

Practical 11

Write python program for advanced data visualization using seaborn.

Importing Dataset

```
In [15]: import seaborn as sns
import matplotlib.pyplot as plt
import pandas as pd

df = pd.read_csv('AirPassengers.csv')
df[['Year', 'Month']] = df['Month'].str.split('-', expand=True)
df.head()
```

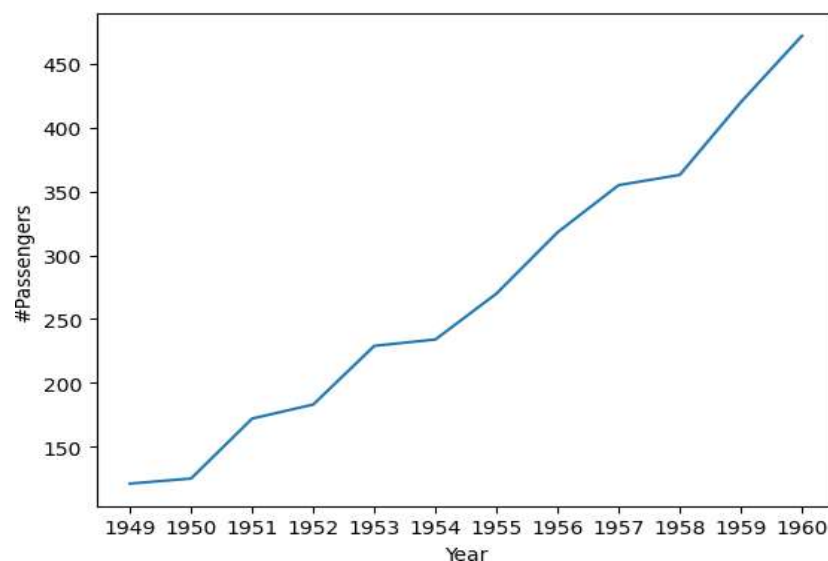
```
Out[15]:
```

	Month	#Passengers	Year
0	01	112	1949
1	02	118	1949
2	03	132	1949
3	04	129	1949
4	05	121	1949

1. Line plot

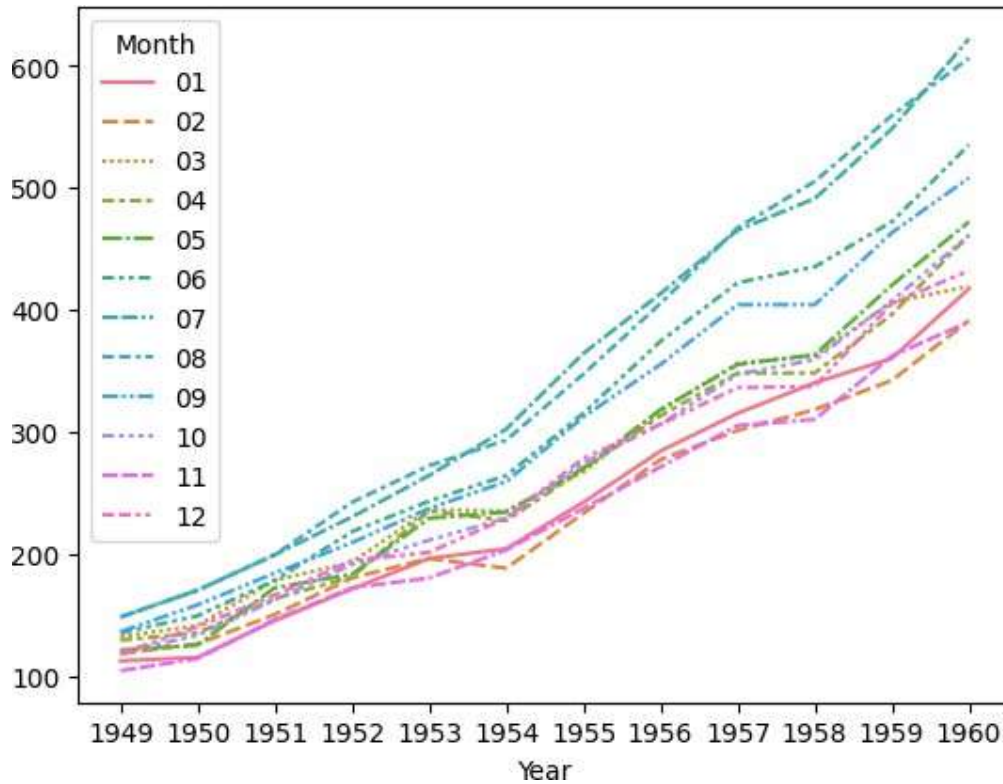
```
In [20]: sns.lineplot(data=df[df["Month"] == "05"], x="Year", y="#Passengers")
```

```
Out[20]: <Axes: xlabel='Year', ylabel='#Passengers'>
```



```
In [22]: wide = df.pivot(index="Year", columns="Month", values="#Passengers")
sns.lineplot(data=wide)
```

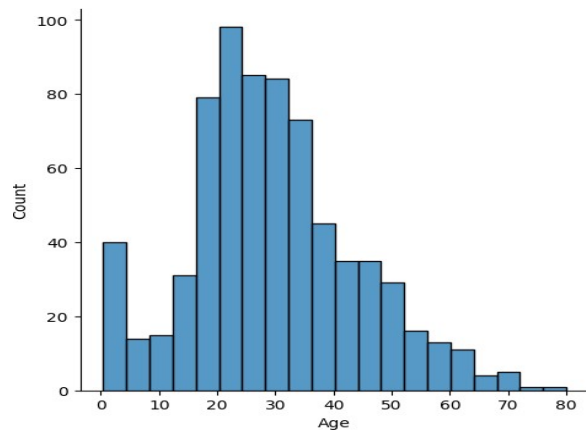
```
Out[22]: <Axes: xlabel='Year'>
```



2. Dist Plot

```
titanic = pd.read_csv('Titanic.csv')
sns.displot(titanic["Age"])
```

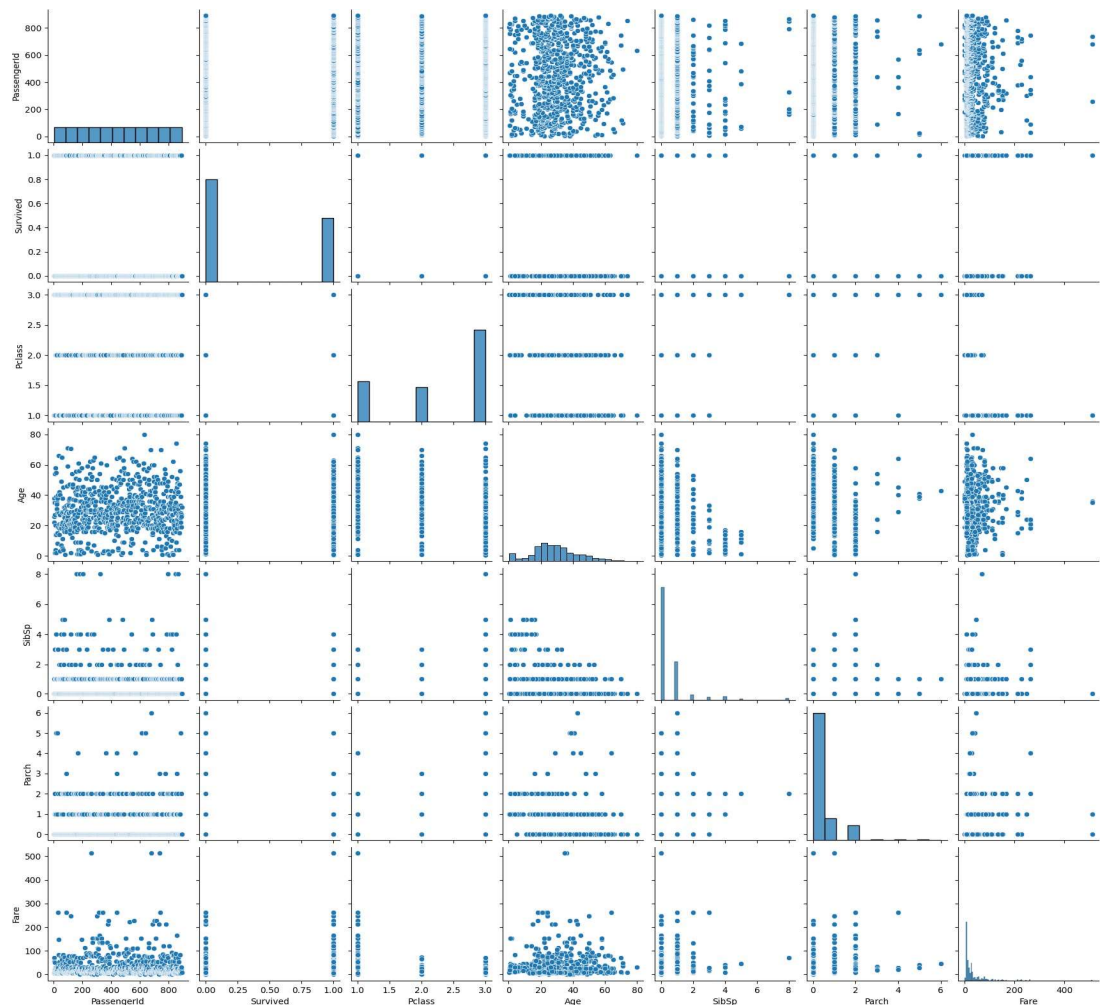
Out[24]: <seaborn.axisgrid.FacetGrid at 0x2011291c970>



3. Pairplot

In [28]: `sns.pairplot(titanic)`

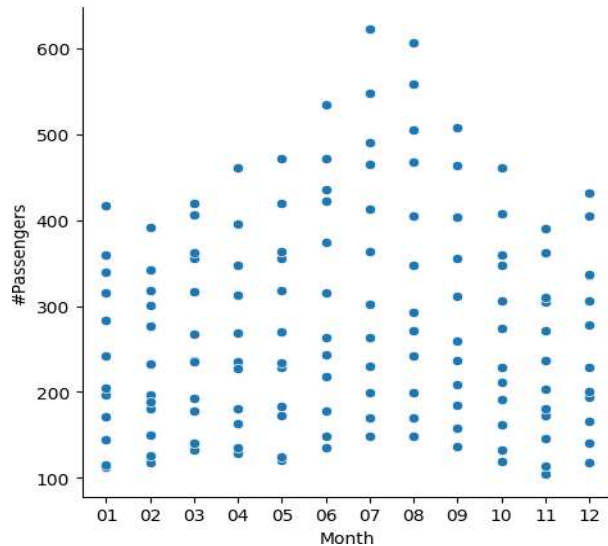
Out[28]: <seaborn.axisgrid.PairGrid at 0x20112cf76d0>



4. Relational Plots

```
In [30]: sns.relplot(x="Month", y="#Passengers", data=df)
```

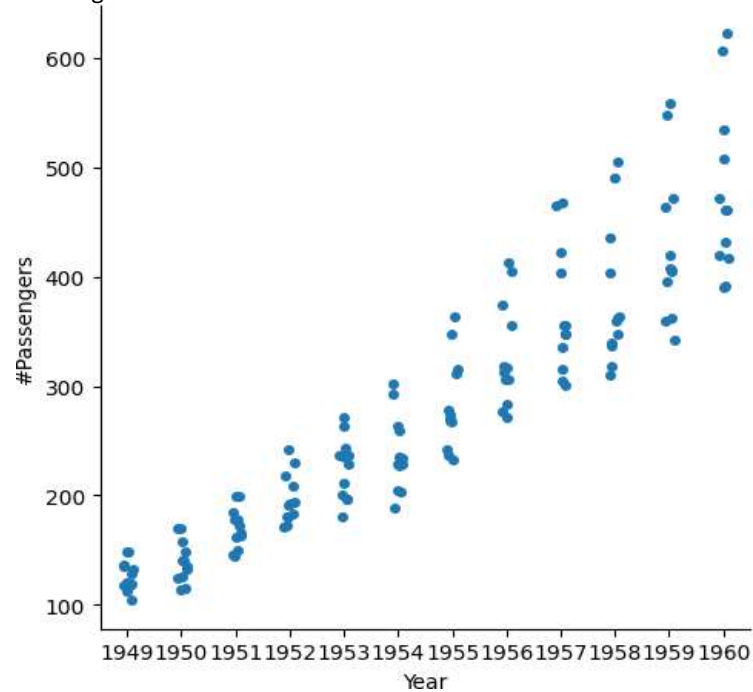
```
Out[30]: <seaborn.axisgrid.FacetGrid at 0x20115f8efb0>
```



5. Scatter Plot

```
In [32]: sns.catplot(data=df, x="Year", y="#Passengers")
```

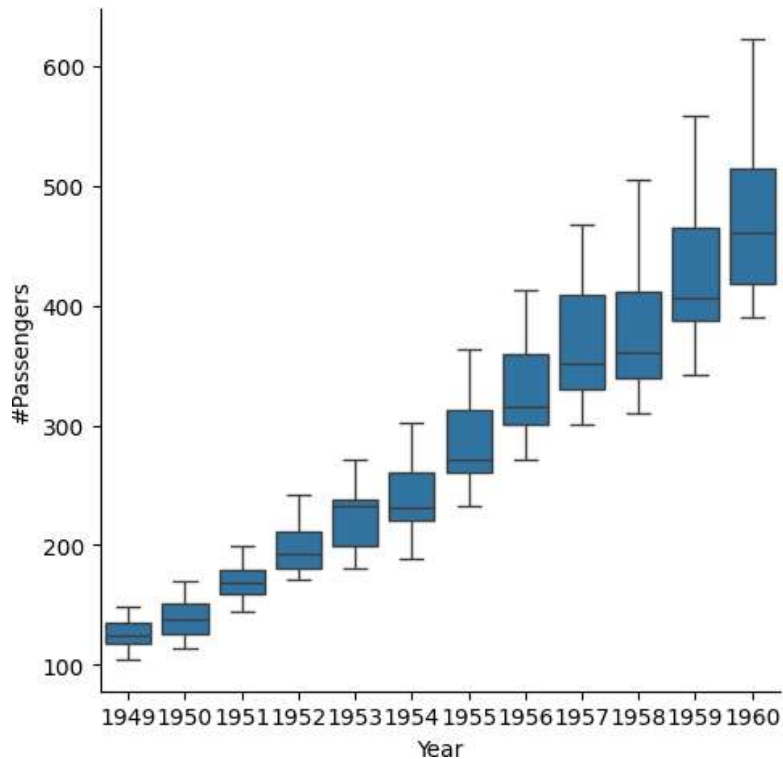
```
Out[32]: <seaborn.axisgrid.FacetGrid at 0x20112b7bc10>
```



6. Box plot

```
In [36]: sns.catplot(data=df, x="Year", y="#Passengers", kind="box")
```

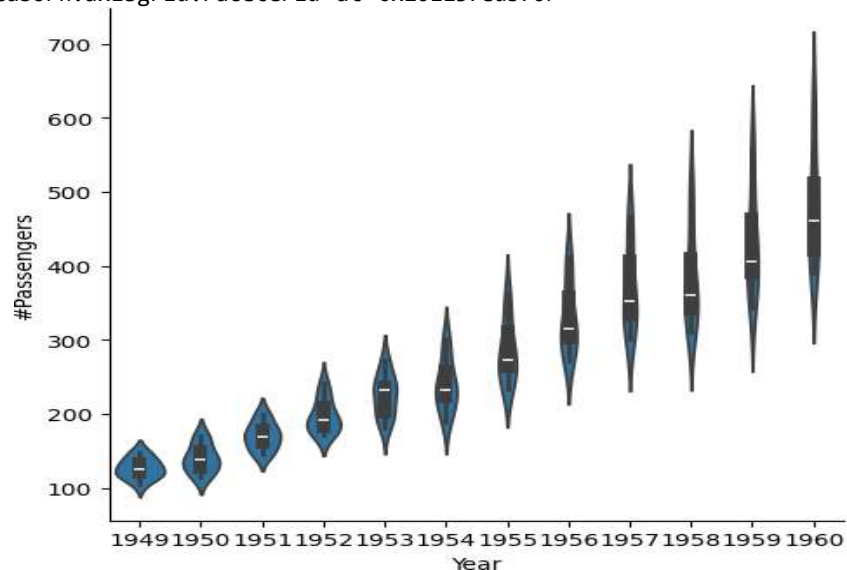
```
Out[36]: <seaborn.axisgrid.FacetGrid at 0x201148a6680>
```



7. Violin Plot

```
In [37]: sns.catplot(data=df, x="Year", y="#Passengers", kind="violin")
```

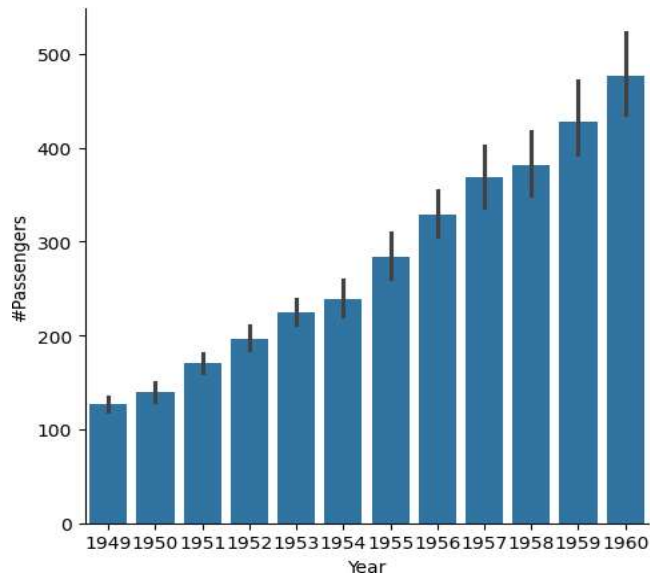
```
Out[37]: <seaborn.axisgrid.FacetGrid at 0x201137edb70>
```



8. Bar Plot

```
In [38]: sns.catplot(data=df, x="Year", y="#Passengers", kind="bar")
```

```
Out[38]: <seaborn.axisgrid.FacetGrid at 0x2011069a5f0>
```



9. Point Plot

```
In [39]: sns.catplot(data=df, x="Year", y="#Passengers", kind="point")
```

```
Out[39]: <seaborn.axisgrid.FacetGrid at 0x2011a6ad6c0>
```

