

TP1

March 26, 2025

1 CEIA - PEIA - TP1 - Martin Brocca

```
[1]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

Matplotlib is building the font cache; this may take a moment.

```
[5]: df_ventas = pd.read_excel('./Datos_primer_TP_20Co2025_i0601.xlsx')
df_ventas
```

```
[5]:
```

	Fecha	Ventas
0	2021-01-01	13015.353281
1	2021-01-02	12694.725807
2	2021-01-03	18188.522984
3	2021-01-04	18422.939904
4	2021-01-05	16412.068524
...
1090	2023-12-27	21176.251780
1091	2023-12-28	18188.456739
1092	2023-12-29	17505.530420
1093	2023-12-30	18015.741430
1094	2023-12-31	13799.255368

[1095 rows x 2 columns]

```
[6]: ventas = df_ventas.Ventas
len(ventas)
```

```
[6]: 1095
```

1.1 Plot the distributions per year

```
[14]: years = [2021, 2022, 2023]

for year in years:
    df_year = df_ventas[df_ventas['Fecha'].dt.year == year]
```

```

ventas = df_year['Ventas']

plt.figure(figsize=(8, 5))
sns.ecdfplot(ventas, label=f'{year} ECDF')
plt.legend()
plt.title(f'Sales Distribution - {year}')
plt.show()

plt.figure(figsize=(8, 5))
sns.histplot(ventas, stat='density', label=f'{year} Histogram')
plt.legend()
plt.title(f'Sales Distribution - {year}')
plt.show()

plt.figure(figsize=(8, 5))
sns.kdeplot(ventas, label=f'{year} KDE')
plt.legend()
plt.title(f'Sales Distribution - {year}')
plt.show()

```









