

```

data one;
  do resp='a none','b some','c subs','d comp';
    resp2=1*(resp='a none')+2*(resp='b some')+3*(resp='c
subs')+4*(resp='d comp');
    do drug='a','b';
      druga=(drug='a');
      input count @@; output;
    end; end; cards;
3 7 7 11 10 5 5 2
;
proc freq;
  weight count;
  tables resp*drug/chisq fisher nopercnt norow expected;
run;

```

The FREQ Procedure
Table of resp by drug

resp	drug		
Frequency,			
Expected ,			
Col Pct ,a	b	Total	
~~~~~			
a none	3	7	10
	5	5	
	12.00	28.00	
~~~~~			
b some	7	11	18
	9	9	
	28.00	44.00	
~~~~~			
c subs	10	5	15
	7.5	7.5	
	40.00	20.00	
~~~~~			
d comp	5	2	7
	3.5	3.5	
	20.00	8.00	
~~~~~			
Total	25	25	50

Statistics for Table of resp by drug

Statistic	DF	Value	Prob
~~~~~			
Chi-Square	3	5.4413	0.1422
Likelihood Ratio Chi-Square	3	5.5693	0.1346
Mantel-Haenszel Chi-Square	1	4.8165	0.0282
Phi Coefficient		0.3299	
Contingency Coefficient		0.3133	
Cramer's V		0.3299	

WARNING: 25% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

Fisher's Exact Test

~~~~~	
Table Probability (P)	0.0019
Pr <= P	0.1618

Sample Size = 50

```
proc logistic;
  weight count;
  model resp2=druga;
run;
```

# The LOGISTIC Procedure

## Model Information

Data Set	WORK.ONE
Response Variable	resp2
Number of Response Levels	4
Weight Variable	count
Model	cumulative logit
Optimization Technique	Fisher's scoring

Number of Observations Read	8
Number of Observations Used	8
Sum of Weights Read	50
Sum of Weights Used	50

## Response Profile

Ordered Value	resp2	Total Frequency	Total Weight
1	1	2	10.000000
2	2	2	18.000000
3	3	2	15.000000
4	4	2	7.000000

Probabilities modeled are cumulated over the lower Ordered Values.

## Model Convergence Status

Convergence criterion (GCONV=1E-8) satisfied.

## Score Test for the Proportional Odds Assumption

Chi-Square	DF	Pr > ChiSq
0.2683	2	0.8745

## Model Fit Statistics

Criterion	Intercept and Covariates	
	Intercept Only	Intercept and Covariates
AIC	138.613	135.302
SC	138.851	135.620
-2 Log L	132.613	127.302

## Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	5.3107	1	0.0212
Score	5.1209	1	0.0236
Wald	5.0910	1	0.0241

## Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept 1	1	-0.8957	0.4135	4.6924	0.0303
Intercept 2	1	0.8718	0.4114	4.4914	0.0341
Intercept 3	1	2.5625	0.5445	22.1448	<.0001
druga	1	-1.2205	0.5409	5.0910	0.0241

# Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits
druga	0.295	0.102 0.852

## Association of Predicted Probabilities and Observed Responses

Percent Concordant	25.0	Somers' D	0.000
Percent Discordant	25.0	Gamma	0.000
Percent Tied	50.0	Tau-a	0.000
Pairs	24	c	0.500