Seaborn

Programación II

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Seaborn es una biblioteca de visualización de datos de Python que se basa en Matplotlib y proporciona una interfaz más intuitiva para crear gráficos estadísticos atractivos y informativos. Seaborn incluye una amplia variedad de gráficos comunes, como histogramas, gráficos de distribución, gráficos de línea, gráficos de barras y mucho más, y permite una personalización fácil y eficiente de estilos y temas. Además, Seaborn también proporciona funcionalidades para trabajar con datos estadísticos, como la estimación de modelos lineales y la representación de matrices de correlación.

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- *Documentación Oficial*

  https://seaborn.pydata.org/

- *Guía de Seaborn*

  https://seaborn.pydata.org/tutorial.html

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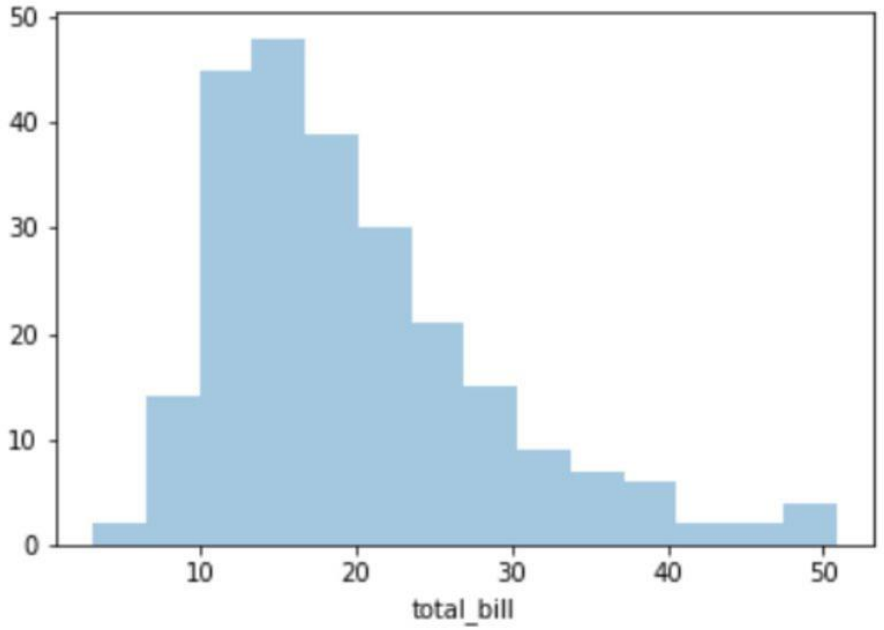
```
import seaborn as sns
df = sns.load_dataset('tips')
df.head()
```

	total_bill	tip	sex	smoker	day	time	size
0	16.99	1.01	Female	No	Sun	Dinner	2
1	10.34	1.66	Male	No	Sun	Dinner	3
2	21.01	3.50	Male	No	Sun	Dinner	3
3	23.68	3.31	Male	No	Sun	Dinner	2
4	24.59	3.61	Female	No	Sun	Dinner	4

```
sns.distplot(df['total_bill'],kde=False)
```



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Installing and getting started

Official releases of seaborn can be installed from PyPI:

```
pip install seaborn
```

The basic invocation of `pip` will install seaborn and, if necessary, its mandatory dependencies. It is possible to include optional dependencies that give access to a few advanced features:

```
pip install seaborn[stats]
```

The library is also included as part of the Anaconda distribution, and it can be installed with `conda`:

```
conda install seaborn
```

As the main Anaconda repository can be slow to add new releases, you may prefer using the conda-forge channel:

```
conda install seaborn -c conda-forge
```

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Dependencies

Supported Python versions

- Python 3.7+

Mandatory dependencies

- numpy
- pandas
- matplotlib

Optional dependencies

- statsmodels, for advanced regression plots
- scipy, for clustering matrices and some advanced options
- fastcluster, faster clustering of large matrices

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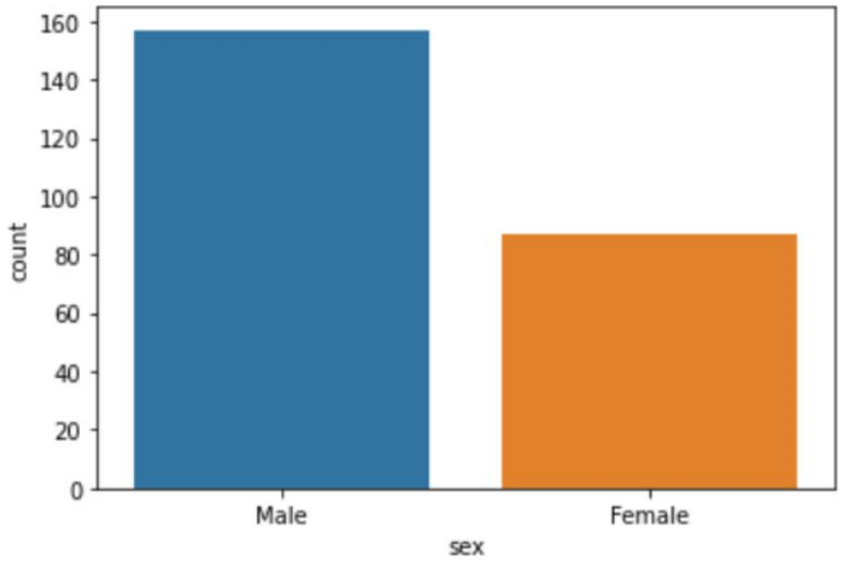
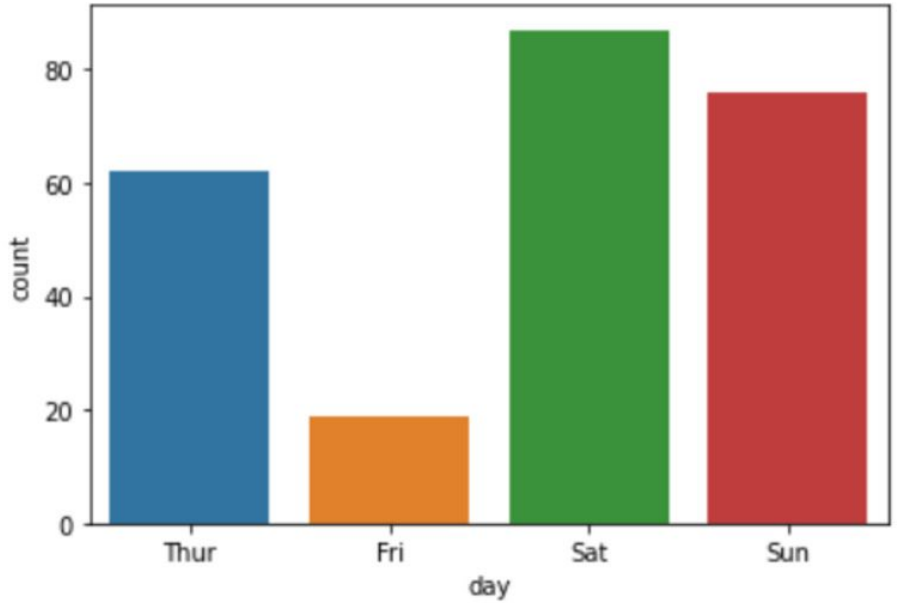
```
sns.countplot(x='sex',data=df)
```




```
sns.countplot(x='day',data=df)
```



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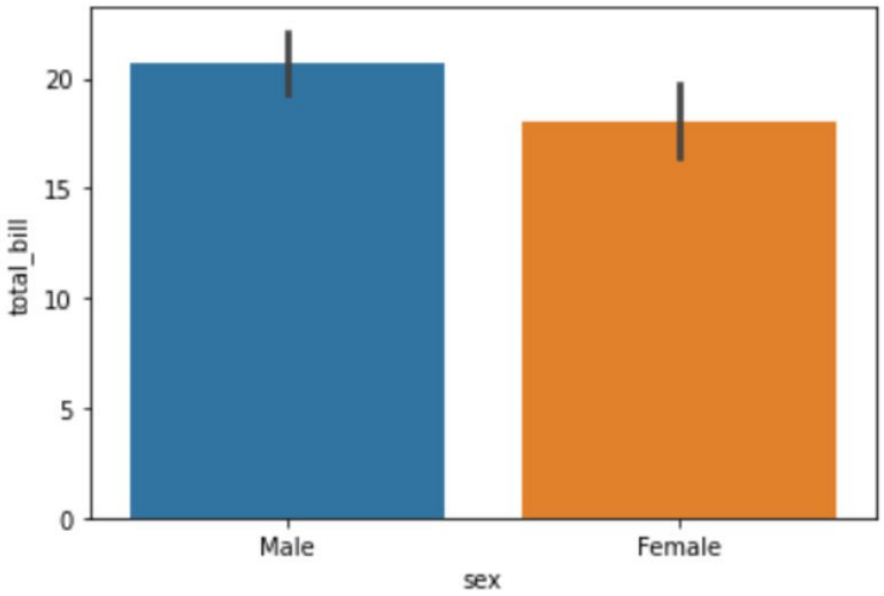
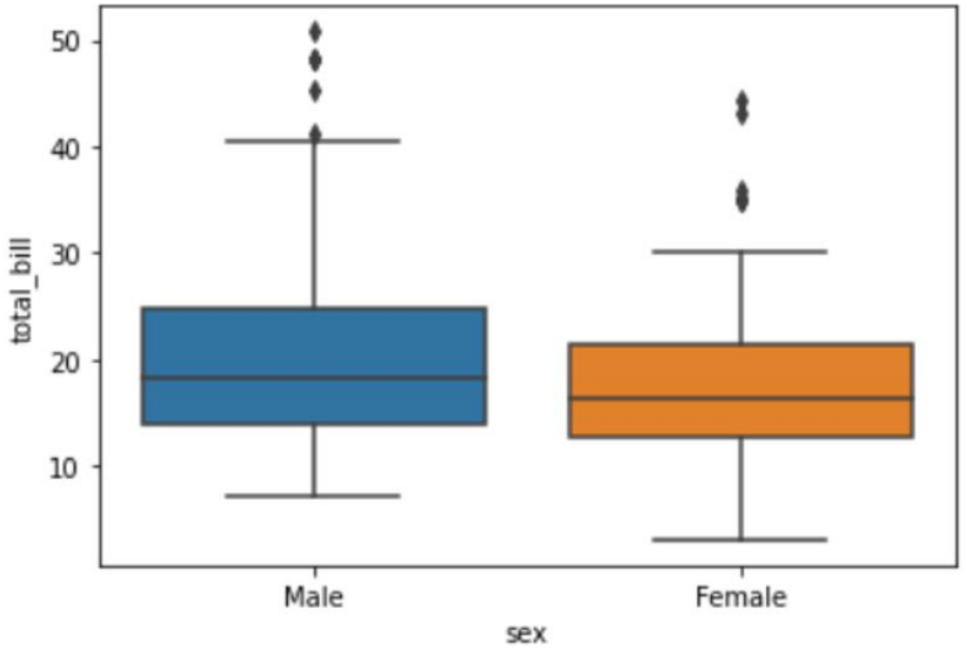
```
sns.barplot(x='sex',y='total_bill',data=df)
```




```
sns.boxplot(data=df, x='sex', y='total_bill')
```



Seaborn (Regression plot)

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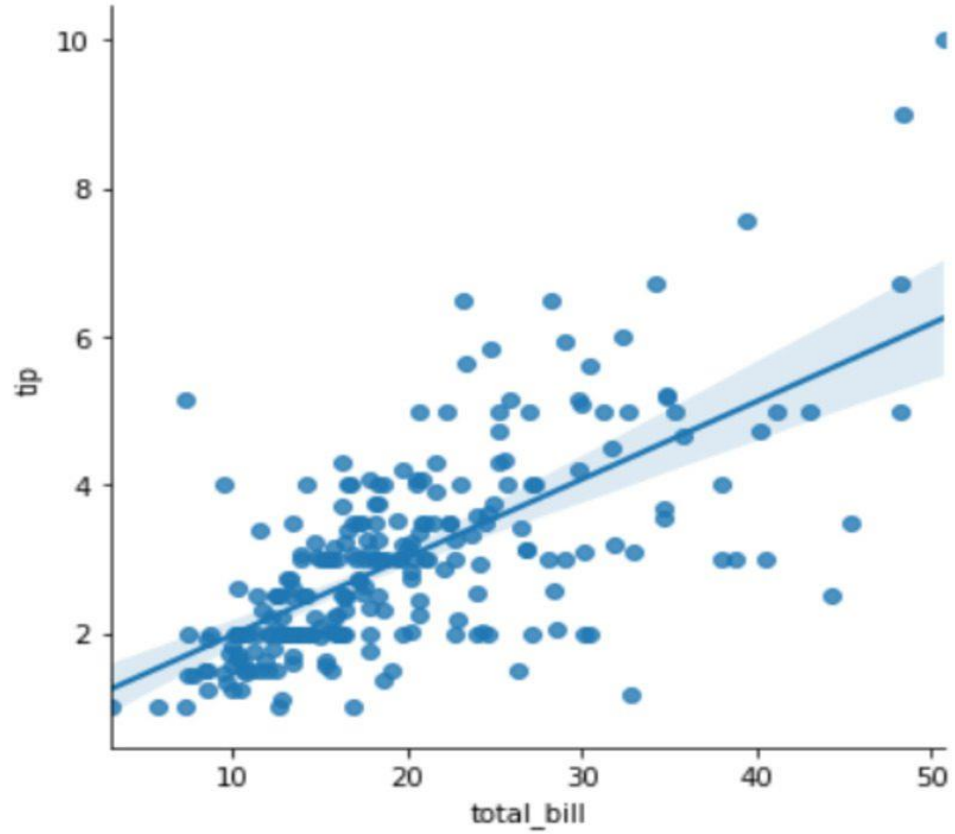
```
sns.lmplot(x='total_bill',y='tip',data=df)
```



Seaborn (Multivariate Analysis)

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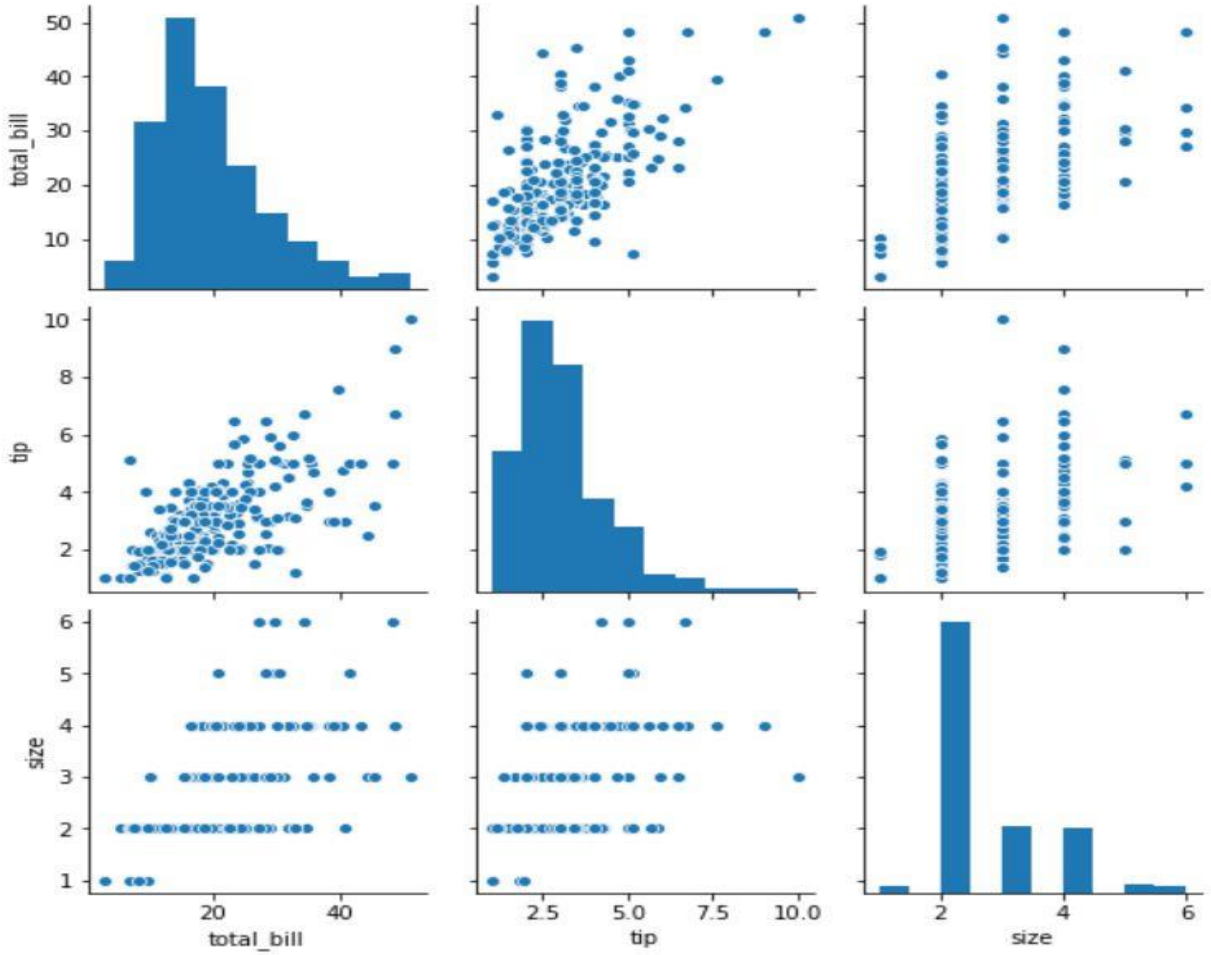
```
sns.pairplot(df)
```



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```python
# Import seaborn
import seaborn as sns

# Apply the default theme
sns.set_theme()

# Load an example dataset
tips = sns.load_dataset("tips")

# Create a visualization
sns.relplot(
    data=tips,
    x="total_bill", y="tip", col="time",
    hue="smoker", style="smoker", size="size",
)
```

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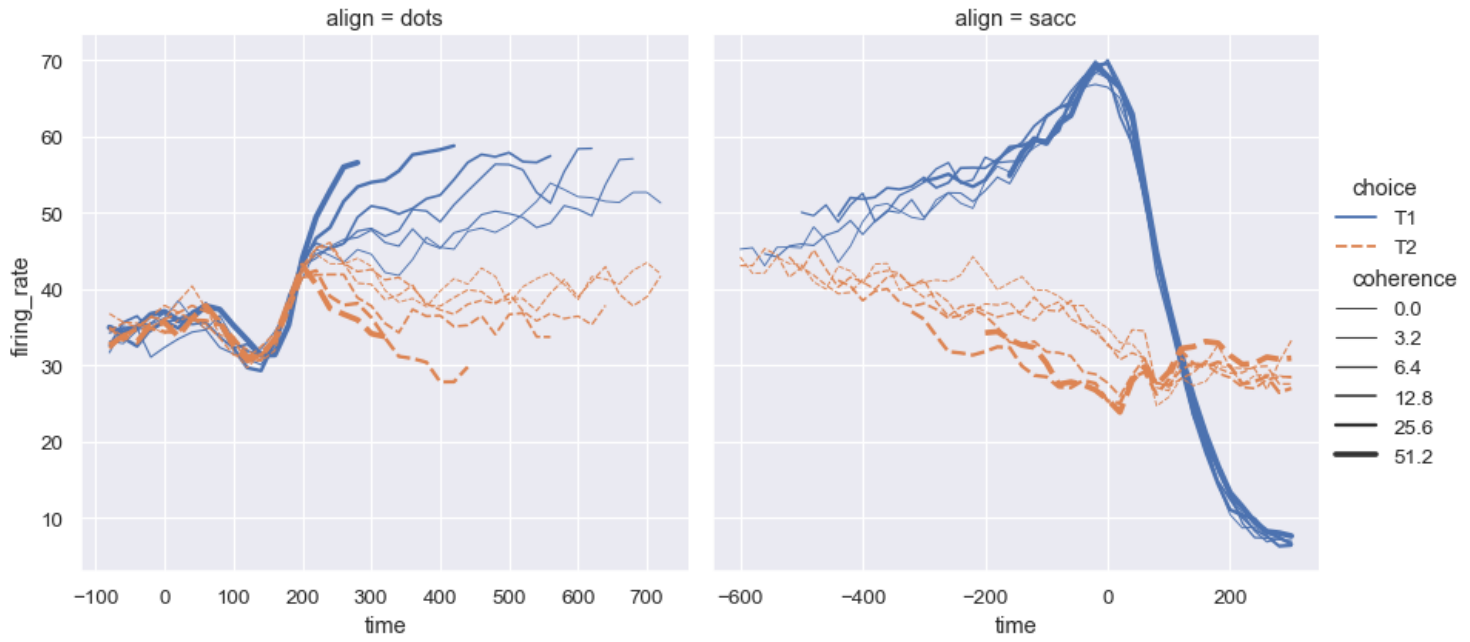
Programación II

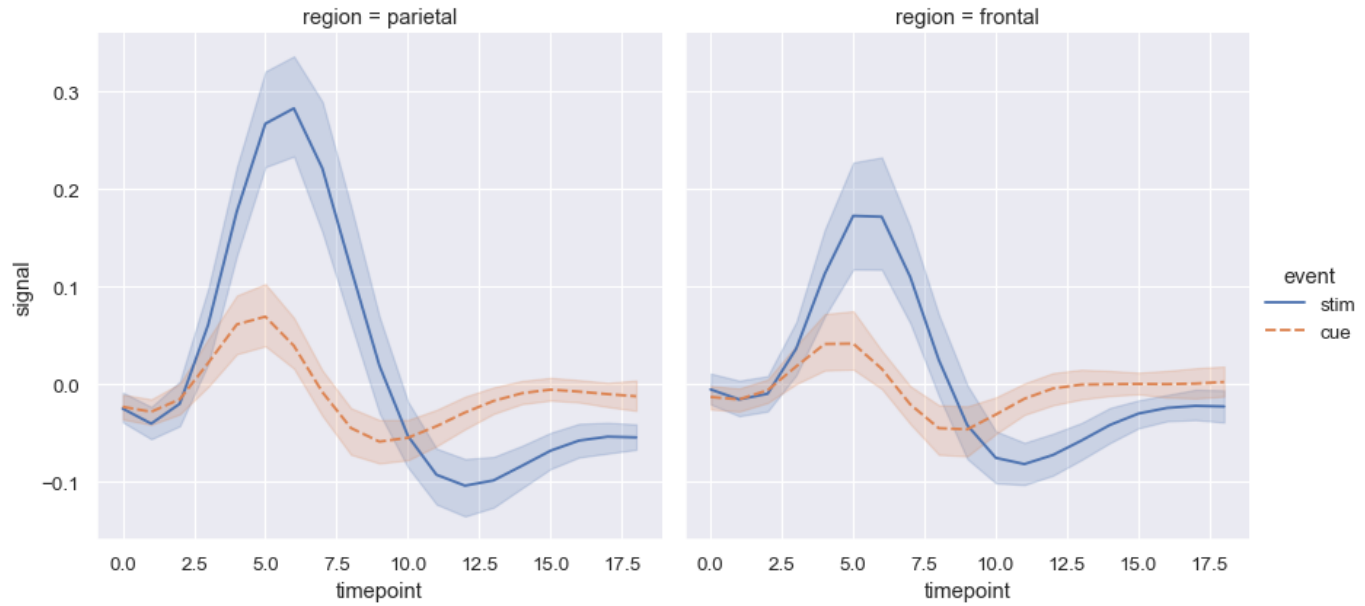
```
dots = sns.load_dataset("dots")
sns.relplot(
    data=dots, kind="line",
    x="time", y="firing_rate", col="align",
    hue="choice", size="coherence", style="choice",
    facet_kws=dict(sharex=False),
)
```



Seaborn (Statistical estimation)

Programación II

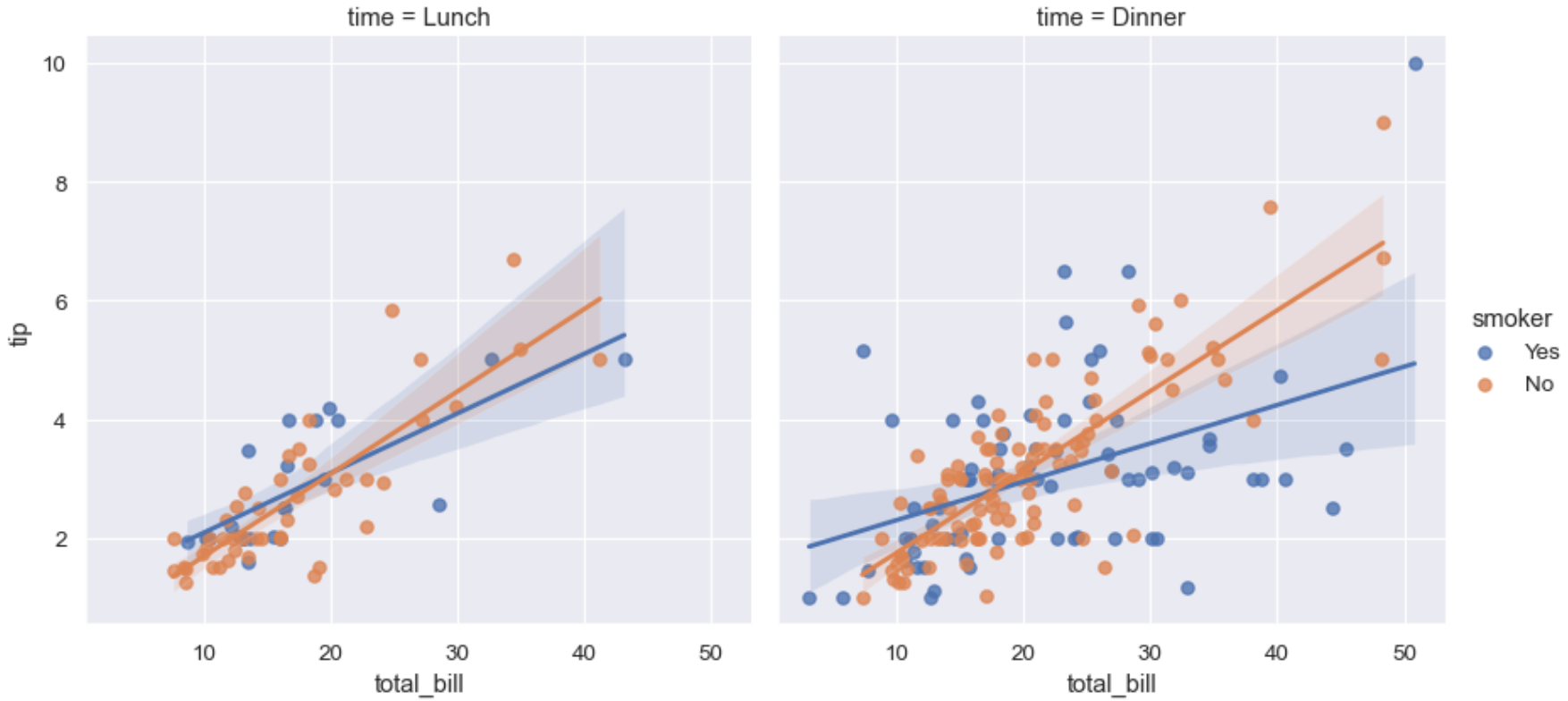
```
fmri = sns.load_dataset("fmri")
sns.relplot(
    data=fmri, kind="line",
    x="timepoint", y="signal", col="region",
    hue="event", style="event",
)
```



Seaborn (Statistical estimation)

Programación II

```
sns.lmplot(data=tips, x="total_bill", y="tip", col="time",
hue="smoker");
```



Seaborn (Distributional representations)

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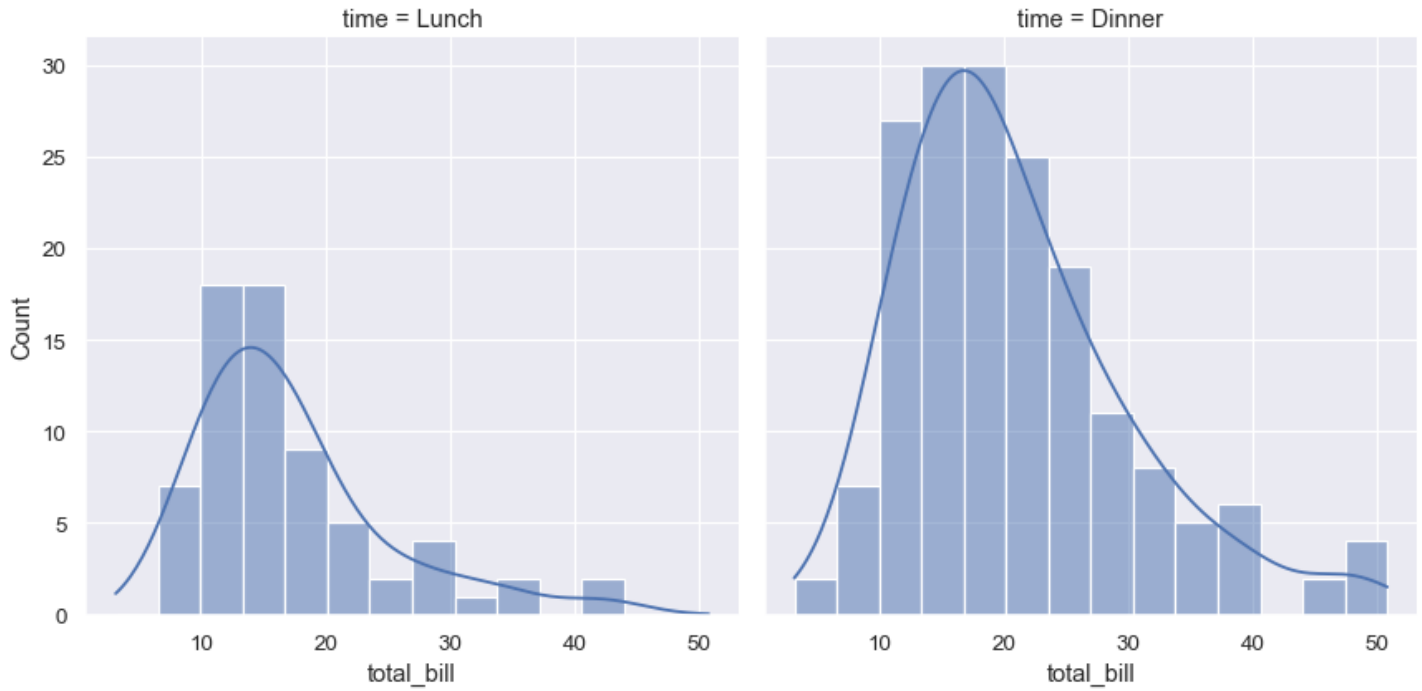
```
sns.displot(data=tips, x="total_bill", col="time",
kde=True);
```



Seaborn (Multivariate views on complex datasets)

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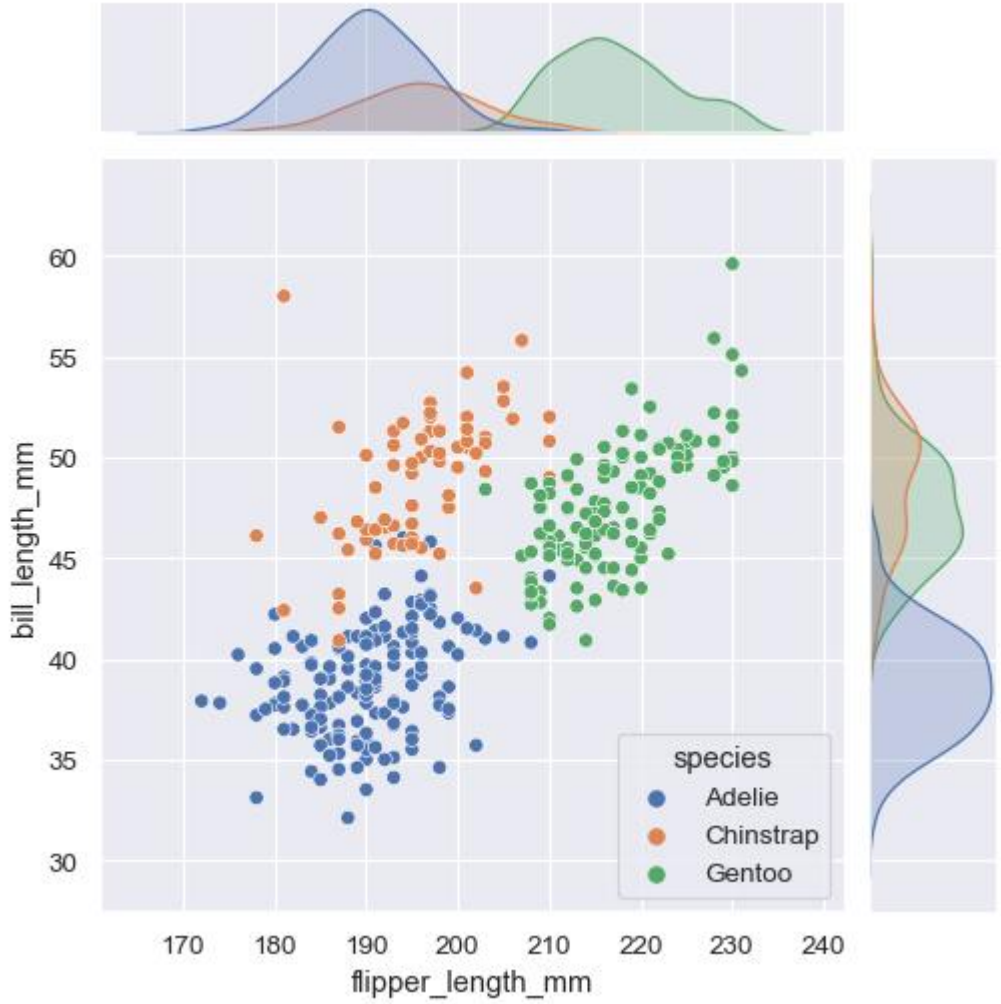
```
penguins = sns.load_dataset("penguins")
sns.jointplot(data=penguins, x="flipper_length_mm",
y="bill_length_mm", hue="species");
```



Saborn (Bibliografía)

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https://seaborn.pydata.org/

https://seaborn.pydata.org/tutorial/introduction.html

https://seaborn.pydata.org/tutorial/function_overview.html

https://seaborn.pydata.org/tutorial/data_structure.html