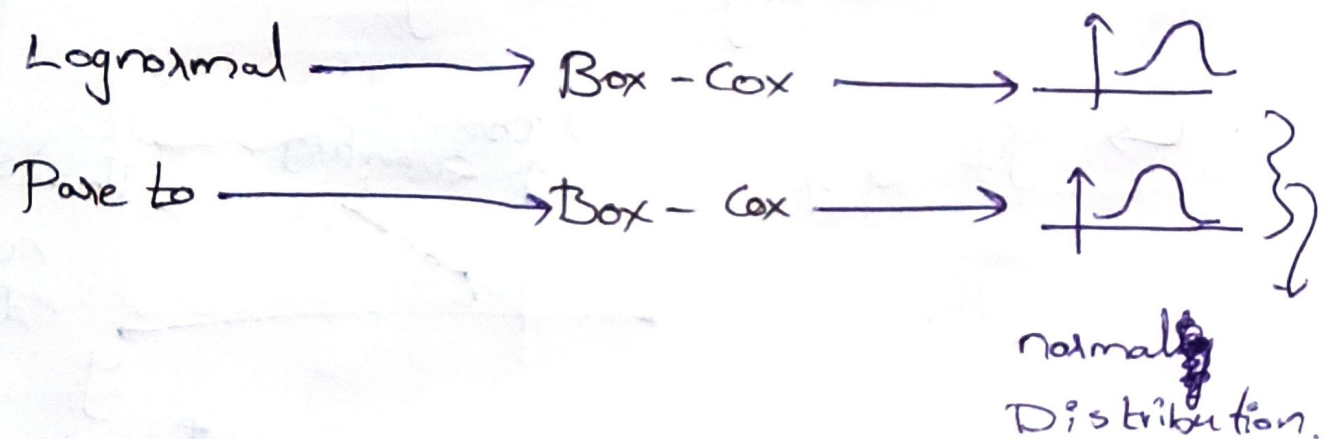Box-Cox transformation:-

↳ Transforms the data into Normal distribution.

↳ For lognormal distribution, Box-cox transformation uses logtransformation to get normal distribution

↳ For pareto distribution, Box-Cox transformation to get Normal distribution

Some other thing (Not mentioned)

Lognormal ———→ Box-Cox ———→ ⌢

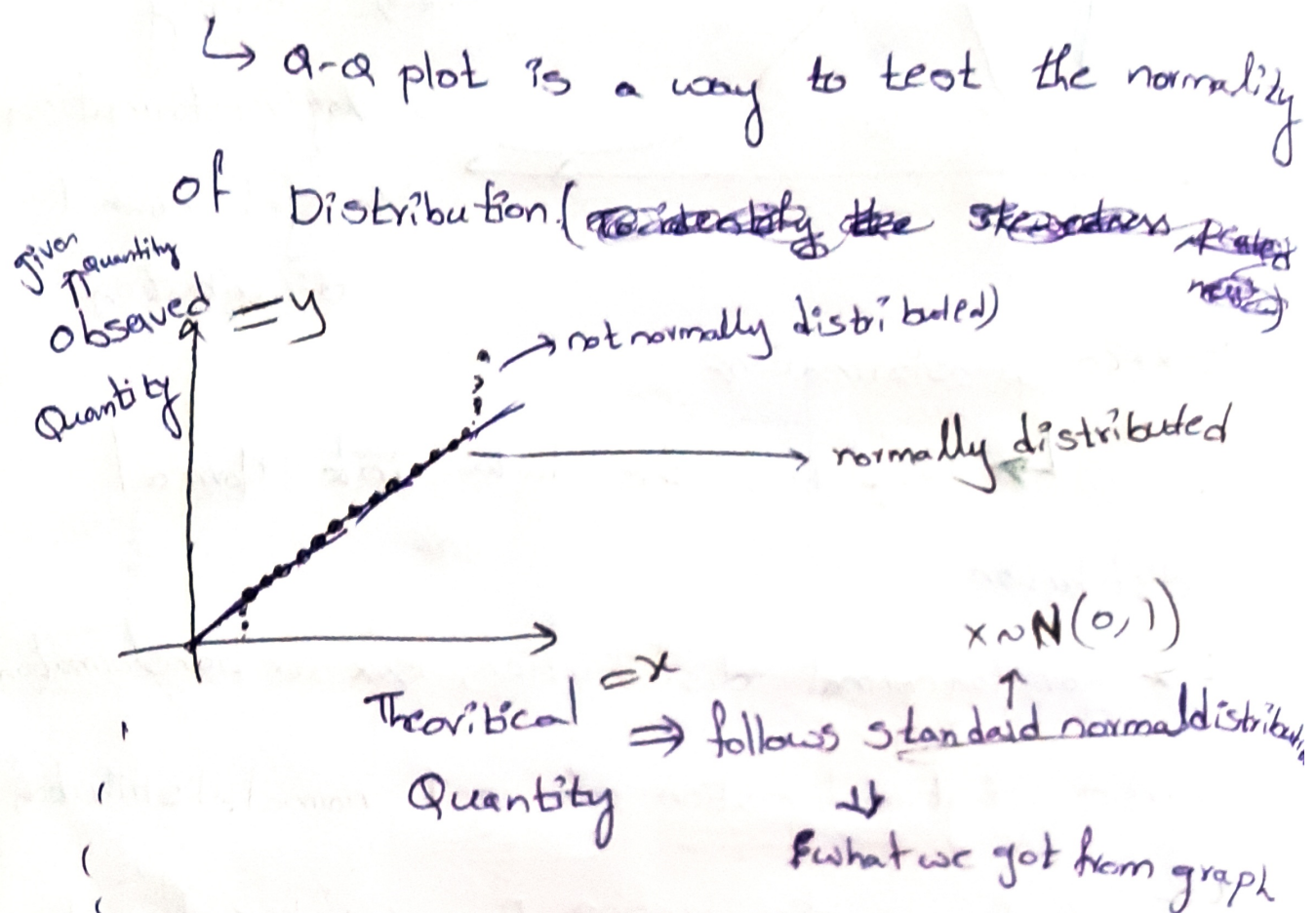Pareto ————→ Box-Cox ———→ ⌢  }

normal Distribution.

Notes:-
Generally, ~~lognormal~~ & ~~pareto~~ Box-cox is used only for lognormal and pareto.

But, it is used for other distributions but not satisfying all the times (not getting normal distribution)
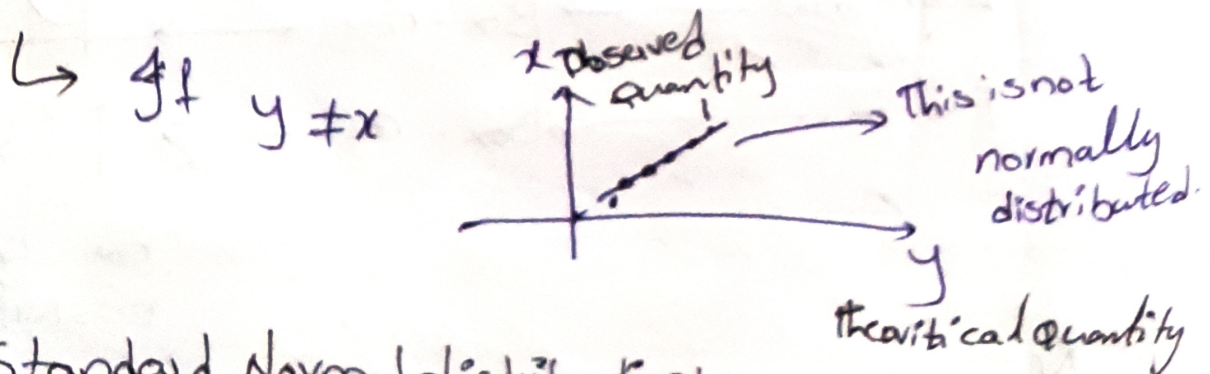
# Q-Q plot : Quantile-Quantile plot :

↳ q-q plot is a way to test the normality of Distribution ( ~~To identify the skewness related need~~)

given
quantity
observed = y
Quantity

→ not normally distributed

→ normally distributed

Theoritical = x
Quantity

$x \sim N(0,1)$

⇒ follows standard normal distribution

↓

[what we got from graph]

↳ If $y = x$ ⇒ st. line with 45°

↓          ↓
observed   Theoritical
Quantity   Quantity

↳ If $y \neq x$

x observed
quantity

This is not normally distributed.

y

theoritical quantity

## Standard Normal distribution :-

x Is R.V ← $\boxed{x \sim N(0,1)}$
              following.

Normal distribution with 0-mean & Variance-1