Example 1 – one independent variable

Data

Obs	load	speci	fail	logload
1	5	600	13	1.60944
2	35	500	95	3.55535
3	70	600	189	4.24850
4	80	300	95	4.38203
5	90	300	130	4.49981

x =logload

Deviance and Pearson Goodness-of-Fit Statistics				
Criterion	Value	DF	Value/DF	Pr > ChiSq
Deviance	5.3883	3	1.7961	0.1455
Pearson	5.3792	3	1.7931	0.1460

Parameter estimates with confidence interval

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-5.5784	0.3682	229.4877	<.0001
logload	1	1.1400	0.0893	163.0932	<.0001

Covariance matrix

Estimated Covariance Matrix		
Parameter	Intercept	logload
Intercept	0.1356	-0.03253
logload	-0.03253	0.007968

a) Write down the fitted line.
b) Find the 95% confidence interval of unknown parameters.
c) Estimate the odds ratio for one unit increase in logload with its 95% confidence interval.
d) Estimate the probability of failure when logload=4 with its 95% confidence interval.