The rat data

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The data:

```
0 lived
1 died
2 lived
3 lived
4 died
5 died
```

The SAS code and output:

```
data rat;
  infile "rat.dat";
  input dose survival $;

proc print;

proc logistic;
  class survival;
  model survival = dose;
  output out=rat2 pred=pred;

proc print data=rat2;

run;
```

```
Obs    dose    survival
 1       0      lived
 2       1      died
 3       2      lived
 4       3      lived
 5       4      died
 6       5      died

The LOGISTIC Procedure
              Model Information
```

Data Set	WORK.RAT
Response Variable	survival
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	6
Number of Observations Used	6

Response Profile

Ordered Value	survival	Total Frequency
1	died	3
2	lived	3

Probability modeled is survival='died'.

Model Convergence Status

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

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	10.318	10.773
SC	10.110	10.356
-2 Log L	8.318	6.773

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	1.5449	1	0.2139
Score	1.4286	1	0.2320
Wald	1.2037	1	0.2726

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-1.6841	1.7978	0.8774	0.3489
dose	1	0.6736	0.6140	1.2037	0.2726

The LOGISTIC Procedure

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
dose	1.961	0.589	6.534

Association of Predicted Probabilities and Observed Responses

Percent Concordant	77.8	Somers' D	0.556
Percent Discordant	22.2	Gamma	0.556
Percent Tied	0.0	Tau-a	0.333
Pairs	9	c	0.778

Obs	dose	survival	_LEVEL_	pred
1	0	lived	died	0.15656
2	1	died	died	0.26690
3	2	lived	died	0.41658
4	3	lived	died	0.58342
5	4	died	died	0.73310
6	5	died	died	0.84344