

Bài Tập Lập Trình Với Python

I,

```
from selenium import webdriver
from selenium.webdriver.chrome.service import Service
from selenium.webdriver.common.by import By
from webdriver_manager.chrome import ChromeDriverManager
import pandas as pd
from io import StringIO

# tải và khởi tạo webdriver chrome
service = Service(ChromeDriverManager().install())
driver = webdriver.Chrome(service=service)

url = "https://fbref.com/en/squads/822bd0ba/2023-2024/Liverpool-Stats"
driver.get(url)

# xác định vị trí của bảng table
table = driver.find_element(By.XPATH, "//table[contains(@class, 'stats_table')]")

# trích xuất nội dung của HTML
html_data = table.get_attribute('outerHTML')
df = pd.read_html(StringIO(html_data))[0]

# lưu vào file results.csv
df.to_csv('results.csv', index=False)
```

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Player	Nation	Pos	Age	MP	Starts	Min	Playing Tin	Playing Tin	Playing Tin	Performance	Performance	Performance	Performance	Performance	Performance	Performance	Performance	Performance	Performance	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected
Virgil van Nijmegen	NED	DF	32	36	36	3177	35.3	2	2	4	2	0	0	3	1	2.8	2.8	1.6	4.4	32	200	7					
Luis Díaz	COL	FW	26	37	32	2629	29.2	8	5	13	8	0	0	3	0	11.9	11.9	5.7	17.5	137	113	302					
Alexis Mac Allister	ARG	MF	24	33	31	2599	28.9	5	5	10	4	1	1	7	1	3.7	2.9	3.6	6.4	44	209	48					
Mohamed El Nene	EGY	FW	31	32	28	2534	28.2	18	10	28	13	5	7	2	0	21.2	15.5	11.8	27.3	98	147	341					
Alisson Becker	BRA	GK	30	28	28	2520	28	0	0	0	0	0	0	1	0	0	0	0	0	0	0	5	0				
Trent Alexander-Arnold	ENG	DF	24	28	25	2155	23.9	3	4	7	3	0	0	6	0	2.6	2.3	7.2	9.5	45	205	97					
Dominik Szoboszlai	HUN	MF	22	33	25	2104	23.4	3	2	5	3	0	0	1	0	3.7	3.7	5.8	9.5	75	152	160					
Darwin Núñez	URU	FW	24	36	22	2047	22.7	11	8	19	11	0	1	9	0	16.3	15.5	6	21.5	58	54	206					
Wataru Endo	JPN	MF	30	29	20	1722	19.1	1	0	1	1	0	0	10	0	0.5	0.5	1.7	2.3	10	101	21					
Andrew Robertson	SCO	DF	29	23	18	1693	18.8	3	2	5	3	0	0	2	0	1.9	1.9	5.4	7.3	63	140	130					
Joe Gomez	ENG	DF	26	32	17	1786	19.8	0	1	1	0	0	0	5	0	0.8	0.8	1.3	2.1	44	100	105					
Cody Gakpo	NED	FW,MF	24	35	17	1649	18.3	8	5	13	8	0	0	1	0	9	9	2.9	11.8	43	83	130					
Ibrahim Kifor	FRA	DF	24	22	17	1574	17.5	0	0	0	0	0	0	5	1	0.7	0.7	0.4	1.1	24	118	3					
Curtis Jones	ENG	MF	22	23	14	1167	13	1	1	2	1	0	0	3	1	2.6	2.6	0.7	3.3	31	74	88					
Diogo Jota	POR	FW	26	21	14	1145	12.7	10	3	13	10	0	0	3	1	5.3	5.3	3.3	8.6	54	34	111					
Jarell Quirk	ENG	DF	20	17	13	1190	13.2	2	0	2	2	0	0	1	0	1	1	0.1	1.1	13	67	1					
Ryan Gravenberch	NED	MF	21	26	12	1121	12.5	1	0	1	1	0	0	0	0	2	2	0.9	2.9	39	78	71					
Harvey Elliott	ENG	MF,FW	20	34	11	1352	15	3	6	9	3	0	0	2	0	2.7	2.7	3.5	6.2	44	128	122					
Caoimhin Kelleher	IRL	GK	24	10	10	900	10	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0					
Conor Braithwaite	NIR	DF	20	11	10	753	8.4	1	3	4	1	0	0	2	0	0.9	0.9	1.5	2.3	35	29	64					
Player	Nation	Pos	Age	MP	Starts	Min	Playing Tin	Playing Tin	Playing Tin	Performance	Performance	Performance	Performance	Performance	Performance	Performance	Performance	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected
João Matos	CMR	DF	31	10	9	781	8.7	0	0	0	0	0	0	2	0	0.5	0.5	0.1	0.6	8	34	1					
Kostas Tsimikas	GRE	DF	27	13	8	679	7.5	0	3	3	0	0	0	0	0	0.1	0.1	1	1.1	24	31	73					

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	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
	G-PK	PK	PKatt	CrDY	CrDR	xG	Expected npG	Expected xAG	Expected npG+xAG	Progresso PrgC	Progresso PrgP	Progresso PrgR	Gls	Ast	G+A	G-PK	G+A-PK	xG	xAG	xG+xAG	npG	npG+xAG	Matches
1	2	0	0	3	1	2.8	2.8	1.6	4.4	32	200	7	0.06	0.06	0.11	0.06	0.11	0.08	0.04	0.12	0.08	0.12	Matches
2	8	0	0	3	0	11.9	5.7	17.5	137	113	302	0.27	0.17	0.45	0.27	0.45	0.41	0.19	0.6	0.41	0.6	Matches	
3	4	1	1	7	1	3.7	2.9	3.6	6.4	44	209	48	0.17	0.17	0.35	0.14	0.31	0.13	0.12	0.25	0.1	0.22	Matches
4	13	5	7	2	0	21.2	15.5	11.8	27.3	98	147	341	0.64	0.36	0.99	0.46	0.82	0.75	0.42	1.17	0.55	0.97	Matches
5	0	0	0	1	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	Matches
6	3	0	0	6	0	2.6	2.3	7.2	9.5	45	205	97	0.13	0.17	0.29	0.13	0.29	0.11	0.3	0.41	0.1	0.4	Matches
7	3	0	0	1	0	3.7	3.7	5.8	9.5	75	152	160	0.13	0.09	0.21	0.13	0.21	0.16	0.25	0.4	0.16	0.4	Matches
8	11	0	1	9	0	16.3	15.5	6	21.5	58	54	206	0.48	0.35	0.84	0.48	0.84	0.72	0.27	0.98	0.68	0.95	Matches
9	1	0	0	10	0	0.5	0.5	1.7	2.3	10	101	21	0.05	0	0.05	0.05	0.05	0.03	0.09	0.12	0.03	0.12	Matches
10	3	0	0	2	0	1.9	1.9	5.4	7.3	63	140	130	0.16	0.11	0.27	0.16	0.27	0.1	0.29	0.39	0.1	0.39	Matches
11	0	0	0	5	0	0.8	0.8	1.3	2.1	44	100	105	0	0.05	0.05	0	0.05	0.04	0.07	0.1	0.04	0.1	Matches
12	8	0	0	1	0	9	9	2.9	11.8	43	83	130	0.44	0.27	0.71	0.44	0.71	0.49	0.16	0.64	0.49	0.64	Matches
13	0	0	0	5	1	0.7	0.7	0.4	1.1	24	118	3	0	0	0	0	0	0.04	0.02	0.06	0.04	0.06	Matches
14	1	0	0	3	1	2.6	2.6	0.7	3.3	31	74	88	0.08	0.08	0.15	0.08	0.15	0.2	0.05	0.25	0.2	0.25	Matches
15	10	0	0	3	1	5.3	5.3	3.3	8.6	54	34	111	0.79	0.24	1.02	0.79	1.02	0.42	0.26	0.68	0.42	0.68	Matches
16	2	0	0	1	0	1	1	0.1	1.1	13	67	1	0.15	0	0.15	0.15	0.15	0.08	0.01	0.08	0.08	0.08	Matches
17	1	0	0	0	0	2	2	0.9	2.9	39	78	71	0.08	0	0.08	0.08	0.08	0.16	0.07	0.23	0.16	0.23	Matches
18	3	0	0	2	0	2.7	2.7	3.5	6.2	44	128	122	0.2	0.4	0.6	0.2	0.6	0.18	0.23	0.42	0.18	0.42	Matches
19	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	Matches
20	1	0	0	2	0	0.9	0.9	1.5	2.3	35	29	64	0.12	0.36	0.48	0.12	0.48	0.1	0.17	0.28	0.1	0.28	Matches
Performance	Performance	Performance	Performance	Performance	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected	Expected
G-PK	PK	PKatt	CrDY	CrDR	xG	npG	xAG	npG+xAG	PrgC	PrgP	PrgR	Gls	Ast	G+A	G-PK	G+A-PK	xG	xAG	xG+xAG	npG	npG+xAG	Matches	
23	0	0	0	2	0	0.5	0.5	0.1	0.6	8	34	1	0	0	0	0	0	0.06	0.06	0.06	0.06	Matches	
24	0	0	0	0	0	0.1	0.1	1	1.1	24	31	73	0	0.4	0.4	0	0.4	0.01	0.14	0.15	0.01	0.15	Matches

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	
19	Ryan Grav	nl	NED	MF	21	26	12	1121	12.5	1	0	1	1	0	0	0	0	2	2	0.9	2.9	39	78	71
20	Harvey Eli	eng	ENG	MF,FW	20	34	11	1352	15	3	6	9	3	0	0	2	0	2.7	2.7	3.5	6.2	44	128	122
21	CaolinA-i	le	IRL	GK	24	10	10	900	10	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
22	Conor Bra	nir	NIR	DF	20	11	10	753	8.4	1	3	4	1	0	0	2	0	0.9	0.9	1.5	2.3	35	29	64
23																								
24	Player	Nation	Pos	Age	MP	Starts	Min	90s	Gls	Ast	G+A	G-PK	PK	PKatt	CrdY	CrdR	xG	npG	xAG	Expected	Expected	Progressio	Progressio	
25	Jo	ni	cm	CMR	DF	31	10	9	781	8.7	0	0	0	0	0	2	0	0.5	0.5	0.1	0.6	8	34	1
26	Kostas Tsi	gr	GRE	DF	27	13	8	679	7.5	0	3	3	0	0	0	2	0	0.1	0.1	1	1.1	24	31	73
27	Bobby Cla	eng	ENG	MF	18	5	1	89	1	0	0	0	0	0	0	0	0	0.1	0.1	0	0.1	3	3	7
28	Stefan Baj	es	ESP	MF	18	1	0	26	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
29	Ben Doak	sct	SCO	FW	17	1	0	14	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	Jayden Dai	eng	ENG	FW	17	2	0	9	0.1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2
31	Owen Beci	wls	WAL	DF	20	1	0	8	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	Thiago Alc	es	ESP	MF	32	1	0	6	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	James McI	es	ENG	MF	18	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
34	Kaide Gorr	eng	ENG	FW	18	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
35	Adri	n	es	ESP	GK	36	0	0																
36	Luke Cham	eng	ENG	DF	19	0	0																	
37	Lewis Kou	wls	WAL	MF	17	0	0																	
38	Fabian Mri	pl	POL	GK	19	0	0																	
39	Amara Nal	eng	ENG	DF	16	0	0																	
40	Trey Nyon	eng	ENG	MF	16	0	0																	
41	Marcelo Pi	br	BRA	GK	20	0	0																	
42	Calum Sca	eng	ENG	MF	18	0	0																	
43	Squad Total				26.3	38	418	3420	38	80	60	140	74	6	9	69	5	87.8	80.4	63.7	144.1	924	2110	2091
44	Opponent Total				26.2	38	418	3420	38	39	27	66	38	1	1	98	4	45.7	45	33.9	78.9	559	1154	1145

results

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	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
19	1	0	0	0	0	2	2	0.9	2.9	39	78	71	0.08	0	0.08	0.08	0.08	0.16	0.07	0.23	0.16	0.23	Matches
20	3	0	0	2	0	2.7	2.7	3.5	6.2	44	128	122	0.2	0.4	0.6	0.2	0.6	0.18	0.23	0.42	0.18	0.42	Matches
21	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	Matches
22	1	0	0	2	0	0.9	0.9	1.5	2.3	35	29	64	0.12	0.36	0.48	0.12	0.48	0.1	0.17	0.28	0.1	0.28	Matches
23	Performan	Performan	Performan	Performan	Expected	Expected	Expected	Expected	Expected	Progressio	Progressio	Progressio	Per 90 Min	Per 90 Min	Per 90 Min	Per 90 Min	Per 90 Min	Per 90 Min	Per 90 Min	Per 90 Min	Per 90 Min	Per 90 Min	Per 90 Min
24	G-PK	PK	PKatt	CrdY	CrdR	xG	npG	xAG	npG	xAG	PrgC	PrgP	PrgR	Gls	Ast	G+A	G-PK	G+A-PK	xG	npG	xAG	npG	xAG
25	0	0	0	2	0	0.5	0.5	0.1	0.6	8	34	1	0	0	0	0	0	0.06	0.01	0.06	0.06	0.06	Matches
26	0	0	0	0	0	0.1	0.1	1	1.1	24	31	73	0	0.4	0.4	0	0.4	0.01	0.14	0.15	0.01	0.15	Matches
27	0	0	0	0	0	0.1	0.1	0	0.1	3	3	7	0	0	0	0	0	0.14	0	0.14	0.14	0.14	Matches
28	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	Matches
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Matches
30	0	0	0	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	Matches
31	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	Matches
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Matches
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Matches
34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	Matches
35																							Matches
36																							Matches
37																							Matches
38																							Matches
39																							Matches
40																							Matches
41																							Matches
42																							Matches
43	74	6	9	69	5	87.8	80.4	63.7	144.1	924	2110	2091	2.11	1.58	3.68	1.95	3.53	2.31	1.68	3.98	2.12	3.79	
44	38	1	1	98	4	45.7	45	33.9	78.9	559	1154	1145	1.03	0.71	1.74	1	1.71	1.2	0.89	2.1	1.18	2.08	

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