CHI - Square Test :- Test of Independance (Goodness of fit)

↳ H_0 - There is no relationship bet^n 2 variables Fixed (salary paid & service)

H_1 – There is a rel^n bet^n 2 variables Fixed

These Two variable are categorical.

Right Tail Test

$$= \frac{\text{Row Tot} \times \text{col-Tot}}{\text{Grand Total}}$$

$$=$$

Observed value

Service	low	medium	High	Total
Excellent	9	10	7	26
Good	11	9	31	51
poor	12	8	3	23
Total	32	27	41	100

$$\frac{(obs - exep)^2}{exp}$$

Expected value :-

$\frac{26\times32}{100} = 8.32$	$\frac{26\times27}{100} = 7.02$	$\frac{26\times41}{100} = 10.66$
16.32	13.77	20.91
7.36	6.21	9.93

$\frac{(9-8.32)^2}{8.32} = 0.55$	$\frac{(10-7.02)^2}{7.02} = 1.265$	$\frac{(7-10.66)}{10.66} = 1.25$
$\frac{(11-16.32)^2}{16.32} = 1.73$	1.65	4.86
2.9425	.52	4.88

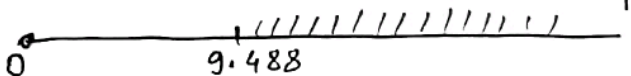
~~given value~~ -

given value = 9.488

Calculated → 18.658

fall in critical Region

so Reject the Null



No. of Row No. of colum

Degree of freedom = $(N-1) \times (K-1)$

$= 2 \times 2$

$= 4$

Degree of freedom:- How many freedom I have
How many thing I can control

max^m dof is = $N-1$

N = No. of variables

Degree of freedom :-
How many variables you can control

FMP

Prob (Pvalue) → 0 to.

↳ is less than .05 Alwz Reject the Null

lesser the Pvalue ↓ More significant is the relationship.

(1).