

Foodstamp - Residuals of Logistic Regression

February 8, 2012

Load and attach the data foodstamp.

```
> library(catdata)
> data(foodstamp)
> attach(foodstamp)
```

With binary response one can fit a logit model.

```
> food1 <- glm(y ~ TEN + SUP + INC, family=binomial, data=foodstamp)
> summary(food1)
```

Call:

```
glm(formula = y ~ TEN + SUP + INC, family = binomial, data = foodstamp)
```

Deviance Residuals:

Min	1Q	Median	3Q	Max
-1.2376	-0.5564	-0.3464	-0.1545	2.7955

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	-0.3400266	0.5396540	-0.630	0.52864
TEN	-1.7602998	0.5292244	-3.326	0.00088 ***
SUP	0.7752455	0.5065527	1.530	0.12591
INC	-0.0014890	0.0009374	-1.588	0.11218

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 131.90 on 149 degrees of freedom
Residual deviance: 104.33 on 146 degrees of freedom
AIC: 112.33

Number of Fisher Scoring iterations: 6

Have a look at the distribution of the residuals. Therefore a Normal Q-Q Plot is generated.

```
> plot(food1,2)
```

