## visualise the success of a logistic model

## plot logistic curve, mean change, T/F, AIC, null deviance

## arguments

## model a fitted glm

## title (optional)

logitplot <- function(model, title="Success of logistic model") {

# sort the fitted values

sf <- sort(fitted(model), index=T)

plot(sf$x, ylim=c(0,1), type="l", col="blue", lwd=3,

xlab="sorted sample number", ylab="probability")

text(0, min(fitted(model))-.03,

"fitted probability",col="blue",pos=4)

title(title)

abline(h=mean(fitted(model)), lty=2)

text(0, mean(fitted(model))+.02, "mean probability", pos=4)

# name of the response field

field.name <- attr(attr(terms(formula(model)), "factors"),

"dimnames")[[1]][1]

# extract the T/F vector

# depends on whether glm was called

# with a data argument

eval(parse(text=paste("tmp <- ",

ifelse(class(model$data) == "data.frame", "model$data$", ""),

field.name, sep="")))

abline(v=length(tmp)/2,lty=2)

text(length(tmp)/2,.03,"midpoint",pos=4)

# show T/F

points(1:length(tmp), tmp[sf$ix],

pch="|",cex=1,col=ifelse(tmp[sf$ix], "green4", "red"))

text(0,.03,"FALSE Samples",col="red",pos=4)

text(0,.97,"TRUE Samples",col="green4",pos=4)

# print model and fit

text(length(tmp),0.30,paste(

"Model:", formula(model)[2], formula(model)[1],

formula(model)[3],sep=" "), pos=2,font=4)

text(length(tmp),0.25,paste(

"AIC:", round(model$aic,0), sep=" "),pos=2,font=4)

text(length(tmp),0.20,paste(

"Null deviance:", round(model$null.deviance,0), sep=" "),

pos=2,font=4)

}