**NULL DEVIANCE AND RESIDUAL DEVIANCE**

data(mtcars)

names(mtcars)

model1<-glm(formula=vs~wt+disp,data=mtcars,family=“binomial”)

model1

Call: glm(formula = vs ~ wt + disp, family = “binomial”, data = mtcars)

Coefficients:

(Intercept) wt disp

1.60859 1.62635 -0.03443

Degrees of Freedom: 31 Total (i.e. Null); 29 Residual

Null Deviance: 43.86

Residual Deviance: 21.4 AIC: 27.4

Above we can see that two deviances NULL and Residual. Here Value of NULL deviance can be read as 43,86 on 31 degrees of freedom and Residual deviance as 21.4 on 29 degrees of freedom. Deviance is a measure of goodness of fit of a model. Higher numbers always indicates bad fit.

The null deviance shows how well the response variable is predicted by a model that includes only the intercept (grand mean) where as residual with inclusion of independent variables.

Above, you can see that addition of 2 (31-29 =2) independent variablesdecreased the deviance to 21.4 from 43.86, a significant reduction in deviance.The Residual Deviance has reduced by 22.46 with a loss of two degrees of freedom.

If your Null Deviance is really small, it means that the Null Model explains the data pretty well. Likewise with your Residual Deviance.