Logistic Regression Model on R analysis

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```
Filename: lRM.Rnw
Working directory: /Users/RickyLim/Dropbox/LearnR/theArtOfR/logisticsRegressionModel_abalone
```

1 Data Loading

```
abalone <- read.csv("input/Abalone.data", header = F)
head(abalone)

##   V1    V2    V3    V4     V5     V6     V7    V8 V9
## 1  M 0.455 0.365 0.095 0.5140 0.2245 0.1010 0.150 15
## 2  M 0.350 0.265 0.090 0.2255 0.0995 0.0485 0.070  7
## 3  F 0.530 0.420 0.135 0.6770 0.2565 0.1415 0.210  9
## 4  M 0.440 0.365 0.125 0.5160 0.2155 0.1140 0.155 10
## 5  I 0.330 0.255 0.080 0.2050 0.0895 0.0395 0.055  7
## 6  I 0.425 0.300 0.095 0.3515 0.1410 0.0775 0.120  8


# exclude infants
abamf <- abalone[abalone[, 1] != "I", ]
```

2 Logistic regression

The eight explanotory variables are used to predict the male/female

```
# fitting (logistic regression)
lftn <- function(clmn) {
    glm(abamf[, 1] ~ clmn, family = binomial)$coef
}

# fit each column (except the gender) with the fitting model
loall <- sapply(abamf[, -1], lftn)
loall

##                 V2     V3     V4      V5      V6      V7      V8       V9
## (Intercept)  1.276  1.289  1.028  0.4301  0.2855  0.4829  0.5104  0.64824
## clmn        -1.963 -2.533 -5.643 -0.2688 -0.2941 -1.4648 -1.2135 -0.04509
```

3 Metainfo

```
sessionInfo()

## R version 2.15.1 (2012-06-22)
## Platform: x86_64-apple-darwin9.8.0/x86_64 (64-bit)
##
## locale:
## [1] en_US.UTF-8/en_US.UTF-8/en_US.UTF-8/C/en_US.UTF-8/en_US.UTF-8
##
## attached base packages:
## [1] stats     graphics  grDevices utils     datasets  methods   base
##
## other attached packages:
## [1] codetools_0.2-8 knitr_1.1       vimcom_0.9-7    setwidth_1.0-3
##
## loaded via a namespace (and not attached):
## [1] digest_0.6.3   evaluate_0.4.3 formatR_0.7    stringr_0.6.2  tools_2.15.1
```

```
library(knitr)
knit("lRM.Rnw")  # compile to tex

## Error:  duplicated label 'setup'

purl("lRM.Rnw", documentation = 0)  # extract R code only
knit2pdf("lRM.Rnw")

## Error:  duplicated label 'setup'
```