Practica Fifa y Papermill

VÁSQUEZ FAJARDO FRANKLIN JOEL
SIMULACIÓN

In [146…
```
import pandas as pd
import altair as alt
import plotly.express as px
import plotly
import numpy as np
import matplotlib.pyplot as plt
```

1. Lectura de datos de nuestro Dataset

In [147…
```
df = pd.read_csv('./jugadores.csv')
df.head(8)
```

Out[147…

	id	name	full_name	birth_date	age	height_cm	weight_kgs	positions	nationality	overall_rating	...	LWB	LDM	CDM	RDM	RWB	LB	LCB	CB	RCB	RB
0	158023	L. Messi	Lionel Andrés Messi Cuccittini	1987-06-24	31	170.18	72.1	CF,RW,ST	Argentina	94	...	64+2	61+2	61+2	61+2	64+2	59+2	48+2	48+2	48+2	59+2
1	190460	C. Eriksen	Christian Dannemann Eriksen	1992-02-14	27	154.94	76.2	CAM,RM,CM	Denmark	88	...	71+3	71+3	71+3	71+3	71+3	66+3	57+3	57+3	57+3	66+3
2	195864	P. Pogba	Paul Pogba	1993-03-15	25	190.50	83.9	CM,CAM	France	88	...	76+3	77+3	77+3	77+3	76+3	74+3	72+3	72+3	72+3	74+3
3	198219	L. Insigne	Lorenzo Insigne	1991-06-04	27	162.56	59.0	LW,ST	Italy	88	...	63+3	58+3	58+3	58+3	63+3	58+3	44+3	44+3	44+3	58+3
4	201024	K. Koulibaly	Kalidou Koulibaly	1991-06-20	27	187.96	88.9	CB	Senegal	88	...	73+3	77+3	77+3	77+3	73+3	76+3	85+3	85+3	85+3	76+3
5	203376	V. van Dijk	Virgil van Dijk	1991-07-08	27	193.04	92.1	CB	Netherlands	88	...	78+3	82+3	82+3	82+3	78+3	80+3	86+3	86+3	86+3	80+3
6	231747	K. Mbappé	Kylian Mbappé	1998-12-20	20	152.40	73.0	RW,ST,RM	France	88	...	66+3	62+3	62+3	62+3	66+3	62+3	54+3	54+3	54+3	62+3
7	153079	S. Agüero	Sergio Leonel Agüero del Castillo	1988-06-02	30	172.72	69.9	ST	Argentina	89	...	58+3	56+3	56+3	56+3	58+3	53+3	47+3	47+3	47+3	53+3

8 rows × 92 columns

In [148…
```
df['libras'] = df.iloc[:,6] * 2.2
df
```

Out[148…

	id	name	full_name	birth_date	age	height_cm	weight_kgs	positions	nationality	overall_rating	...	LDM	CDM	RDM	RWB	LB	LCB	CB	RCB	RB	libras
0	158023	L. Messi	Lionel Andrés Messi Cuccittini	1987-06-24	31	170.18	72.1	CF,RW,ST	Argentina	94	...	61+2	61+2	61+2	64+2	59+2	48+2	48+2	48+2	59+2	158.62
1	190460	C. Eriksen	Christian Dannemann Eriksen	1992-02-14	27	154.94	76.2	CAM,RM,CM	Denmark	88	...	71+3	71+3	71+3	71+3	66+3	57+3	57+3	57+3	66+3	167.64
2	195864	P. Pogba	Paul Pogba	1993-03-15	25	190.50	83.9	CM,CAM	France	88	...	77+3	77+3	77+3	76+3	74+3	72+3	72+3	72+3	74+3	184.58
3	198219	L. Insigne	Lorenzo Insigne	1991-06-04	27	162.56	59.0	LW,ST	Italy	88	...	58+3	58+3	58+3	63+3	58+3	44+3	44+3	44+3	58+3	129.80
4	201024	K. Koulibaly	Kalidou Koulibaly	1991-06-20	27	187.96	88.9	CB	Senegal	88	...	77+3	77+3	77+3	73+3	76+3	85+3	85+3	85+3	76+3	195.58
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17949	204322	R. McKenzie	Rory McKenzie	1993-10-07	25	175.26	74.8	RM,CAM,CM	Scotland	67	...	52+2	52+2	52+2	53+2	50+2	46+2	46+2	46+2	50+2	164.56
17950	239762	M. Sipľak	Michal Sipľak	1996-02-02	23	182.88	79.8	LB	Slovakia	59	...	55+2	55+2	55+2	57+2	57+2	58+2	58+2	58+2	57+2	175.56
17951	235155	J. Bekkema	Jan Bekkema	1996-04-09	22	185.42	89.8	GK	Netherlands	59	...	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	197.56
17952	244883	A. Al Yami	Abdulrahman Al Yami	1997-06-19	21	175.26	64.9	ST,LM	Saudi Arabia	59	...	35+2	35+2	35+2	41+2	39+2	32+2	32+2	32+2	39+2	142.78
17953	247187	Júnior Brumado	José Francisco dos Santos Júnior	1999-05-15	19	190.50	79.8	ST	Brazil	59	...	40+2	40+2	40+2	41+2	40+2	40+2	40+2	40+2	40+2	175.56

17954 rows × 93 columns

2. Separamos solo columnas netamente necesarias y limpiamos valores vacios

In [149…
```
df.dropna()
datos = df.iloc[:, [1,5,6,92,9]]
datos.head(10)
```

Out[149…

	name	height_cm	weight_kgs	libras	overall_rating
0	L. Messi	170.18	72.1	158.62	94
1	C. Eriksen	154.94	76.2	167.64	88
2	P. Pogba	190.50	83.9	184.58	88
3	L. Insigne	162.56	59.0	129.80	88
4	K. Koulibaly	187.96	88.9	195.58	88
5	V. van Dijk	193.04	92.1	202.62	88
6	K. Mbappé	152.40	73.0	160.60	88
7	S. Agüero	172.72	69.9	153.78	89
8	M. Neuer	193.04	92.1	202.62	89
9	E. Cavani	185.42	77.1	169.62	89

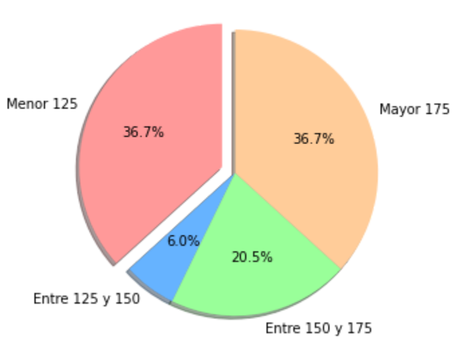
3. Procederemos a extraer los datos necesarios , en este caso extraeremos los datos de los jugadores con los siguientes condiciones.

Menor a 125 libras
Entre 125 libras y 150 libras
Entre 150 libras y 175 libras
Mayor a 175 libras

In [150…
```
pesos = datos.iloc[:, [3]]
cv = pesos[pesos<=125].size
cc = len(pesos.loc[(pesos['libras'] >= 125) & (pesos['libras'] < 150)])
cs = len(pesos.loc[(pesos['libras'] >= 150) & (pesos['libras'] < 175)])
ct = pesos[pesos>=175].size
```

In [151…
```
labels = 'Menor 125', 'Entre 125 y 150', 'Entre 150 y 175', 'Mayor 175'
sizes = [cv, cc, cs, ct]
explode = (0.1, 0, 0, 0)
colors = ['#ff9999','#66b3ff','#99ff99','#ffcc99']

fig1, ax1 = plt.subplots()
ax1.pie(sizes,
        explode=explode,
        colors=colors,
        labels=labels,
        autopct='%1.1f%%',
        shadow=True,
        startangle=90)
plt.tight_layout()
plt.show()
```



4. Procederemos a extraer los datos necesarios , en este caso extraeremos los overalls de todos los jugadores que sean iguales a:

Overall == 40
Overall == 50
Overall == 60
Overall == 70
Overall == 80
Overall == 90
Overall == 100

In [162…
```
overall = df.loc[:,['name','overall_rating']]
cuarenta = len(overall.loc[(overall['overall_rating'] == 40)])
cincuenta = len(overall.loc[(overall['overall_rating'] == 50)])
sesenta = len(overall.loc[(overall['overall_rating'] == 60)])
setenta = len(overall.loc[(overall['overall_rating'] == 70)])
ochenta = len(overall.loc[(overall['overall_rating'] == 80)])
noventa = len(overall.loc[(overall['overall_rating'] == 90)])
cien = len(overall.loc[(overall['overall_rating'] == 100)])
overalls = [cuarenta,cincuenta,sesenta,setenta,ochenta,noventa,cien]
dataframe=pd.DataFrame(overalls, columns=['Overalls'])
dataframe.head(10)
```

Out[162…

	Overalls
0	0
1	98
2	621
3	930
4	134
5	8
6	0

In [163…
```
over = ['40','50','60','70','80','90','100']
plt.bar(over,overalls,0.4
        ,color = ['blue', 'red', 'lightblue', 'purple', 'cyan', 'orange'])

plt.xlabel("Overalls Jugadores")
plt.ylabel("Cantidad ")
plt.title("Overrals Jugadores desde 40 hasta 100")
plt.show()
```