19BCS0012
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CHI - SQUARE GOODNESS OF FIT Test:

Suppose we wish to test the null hypothesis that Karl Weersch gives equal numbers of A's, B's, C's, D's and F's as final grades in his undergraduate statistics classes. the observed frequencies are: A: 6, B: 24, C: 50, D: 10, F = 10.

the data are entered in the SPSS like this:

Data View:-

Untitled - SPSS Data			
File Edit Data			
Graphic utilities Help			
1	Grade	Count	...
1	4	6	
2	3	24	
3	2	50	
4	1	10	
5	0	10	

Now we are labelling the categories numerically

Value labels

Value: ____ ok

Value label: ____ Cancel

0 - F

1 - D

2 - C

3 - B

4 - A

Now weight the cases by count. click Analyze.

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Non-parametric test

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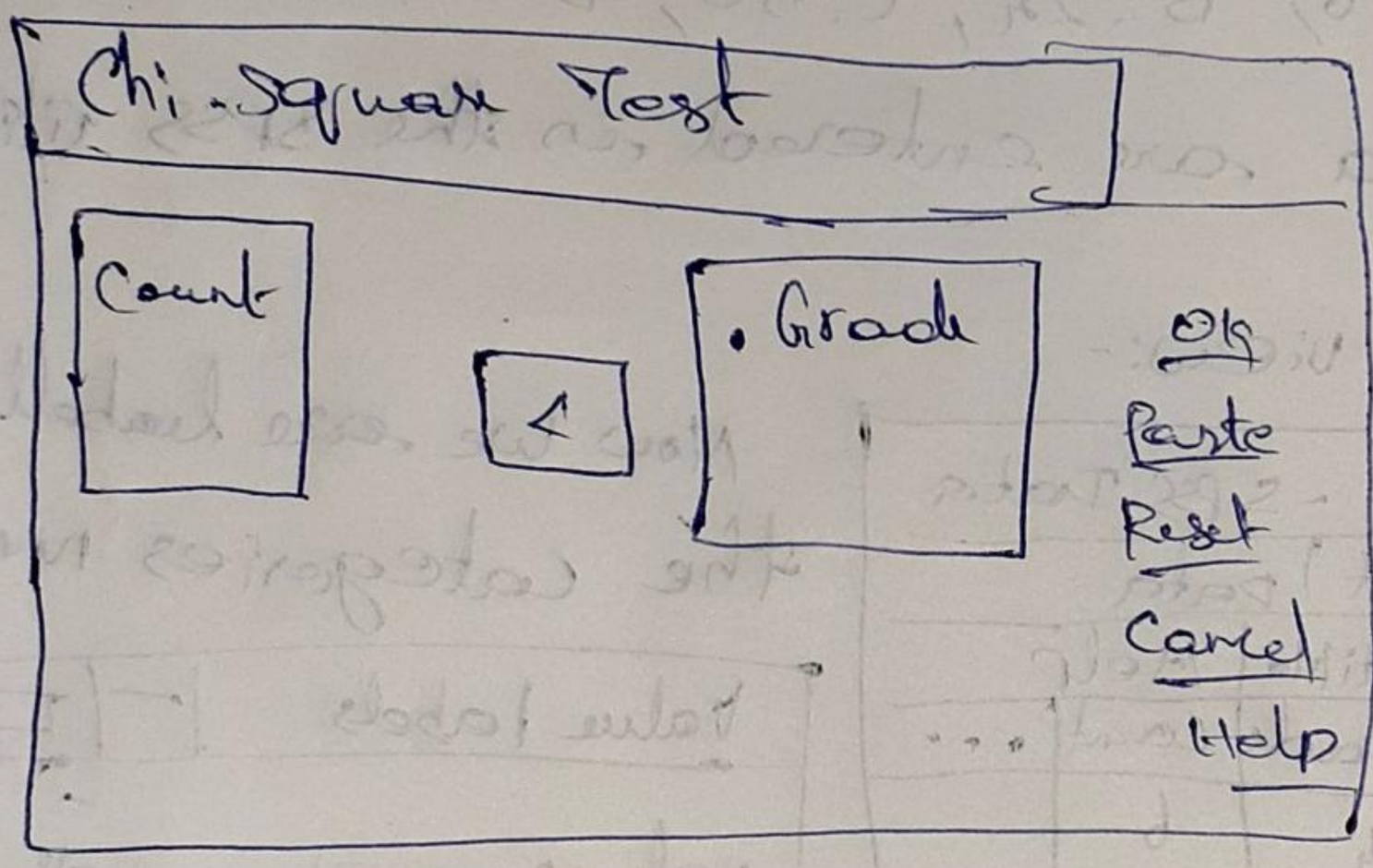
Chi-square test

Now, we use all categories and will test the hypothesis that the counts are in the population, uniformly distributed across categories.



we get the output as,

Grade.

	Observed N	Expected N	Residual
F	10	20.0	-10.0
D	10	20.0	-10.0
C	50	20.0	30.0
B	24	20.0	4.0
A	6	20.0	14.0
Total	100		

Test Statistics

	Grade
Chi-Square	65.600
df	4
Asymp. Sig	.000

a. 0 cells (.0%.) have expected frequencies less than 5. The minimum expected cell frequency is 20.0

We reject the hypothesis that the counts are uniformly distributed across the categories, $\chi^2(4, N=100) = 65.60$ $p < .001$.