727273 1.700000 2.500000 0.900000 1.090909 0.888889 1.222222 1.100000 1.333333 1.777778 1.100000 1.222222 1.666667 0.400000 1.600000 0.900000	
7 Cádiz 0.888889 6 8 Getafe 1.000000 6 9 Girona 2.500000 6 10 Granada 1.444444 2 11 Las Palmas 1.272727 6	1.300000 1.700000 1.300000 1.000000 1.777778 0.555556 0.666667 1.900000 1.500000 1.300000 1.100000 2.100000 2.000000 2.100000 0.700000 0.727273 1.000000 0.600000 0.777778 1.600000 0.900000	
14 Rayo Vallecano 1.000000 6 15 Real Madrid 2.444444 0 16 Real Sociedad 1.800000 6 17 Sevilla 1.363636 6 18 Valencia 1.333333 0	1.200000 1.888889 1.444444 1.777778 0.777778 1.000000 0.444444 0.700000 1.800000 1.100000 1.300000 1.300000 1.636364 1.333333 1.111111 0.555556 1.800000 1.000000 2.100000 1.909091 0.909091	
<pre>Expected Points Calculation from scipy.stats import poisson def calculate_expected_score(line): home_team = line["home"] away_team = line["away"] home_lambda = (statistics_table.loc[statistics_table.loc]</pre>	istics_table["team"] == home_team,"home_goal	ls_scored"].iloc[0]
<pre>away_lambda = (statistics_table.loc[statistics_table.loc[statistics_table.loc[statistics_table.loc]] pv_home = 0 p_draw = 0 pv_away = 0 for home_goals in range(8): for away_goals in range(8):</pre>	<pre>stics_table["team"] == away_team, "away_goal istics_table["team"] == away_team, "away_goal stics_table["team"] == home_team, "home_goal (home_goals, home_lambda) * poisson.pmf(away)</pre>	ls_scored"].iloc[0] ls_conceded"].iloc[0])
<pre>elif home_goals > away_goals:</pre>	y y	
away home home_pts away_pts 1 Alavés Almería 1.417880 1.314788 2 Alavés Athletic Bilbao 2.608721 0.218673 5 Alavés Betis 2.482721 0.330989 10 Alavés Granada 1.779706 1.005303 11 Alavés Las Palmas 2.287667 0.502426		
League Table Adjustment def adjust_team_name(line): for name in team_names: if name in line["Equipe"]: return name league_table["team"] = league_table.apply(adjupdated_league_table = league_table[["team", updated_league_table["Pts"] = updated_league_	"Pts"]]	
display(updated_league_table) team Pts Girona 49		
1 Real Madrid 48 2 Athletic Bilbao 41 3 Barcelona 41 4 Atlético de Madrid 38 5 Real Sociedad 32 6 Betis 31 7 Las Palmas 28		
8 Getafe 26 9 Valencia 26 10 Rayo Vallecano 23 11 Osasuna 22 12 Alavés 20 13 Mallorca 19		
14 Villarreal 19 15 Celta de Vigo 17 16 Sevilla 16 17 Cádiz 15 18 Granada 11 19 Almería 6		
Upcoming Games: Points Accun home_points_table = upcoming_games_table.grou away_points_table = upcoming_games_table.grou display(home_points_table) display(away_points_table) home_pts home	upby(<mark>"home").sum(numeric_only=True)[["home_p</mark>	
Alavés 13.956284 Almería 9.216617 Athletic Bilbao 18.435976 Atlético de Madrid 19.253009 Barcelona 20.634058 Betis 20.222279 Celta de Vigo 9.766241		
Cádiz 15.038689 Getafe 16.566093 Girona 19.919270 Granada 12.316965 Las Palmas 16.054298 Mallorca 15.842697 Osasuna 13.588612		
Osasuna 13.588612 Rayo Vallecano 12.285013 Real Madrid 25.655055 Real Sociedad 18.662283 Sevilla 12.028726 Valencia 20.895457 Villarreal 13.107468		
away_pts away Alavés 4.884169 Almería 3.541928 Athletic Bilbao 14.506957 Atlético de Madrid 16.127048		
Barcelona 13.670847 Betis 5.830258 Celta de Vigo 8.257772 Cádiz 4.953789 Getafe 10.178987 Girona 13.527192 Granada 3.630825		
Granada 3.630825 Las Palmas 8.242579 Mallorca 6.574153 Osasuna 8.906614 Rayo Vallecano 12.556053 Real Madrid 18.559057 Real Sociedad 12.935574		
Sevilla 8.921009 Valencia 6.726365 Villarreal 4.983156 La Liga 2023-2024 Updated Lea def update_prediction_score(line):	ague Table with Predicted Score	es
<pre>team = line["team"] score = int(line["Pts"]) + float(home_poi return score updated_league_table["Pts"] = updated_league_ updated_league_table = updated_league_table.s updated_league_table = updated_league_table.r updated_league_table.index = updated_league_t display(updated_league_table)</pre>	<pre>sort_values(by="Pts", ascending=False) reset_index(drop=True)</pre>	
team Pts 1 Real Madrid 92.214111 2 Girona 82.446461 3 Barcelona 75.304905 4 Athletic Bilbao 73.942933 5 Atlético de Madrid 73.380057 6 Real Sociedad 63.597856		
7 Betis 57.052537 8 Valencia 53.621822 9 Getafe 52.745080 10 Las Palmas 52.296877 11 Rayo Vallecano 47.841066 12 Osasuna 44.495226		
13 Mallorca 41.416850 14 Alavés 38.840453 15 Villarreal 37.090624 16 Sevilla 36.949735 17 Celta de Vigo 35.024013 18 Cádiz 34.992478		

Granada 26.947791

Almería 18.758545

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LaLiga 2023-2024 PREDICTION

Web Scraping and Data Exploration

• Made in 01/14/2024

In []: import pandas as pd
import requests