Chi Square Analysis → Categorical Data Analysis

→ Categorical data → Non-numeric → Frequency Counts of one or more Categories.

Chi square – goodness of fit

700 → Convention
200 – Mgr
300 – Students
200 – Teachers

Feedback	
Excellent	8%
V. good	20%
good	70%
Fair	2%

Multinomial

→ Analyse Multinomial dist in Single dimension (1 var)

$$\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e}$$

f_o = freq of observed values

f_e = freq of estimated values

K = no of Categories $\quad df = K - 1 - C$

C = no of parameters estimated

Use χ^2 → when doing Hypothesis test (1 var)

Contingency Analysis – Chi square test of Independence

Investment

Regions	EZL	FZL	G SL
NA			
EB			
SC			
WD			

Contingency Table

→ Analyse Multinomial Dist in Multiple Dimension (>1 var)

$$\chi^2 = \sum\sum \frac{(f_o - f_e)^2}{f_e}$$

$df = (r-1)(c-1)$

r → Rows

C → Columns

χ^2 → Hypothesis (>1 var)

(1) ... statistical → Statistical techniques based on Assumptions

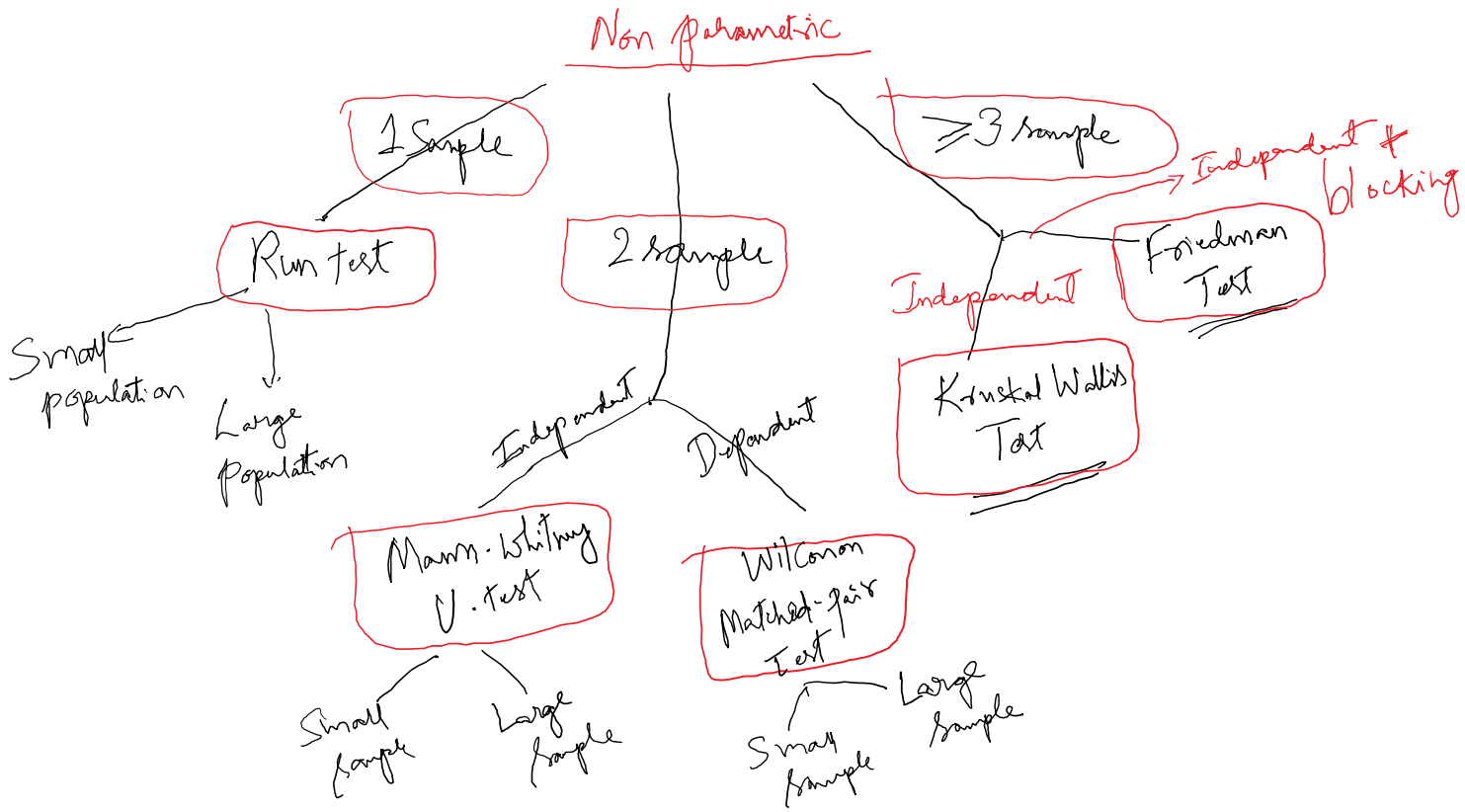
Parametric statistics ⇒ Statistical technique based on Assumptions about population

Eg: Assmtions → Normal distribution, $\alpha = 0.05$, H_0 = True

Non-Parametric stat → Very few Assmptions abt population when compared to parametric

Assmptions

		Dist	α	H_0	X	Y
Very likely	Parametric	Assme	Assme	ASSme	Assm	Assm
Less likely	Non-Param	Know	Assme	Assming	Know	Know



Spearman's Rank Correlation

→ Amount of Association btn 2 variables

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$$R_s = 1 - 6\Sigma d^2 / n(n^2-1)$$

$n \rightarrow$ no of pairs Correlated

$d \rightarrow$ The difference in Rank of each pair