

Grids

June 15, 2024

1 Grids

Grids are general types of plots that allow you to map plot types to rows and columns of a grid, this helps you create similar plots separated by features.

```
[1]: import seaborn as sns
import matplotlib.pyplot as plt
%matplotlib inline
```

```
[2]: iris = sns.load_dataset('iris')
```

```
[5]: iris.head(2)
```

```
[5]:
```

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa

```
[6]: iris.info()
```

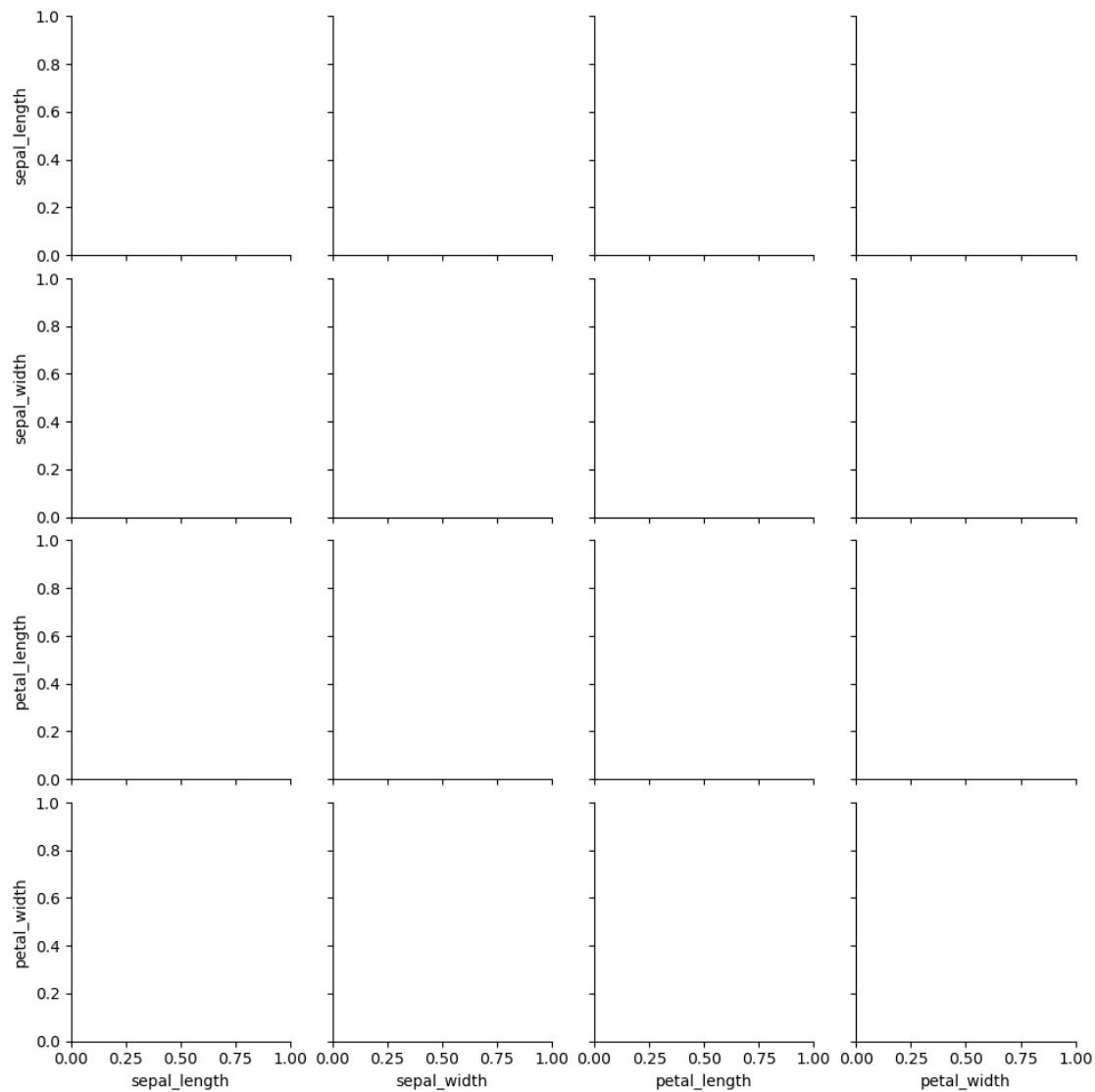
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 150 entries, 0 to 149
Data columns (total 5 columns):
#   Column          Non-Null Count  Dtype
---  -
0   sepal_length    150 non-null   float64
1   sepal_width     150 non-null   float64
2   petal_length    150 non-null   float64
3   petal_width     150 non-null   float64
4   species         150 non-null   object
dtypes: float64(4), object(1)
memory usage: 6.0+ KB
```

1.1 PairGrid

Pairgrid is a subplot grid for plotting pairwise relationships in a dataset.

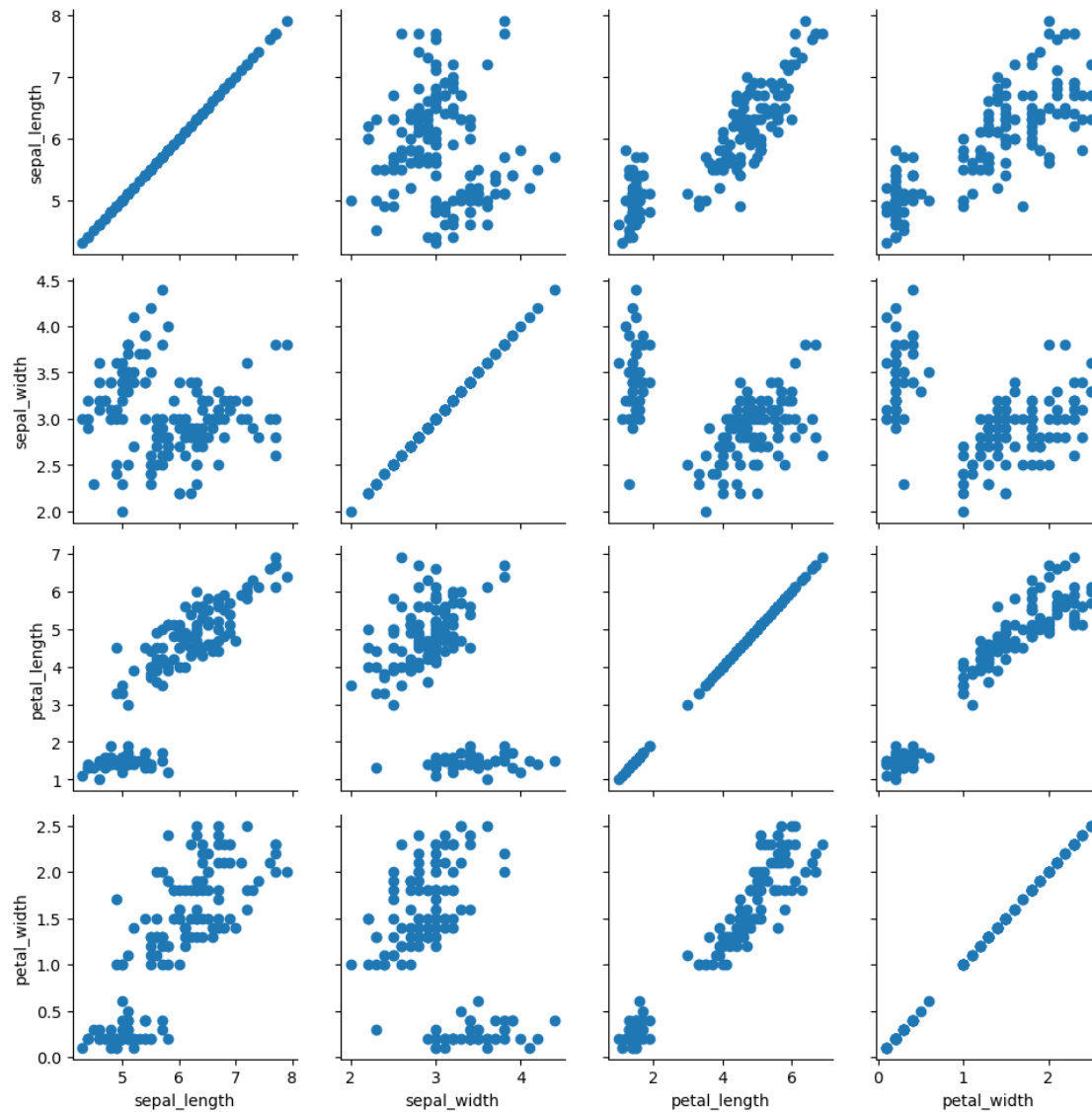
```
[7]: # Just the Grid
sns.PairGrid(iris)
```

```
[7]: <seaborn.axisgrid.PairGrid at 0x7fe3adc5e690>
```



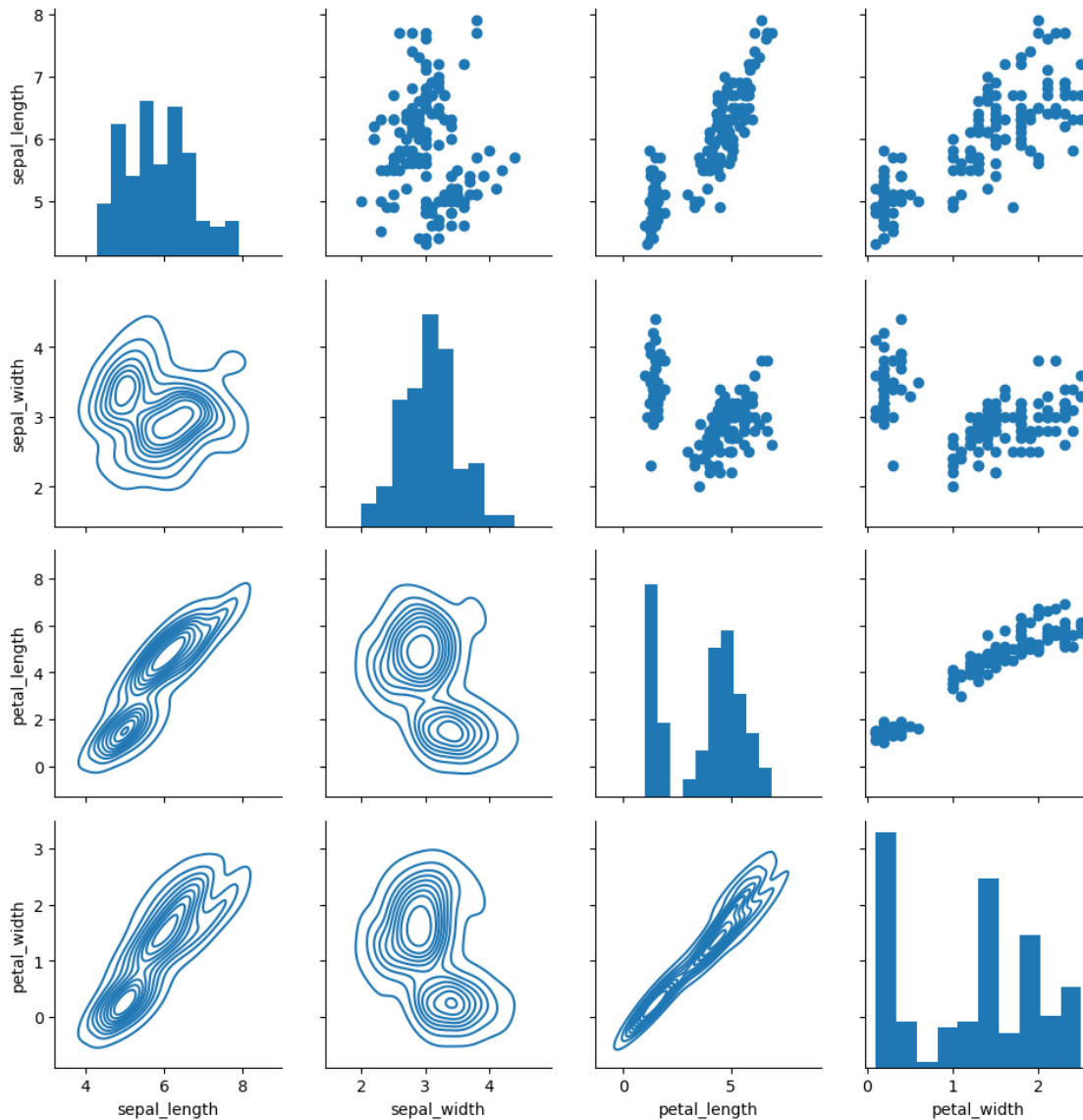
```
[8]: # Then you map to the grid
g = sns.PairGrid(iris)
g.map(plt.scatter)
```

```
[8]: <seaborn.axisgrid.PairGrid at 0x7fe3adcb99d0>
```



```
[9]: # Map to upper, lower, and diagonal
g = sns.PairGrid(iris)
g.map_diag(plt.hist)
g.map_upper(plt.scatter)
g.map_lower(sns.kdeplot)
```

```
/home/fischer/anaconda3/lib/python3.11/site-packages/seaborn/_oldcore.py:1119:
FutureWarning: use_inf_as_na option is deprecated and will be removed in a
future version. Convert inf values to NaN before operating instead.
  with pd.option_context('mode.use_inf_as_na', True):
/home/fischer/anaconda3/lib/python3.11/site-packages/seaborn/_oldcore.py:1119:
FutureWarning: use_inf_as_na option is deprecated and will be removed in a
future version. Convert inf values to NaN before operating instead.
```

1.2 pairplot

pairplot is a simpler version of PairGrid (you'll use quite often)

```
[10]: sns.pairplot(iris)
```

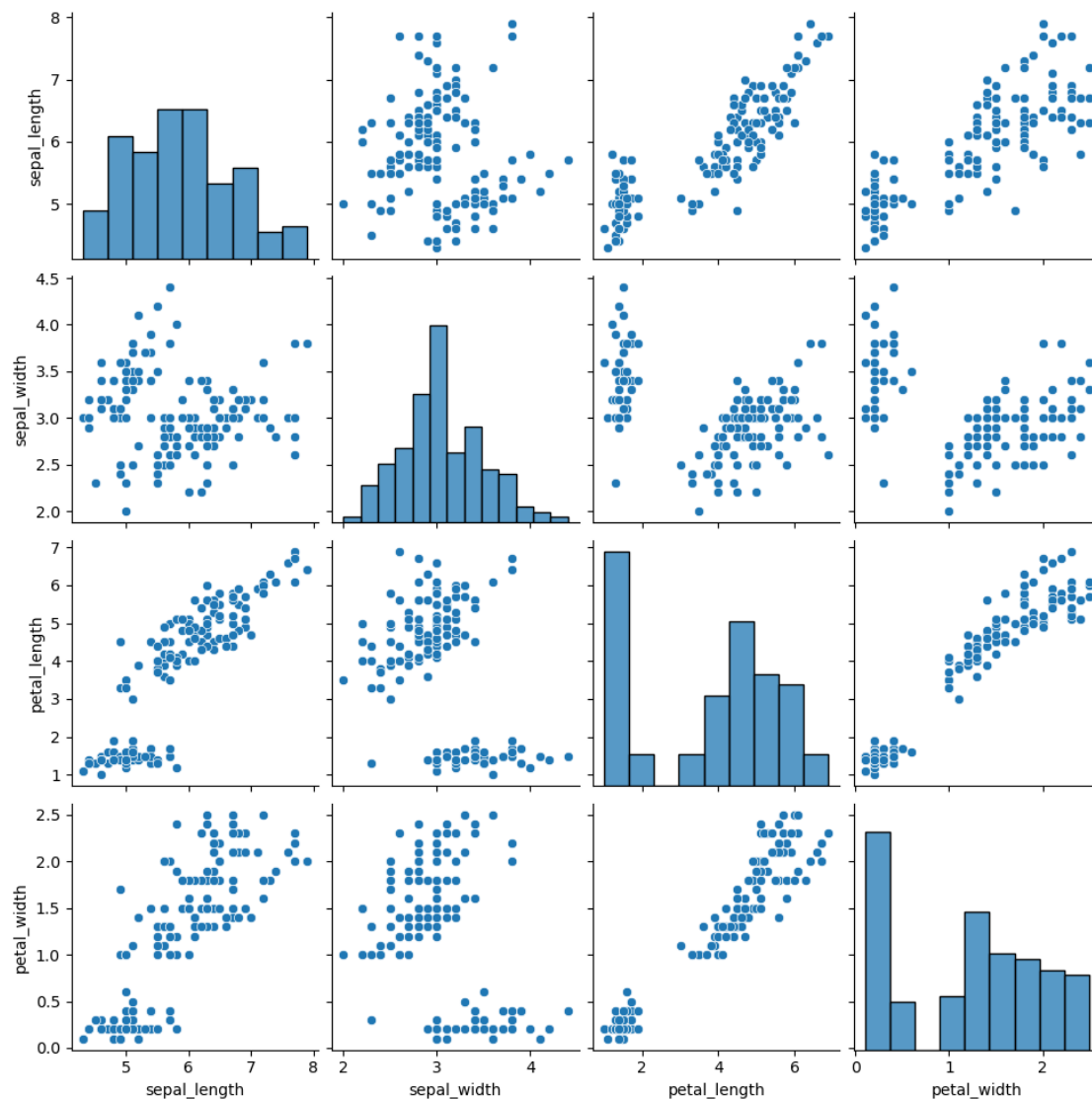
```
/home/fischer/anaconda3/lib/python3.11/site-packages/seaborn/_oldcore.py:1119:
FutureWarning: use_inf_as_na option is deprecated and will be removed in a
future version. Convert inf values to NaN before operating instead.
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/home/fischer/anaconda3/lib/python3.11/site-packages/seaborn/_oldcore.py:1119:
FutureWarning: use_inf_as_na option is deprecated and will be removed in a
future version. Convert inf values to NaN before operating instead.
```

```

with pd.option_context('mode.use_inf_as_na', True):
/home/fischer/anaconda3/lib/python3.11/site-packages/seaborn/_oldcore.py:1119:
FutureWarning: use_inf_as_na option is deprecated and will be removed in a
future version. Convert inf values to NaN before operating instead.
with pd.option_context('mode.use_inf_as_na', True):
/home/fischer/anaconda3/lib/python3.11/site-packages/seaborn/_oldcore.py:1119:
FutureWarning: use_inf_as_na option is deprecated and will be removed in a
future version. Convert inf values to NaN before operating instead.
with pd.option_context('mode.use_inf_as_na', True):

```

[10]: <seaborn.axisgrid.PairGrid at 0x7fe3ac58f850>



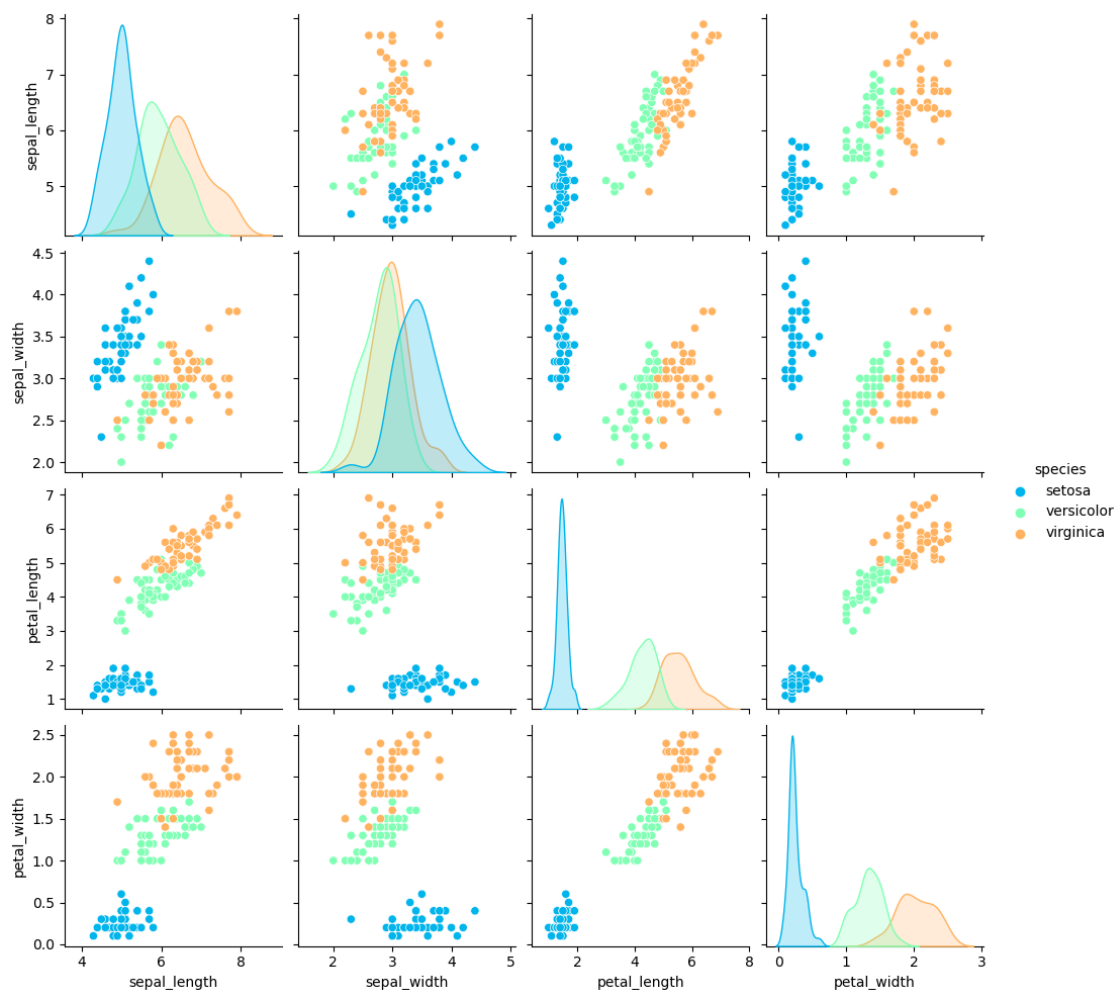
```
[11]: sns.pairplot(iris,hue='species',palette='rainbow')
```

```

/home/fischer/anaconda3/lib/python3.11/site-packages/seaborn/_oldcore.py:1119:
FutureWarning: use_inf_as_na option is deprecated and will be removed in a
future version. Convert inf values to NaN before operating instead.
    with pd.option_context('mode.use_inf_as_na', True):
/home/fischer/anaconda3/lib/python3.11/site-packages/seaborn/_oldcore.py:1119:
FutureWarning: use_inf_as_na option is deprecated and will be removed in a
future version. Convert inf values to NaN before operating instead.
    with pd.option_context('mode.use_inf_as_na', True):
/home/fischer/anaconda3/lib/python3.11/site-packages/seaborn/_oldcore.py:1119:
FutureWarning: use_inf_as_na option is deprecated and will be removed in a
future version. Convert inf values to NaN before operating instead.
    with pd.option_context('mode.use_inf_as_na', True):
/home/fischer/anaconda3/lib/python3.11/site-packages/seaborn/_oldcore.py:1119:
FutureWarning: use_inf_as_na option is deprecated and will be removed in a
future version. Convert inf values to NaN before operating instead.
    with pd.option_context('mode.use_inf_as_na', True):

```

[11]: <seaborn.axisgrid.PairGrid at 0x7fe3ad882590>



1.3 Facet Grid

FacetGrid is the general way to create grids of plots based off of a feature:

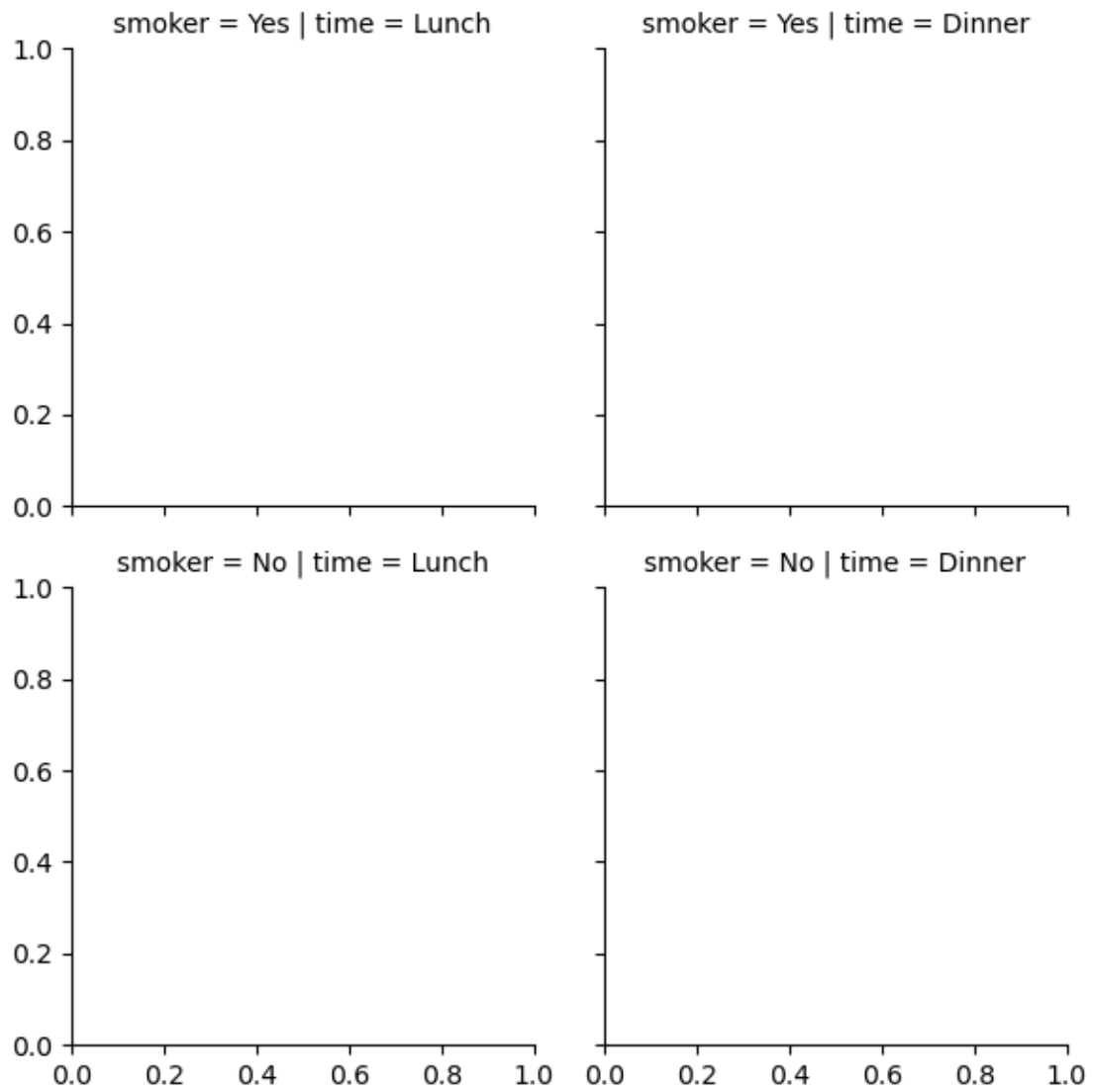
```
[12]: tips = sns.load_dataset('tips')
```

```
[13]: tips.head()
```

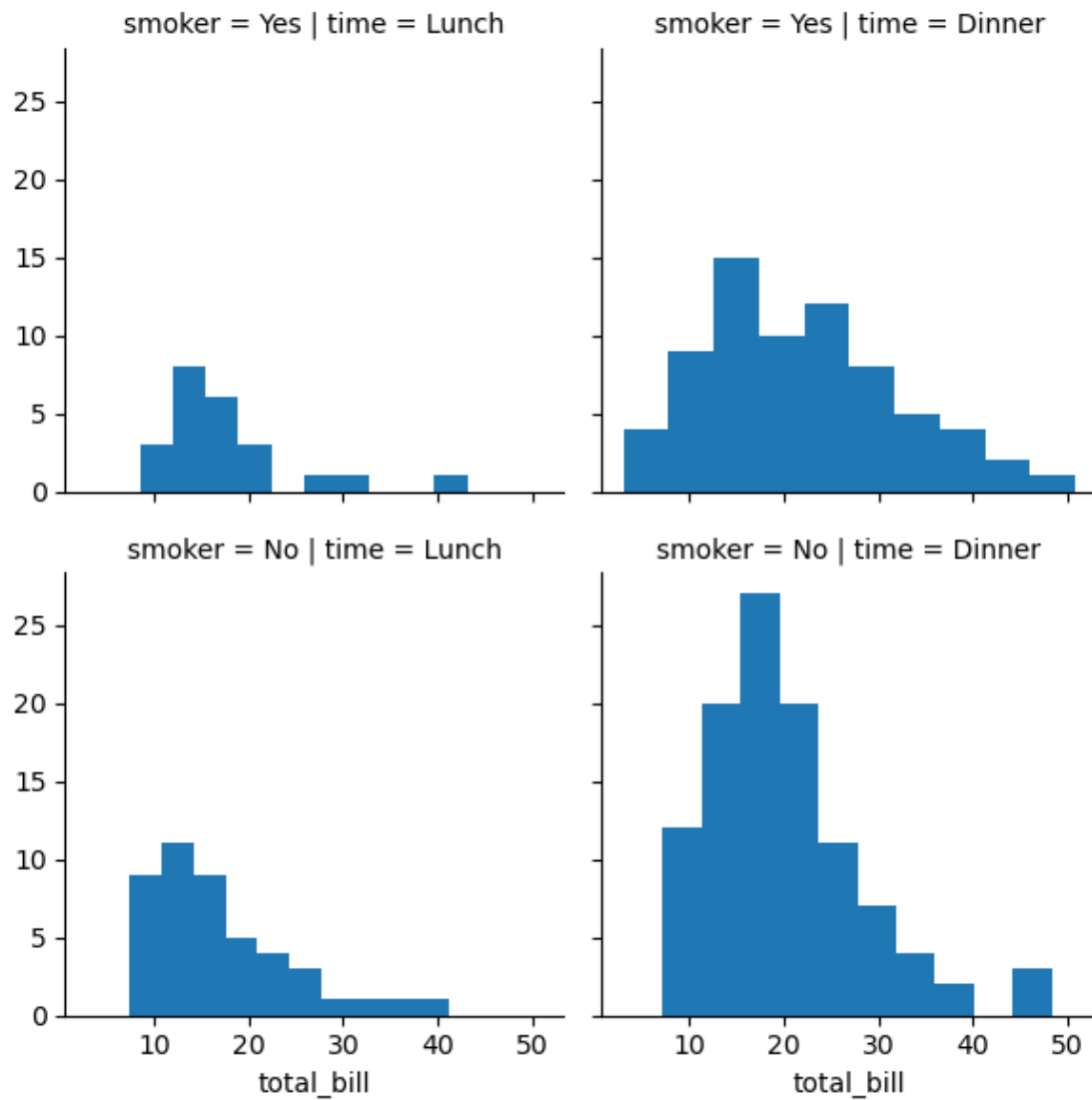
```
[13]:
```

	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

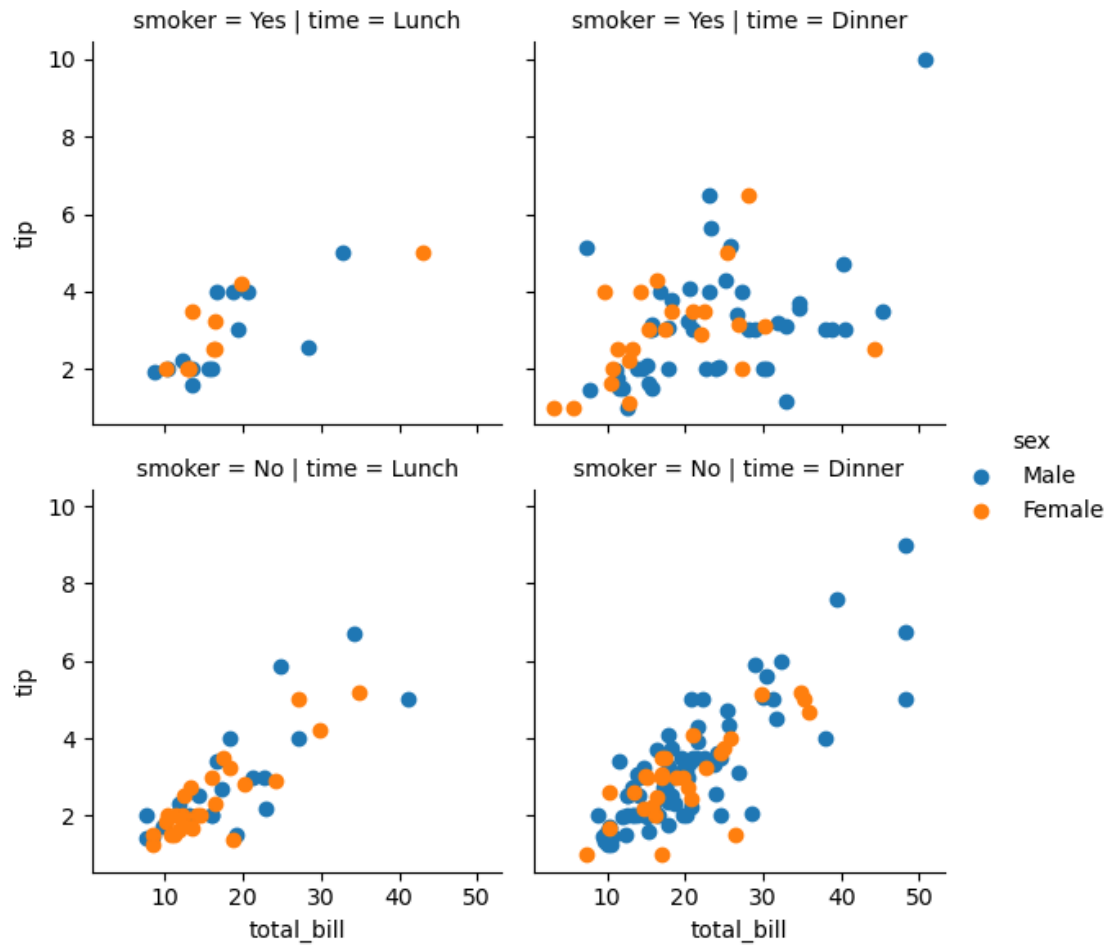
```
[14]: # Just the Grid
g = sns.FacetGrid(tips, col="time", row="smoker")
```

```
[15]: g = sns.FacetGrid(tips, col="time", row="smoker")  
g = g.map(plt.hist, "total_bill")
```



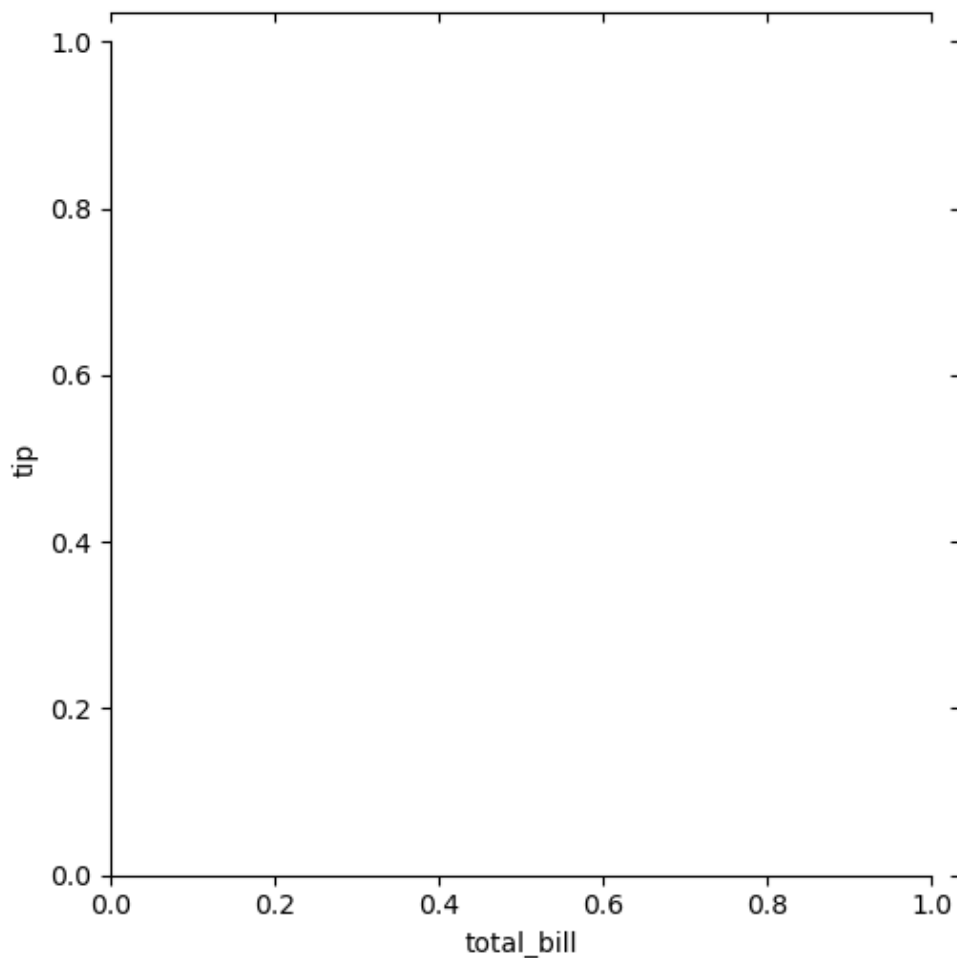
```
[16]: g = sns.FacetGrid(tips, col="time", row="smoker", hue='sex')
# Notice how the arguments come after plt.scatter call
g = g.map(plt.scatter, "total_bill", "tip").add_legend()
```



1.4 JointGrid

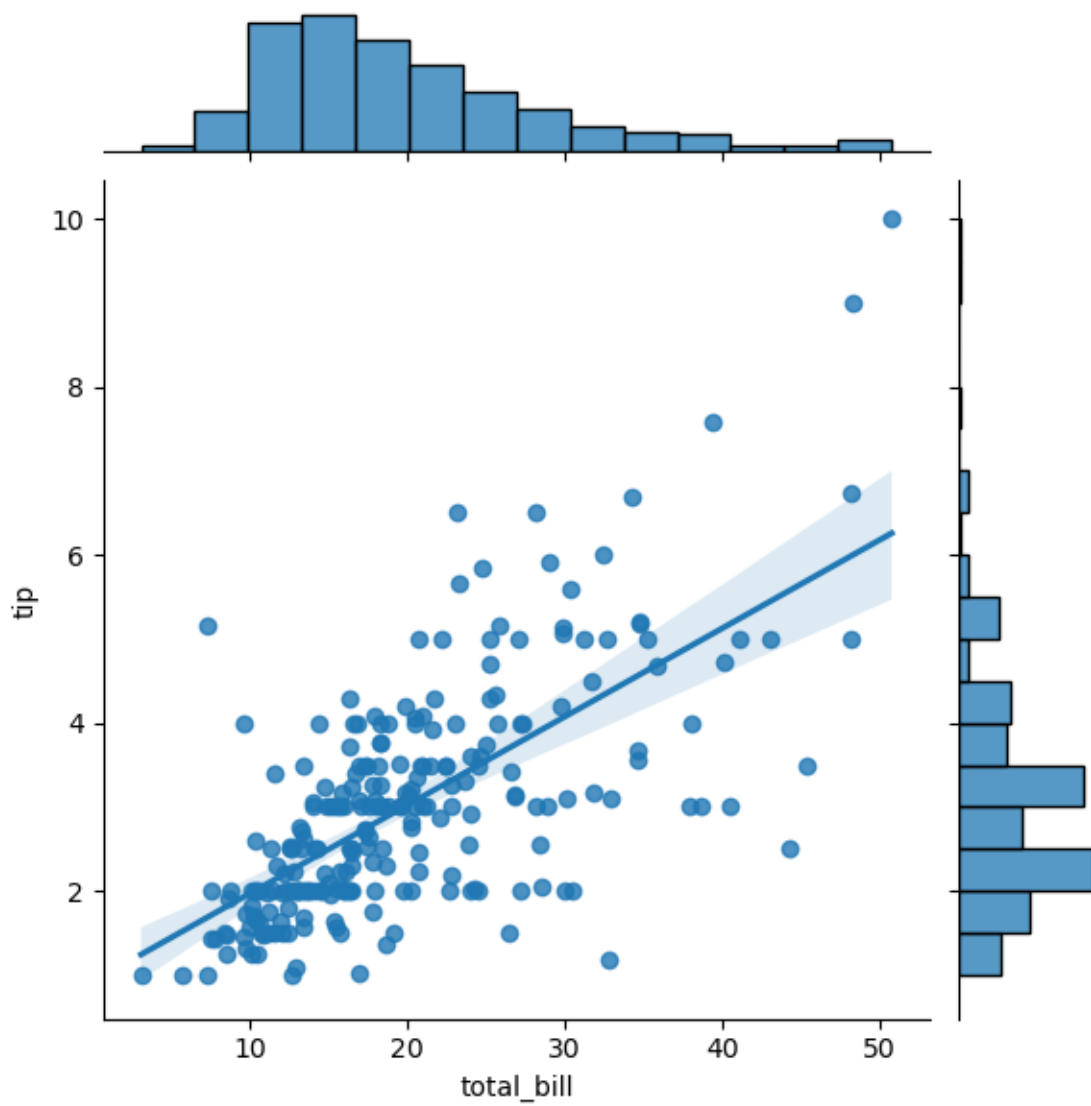
JointGrid is the general version for jointplot() type grids, for a quick example:

```
[17]: g = sns.JointGrid(x="total_bill", y="tip", data=tips)
```



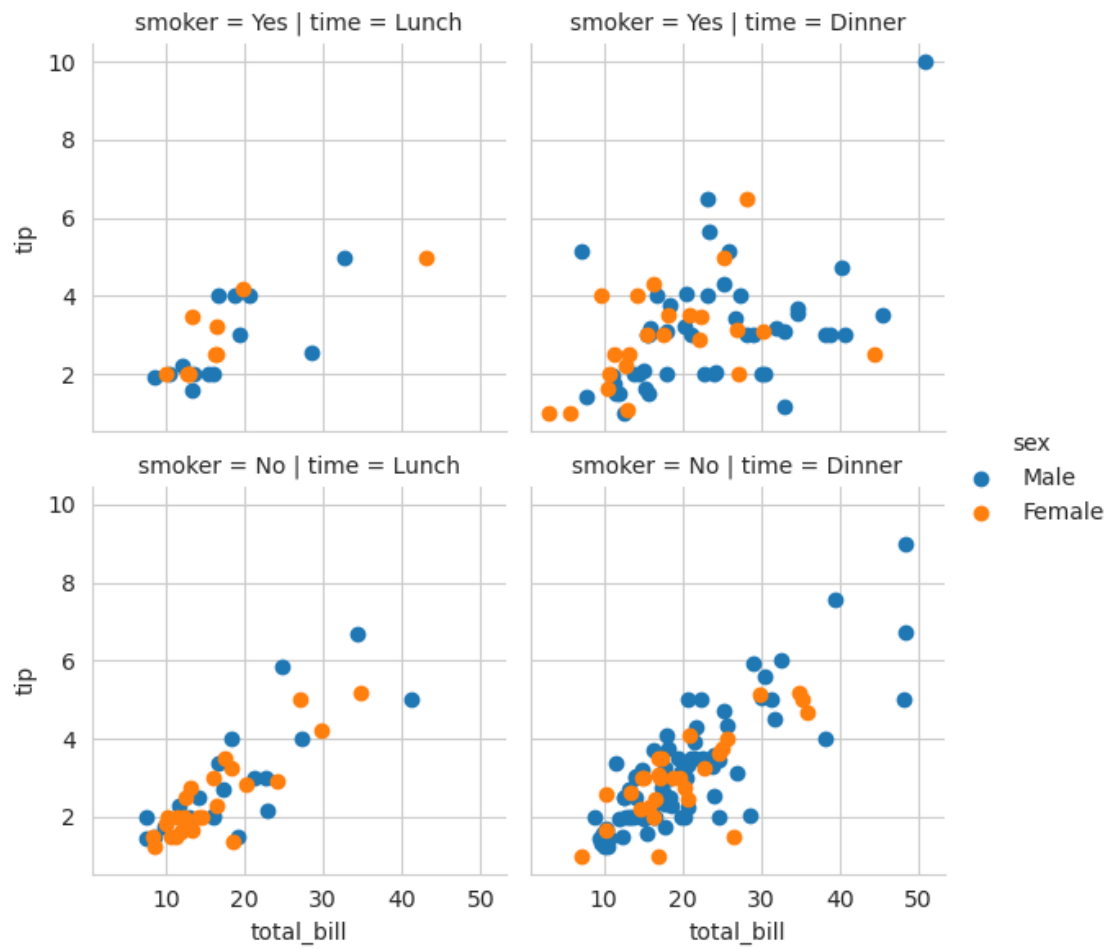
```
[19]: g = sns.JointGrid(x="total_bill", y="tip", data=tips)
      g = g.plot(sns.regplot, sns.histplot)
```

```
/home/fischer/anaconda3/lib/python3.11/site-packages/seaborn/_oldcore.py:1119:
FutureWarning: use_inf_as_na option is deprecated and will be removed in a
future version. Convert inf values to NaN before operating instead.
  with pd.option_context('mode.use_inf_as_na', True):
/home/fischer/anaconda3/lib/python3.11/site-packages/seaborn/_oldcore.py:1119:
FutureWarning: use_inf_as_na option is deprecated and will be removed in a
future version. Convert inf values to NaN before operating instead.
  with pd.option_context('mode.use_inf_as_na', True):
```



```
[22]: sns.set_style('whitegrid')
      #sns.set_style('darkgrid')
```

```
[23]: g = sns.FacetGrid(tips, col="time", row="smoker", hue='sex')
      # Notice how the arguments come after plt.scatter call
      g = g.map(plt.scatter, "total_bill", "tip").add_legend()
```



[]: