Time Series

Non time series

House Price Prediction

Numerical column ↓ Price

Size	location	Bedrooms	Price
→ 1000	Delhi	2	55L
→ 2000	mumbai	4	1 cr

~~Time~~

Regression

$Y = mx + C$

time series

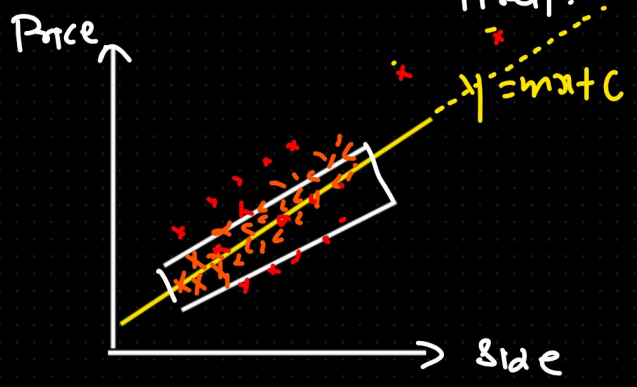
timestamp

Hours
min
Sec
Day
month
Year

	Sales Data
→ Day 1	50lc
→ Day 2	60lc
→ Day 3	70lc
→ Day 4	40lc
→ Day 5	75lc

Can we solve this TS with linear regression ?

Interpolation => to find out the value in the range itself.



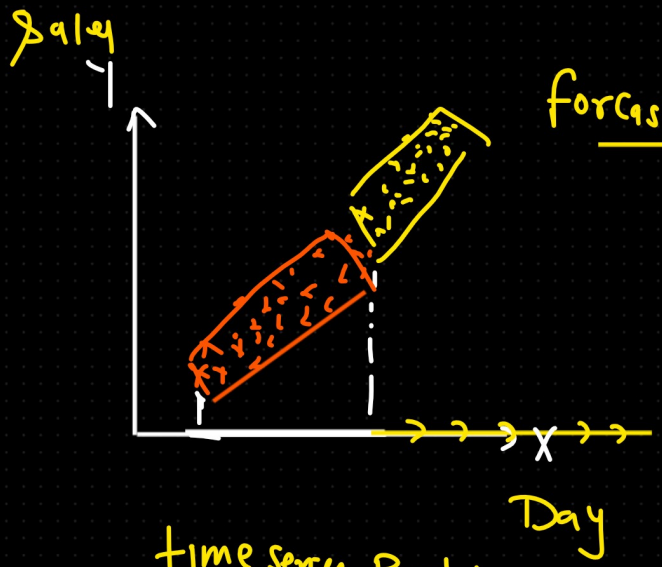
Ex: You will find out that the Data Point comes in the training range

= [0 ——— 100] Pattern

test data = 60, 70, 80, [1000, 1500, 10000]

It may lead to the wrong Prediction

extrapolation => to find out the value out of the range.



time series Problem Statement will be extrapolation

Based on Previous History forcast the future value

if we gonna use linear regression for the time series it may lead to the wrong predict.

1. Because of extrapolation
2. Because of outlier
3. It assume there should a linear relationship but in time series you won't get linear relationship.
   * Complex
4. Non-time series data there won't be any effect of time or previous time but in the time series there will be a effect of the previous time stamp

Example

1. economic forcasting ⇒ GDP, inflation, interest rate
2. Finance ⇒ Sales, Bond Price ...
3. weather forcasting ⇒ Weather, Patterns of Diff season
4. Medical ⇒ based on previous medical history Predict the future Condition

* We can apply time series in every domain. wherever we have a time Dependent Data.