

```
import pandas as pd
import seaborn as sns
```

```
df=sns.load_dataset("tips")
flights=sns.load_dataset("flights")
iris=sns.load_dataset("iris")
titanic=pd.read_csv("/content/train.csv")
```

```
df.head()
```

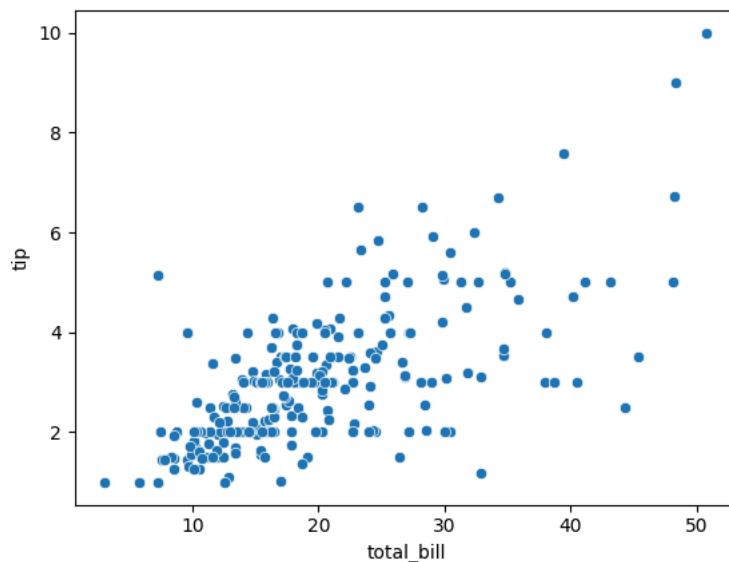
```
↗
```

	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

✓ Scatterplot (Numeric - Numeric)

```
sns.scatterplot(x=df["total_bill"],y=df["tip"])
```

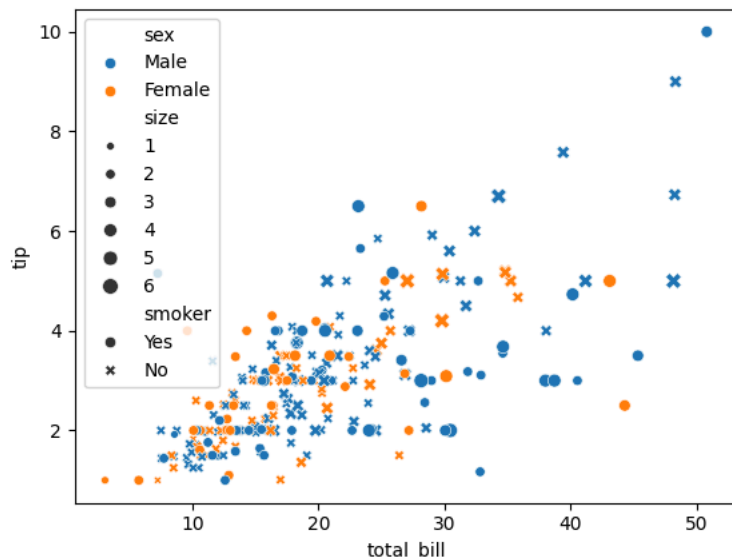
```
↗ <Axes: xlabel='total_bill', ylabel='tip'>
```



```
# Multivariate analysis
```

```
sns.scatterplot(x=df["total_bill"],y=df["tip"],hue=df["sex"],style=df["smoker"],size=df["size"])
```

<Axes: xlabel='total_bill', ylabel='tip'>



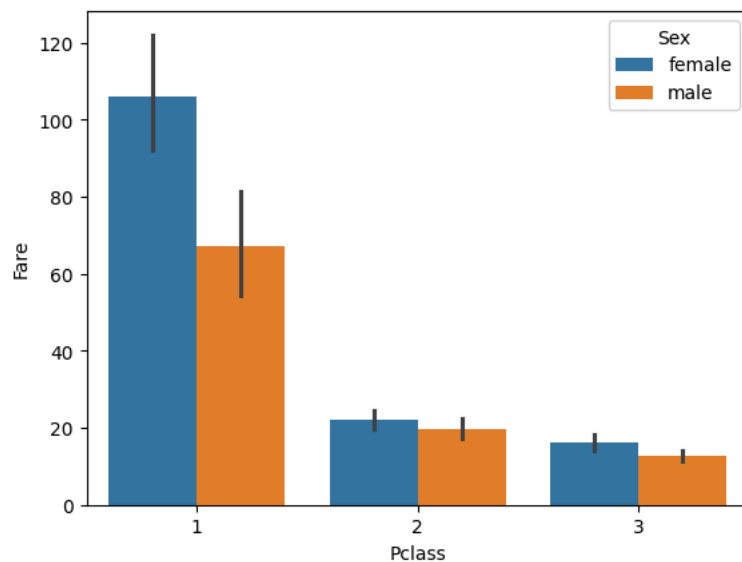
Barplot (Numerical - categorical)

```
titanic.head()
```

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.2500	NaN	S
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	PC 17599	71.2833	C85	C
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250	NaN	S
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.1000	C123	S

```
sns.barplot(x=titanic["Pclass"],y=titanic['Fare'],hue=titanic["Sex"])
```

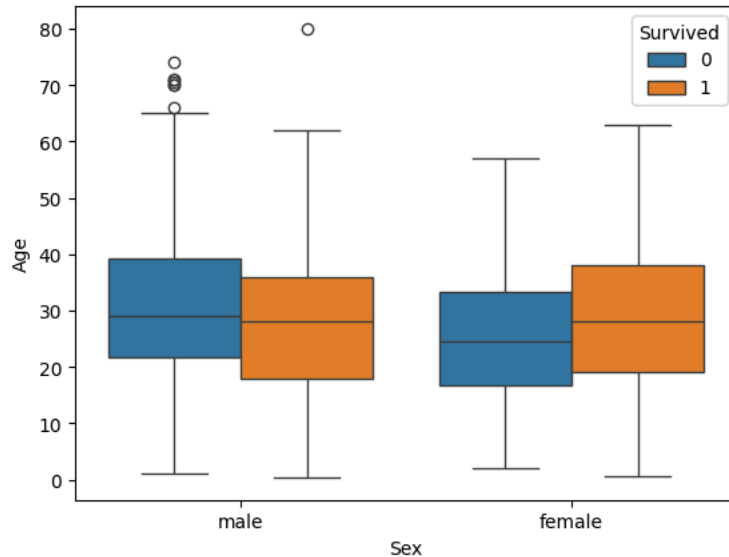
<Axes: xlabel='Pclass', ylabel='Fare'>



Boxplot (Numerical - Categorical)

```
sns.boxplot(x=titanic["Sex"],y=titanic['Age'],hue=titanic["Survived"])
```

<Axes: xlabel='Sex', ylabel='Age'>



✓ Distplot (Numerical - Categorical)

```
sns.distplot(titanic[titanic["Survived"]==0]["Age"],hist=False)
sns.distplot(titanic[titanic["Survived"]==1]["Age"],hist=False)
```

<ipython-input-18-999863077d3c>:1: UserWarning:

`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

Please adapt your code to use either `displot` (a figure-level function with similar flexibility) or `kdeplot` (an axes-level function for kernel density plots).

For a guide to updating your code to use the new functions, please see <https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751>

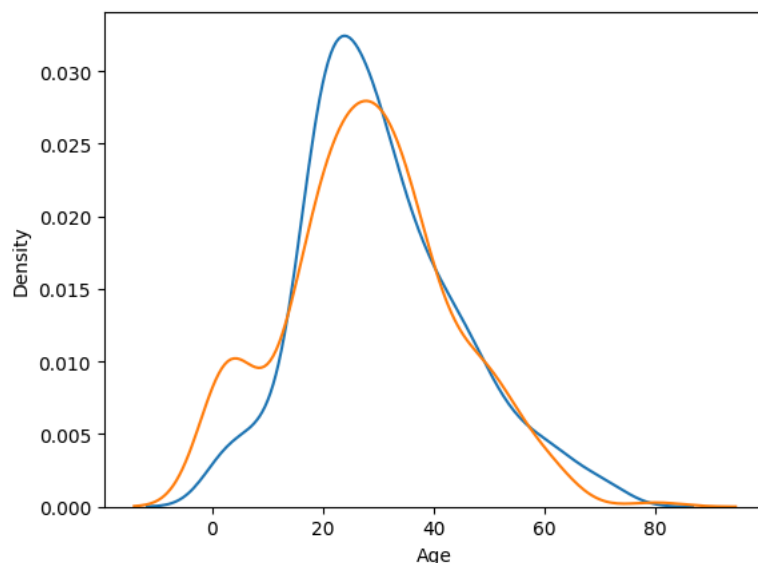
```
sns.distplot(titanic[titanic["Survived"]==0]["Age"],hist=False)
<ipython-input-18-999863077d3c>:2: UserWarning:
```

`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

Please adapt your code to use either `displot` (a figure-level function with similar flexibility) or `kdeplot` (an axes-level function for kernel density plots).

For a guide to updating your code to use the new functions, please see <https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751>

```
sns.distplot(titanic[titanic["Survived"]==1]["Age"],hist=False)
<Axes: xlabel='Age', ylabel='Density'>
```



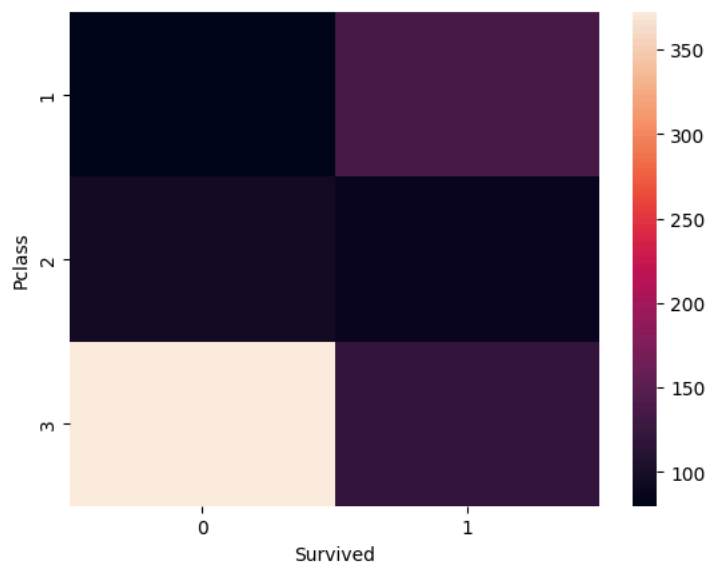
✓ Heatmap (Categorical - Categorical)

```
titanic.head()
```

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.2500	NaN	S
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	PC 17599	71.2833	C85	C
2	3	1	3	Heikinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250	NaN	S
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily Mav Peel)	female	35.0	1	0	113803	53.1000	C123	S

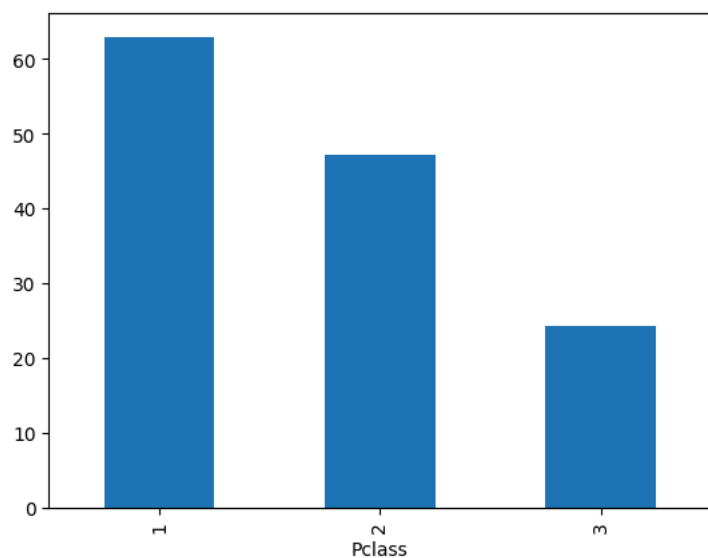
```
sns.heatmap(pd.crosstab(titanic["Pclass"],titanic["Survived"]))
```

<Axes: xlabel='Survived', ylabel='Pclass'>



```
(titanic.groupby("Pclass").mean(numeric_only=True)["Survived"]*100).plot(kind="bar")
```

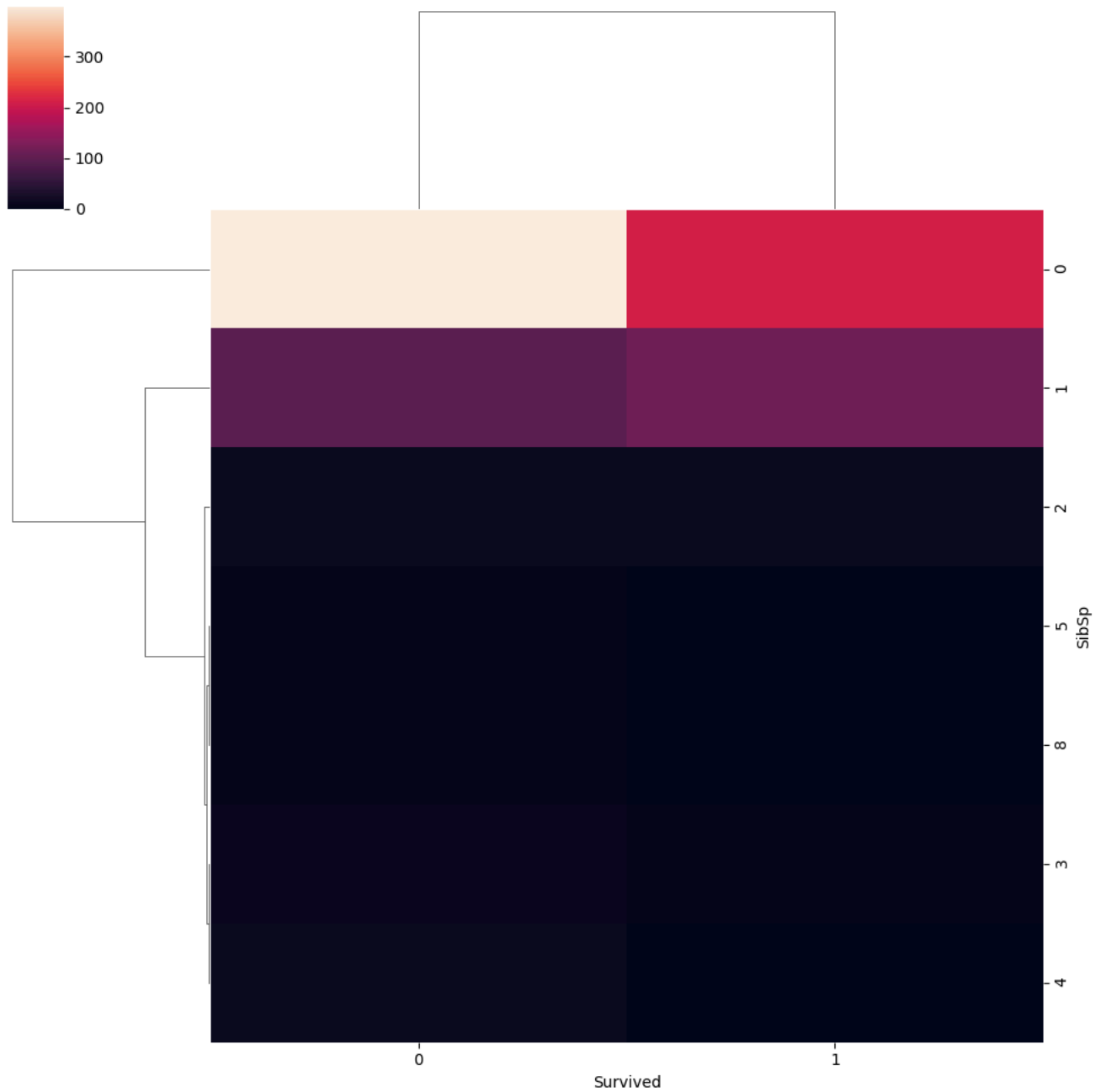
<Axes: xlabel='Pclass'>



ClusterMap (Categorical - Categorical)


```
sns.clustermap(pd.crosstab(titanic["SibSp"],titanic["Survived"]))
```

 <seaborn.matrix.ClusterGrid at 0x7ca79d4a4ac0>



Pairplot

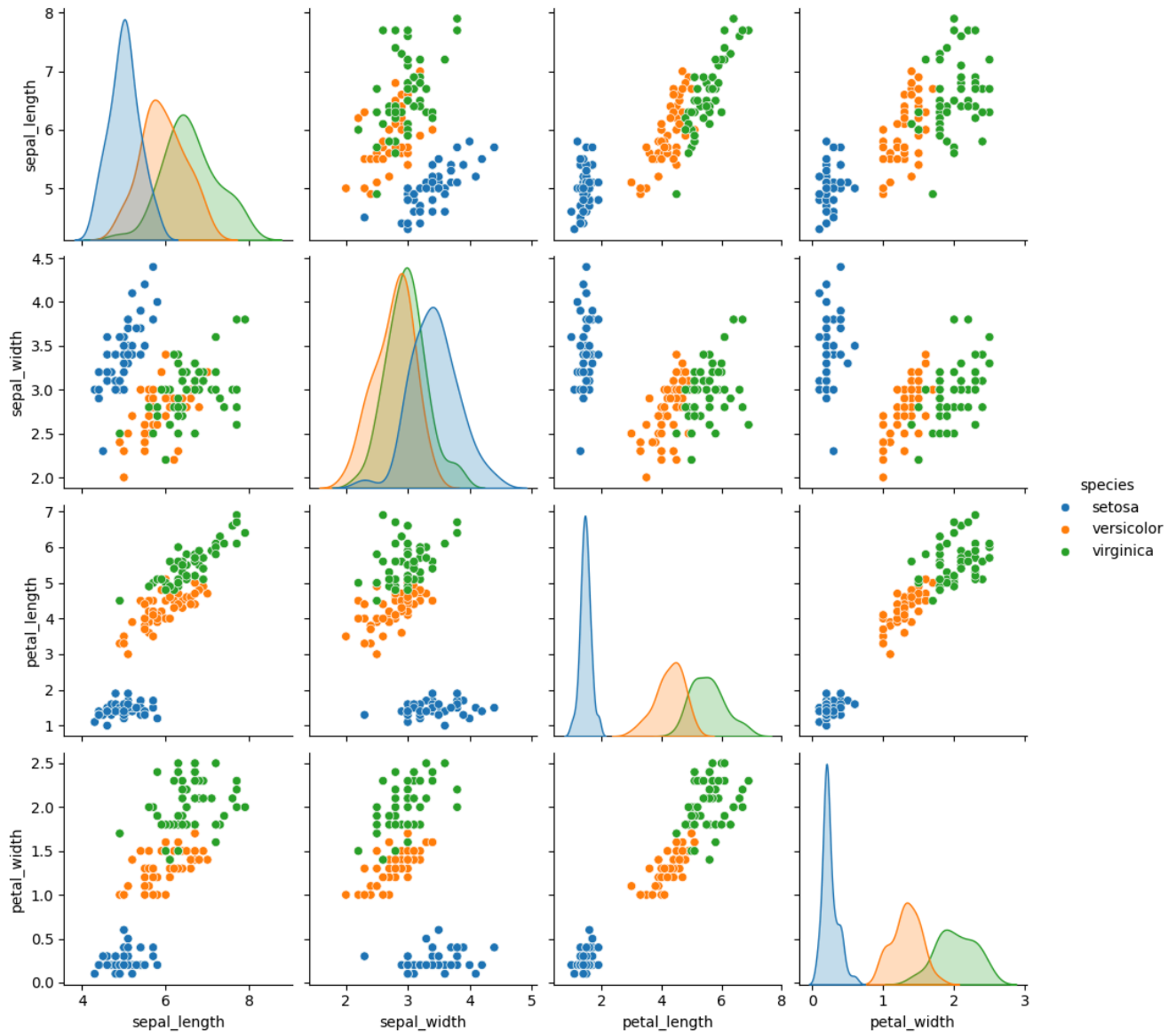
```
iris.head()
```



	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
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
# It is a collection of scatterplots .It gives all numerical vs numerical scatter plots of the dataset  
sns.pairplot(iris,hue="species")
```

```
<seaborn.axisgrid.PairGrid at 0x7ca79c3dd9c0>
```



Lineplot (Numerical - Numerical)

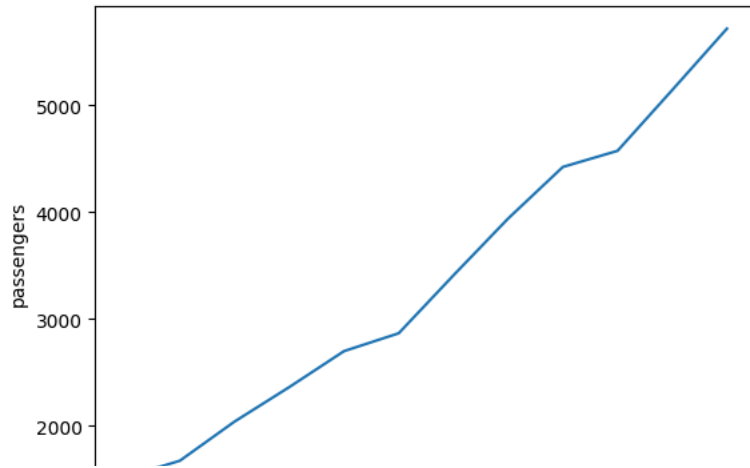
```
# x will be time based number like date,time,month
flights.head()
```

```
flights.head()
```

	year	month	passengers
0	1949	Jan	112
1	1949	Feb	118
2	1949	Mar	132
3	1949	Apr	129
4	1949	May	121

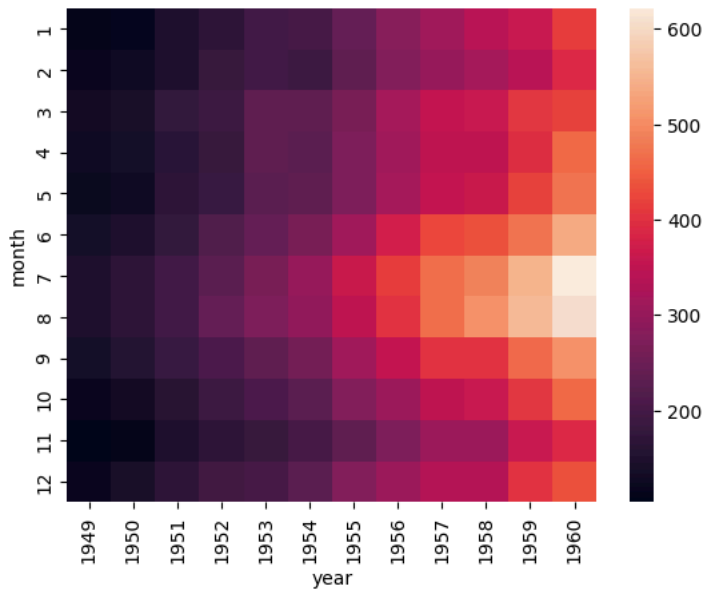
```
#
# Group by 'year', calculate the sum, and reset the index.
new=flights.groupby('year').sum().reset_index()
sns.lineplot(x=new['year'],y=new['passengers'])
```

<Axes: xlabel='year', ylabel='passengers'>



```
sns.heatmap(flights.pivot_table(values="passengers",index="month",columns="year"))
```

<Axes: xlabel='year', ylabel='month'>



```
sns.clustermap(flights.pivot_table(values="passengers",index="month",columns="year"))
```

<seaborn.matrix.ClusterGrid at 0x7ca7975aff40>

