

Plotting:

Types of Data:

1) Numerical Data: All numerical metrics.

e.g. Age, weight.

2) Categorical Data: Groups.

e.g. Gender, Brand.

This will help you to determine which graph to use for which kind of data.

Working with single col/variable → Univariate.

→ two cols/variable → Bivariate.

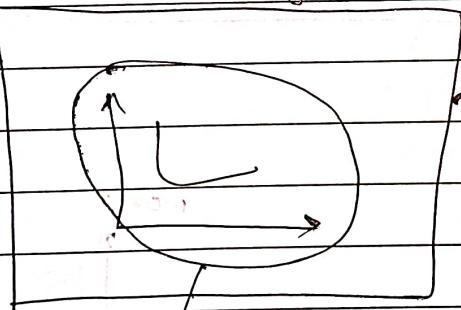
→ multiple cols → Multivariate.

Whenever we plot graph in matplotlib we

have 2 objects

fig, axes

fig.



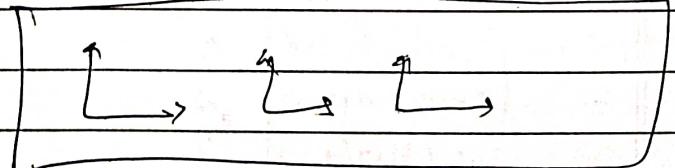
→ Container: in which plots will be present.

Is container ko bolte hei figure.

→ iste ander jo plot hei ye hota hei axis.

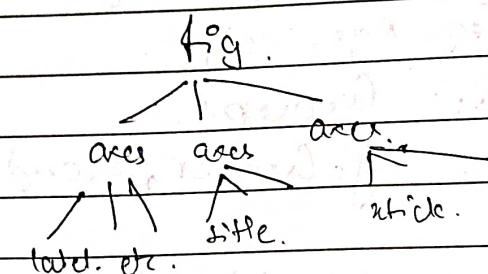
1 figure

so matplotlib mai.



3 axes. bhi ho sakte hei.

In short: matPlotLib has a hierarchy as follows:



Higher hierarchy of axes will have direct access to ticks, title etc.

On the other hand:

fig-level manipulation like fig.set_size_inches(10, 5) or fig.savefig('SeabornFig') these are

at second level. (also called)

→ fig-level.

→ axes-level.

No difference of axes-level and fig-level.

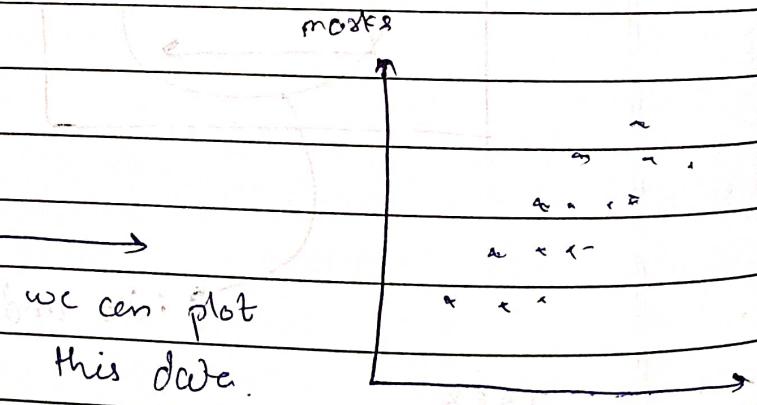
Same plot can be drawn using both
but each has their own advantages

& disadvantages.

Regression Plot

Suppose

(hrs) study	marks
80	6.5
100	7.1
20	8.1
30	5.



we can plot
this data.

After look at the graph we can say that there is a relationship between hours of study & marks. But hamare pass parata formula nahi hai. & kisne hks parhe se kisne marks aayenge.

Thus Linear Regression helps to get this formula.

- Dono entity ke bich ek aisa line banaa jiski error ekdam kam ho aur jitaasakhe unha dono entity the points se close ho.
- When any input is given we can predict the outcome through this formula.

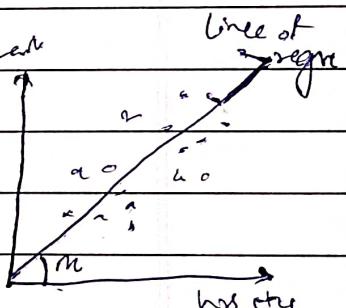
The linear regression gives the formula.

input \Rightarrow hours of study.

output \Rightarrow marks = $(\text{m}x + b)$.

slope
of
line

y intercept.



Pairs Plot:

Automatically identify numerical columns of the data & apply scatter plot on each pair of plot.
e.g.: 3 numeric values.

Same col will have histogram i.e. diagonal elem.

	a	b	c
a	his	Scat	Scat
b	Scat	his	Scat
c	Scat	Scat	his

— symmetric