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/* SAS Poisson Regression Example, from the GENMOD */
/* documentation. */

data insure;
  input n c car$ age;
  ln = log(n);
  cards;
500 42 small 1
1200 37 medium 1
100 1 large 1
400 101 small 2
500 73 medium 2
300 14 large 2
;
proc genmod data=injure;
  class car age;
  model c = car age / dist = poisson
                    link = log
                    offset = ln
                    type1
                    type3
;
run;

```

The GENMOD Procedure

Model Information

Data Set	WORK.INSURE
Distribution	Poisson
Link Function	Log
Dependent Variable	c
Offset Variable	ln
Observations Used	6

Class Level Information

Class	Levels	Values
car	3	large medium small
age	2	1 2

Criteria For Assessing Goodness Of Fit

Criterion	DF	Value	Value/DF
Deviance	2	2.8207	1.4103
Scaled Deviance	2	2.8207	1.4103
Pearson Chi-Square	2	2.8416	1.4208
Scaled Pearson X2	2	2.8416	1.4208
Log Likelihood		837.4533	

Algorithm converged.

Analysis Of Parameter Estimates

Parameter	DF	Estimate	Standard Error	Wald	95% Confidence Limits	Chi-Square
Intercept	1	-1.3168	0.0903	-1.4937	-1.1398	212.73
car large	1	-1.7643	0.2724	-2.2981	-1.2304	41.96

Analysis Of Parameter Estimates

Parameter	Pr > ChiSq
Intercept	<.0001
car large	<.0001

Analysis Of Parameter Estimates

Parameter	DF	Estimate	Standard Error	Wald	95% Confidence Limits	Chi-Square
car medium	1	-0.6928	0.1282	-0.9441	-0.4414	29.18
car small	0	0.0000	0.0000	0.0000	0.0000	.
age 1	1	-1.3199	0.1359	-1.5863	-1.0536	94.34
age 2	0	0.0000	0.0000	0.0000	0.0000	.
Scale	0	1.0000	0.0000	1.0000	1.0000	.

Analysis Of Parameter Estimates

Parameter	Pr > ChiSq
car medium	<.0001
car small	.
age 1	<.0001
age 2	.
Scale	.

NOTE: The scale parameter was held fixed.

LR Statistics For Type 1 Analysis

Source	Deviance	DF	Chi-Square	Pr > ChiSq
Intercept	175.1536			
car	107.4620	2	67.69	<.0001
age	2.8207	1	104.64	<.0001

LR Statistics For Type 3 Analysis

Source	DF	Chi-Square	Pr > ChiSq
car	2	72.82	<.0001
age	1	104.64	<.0001