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title: "Multiple Binary Logistic Regression"
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output:
  pdf_document:
    number_sections: true
    toc: true
    fontsize: 11pt
    geometry: margin=1in
---

```

## R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

## Including Plots

You can also embed plots, for example:

```

# Example: Multiple Binary Logistic Regression
model1 <- glm(Admit ~ Gender + Dept, family = binomial, data = ucb, weights = Freq)
summary(model1)

```

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##
## Call:
## glm(formula = Admit ~ Gender + Dept, family = binomial, data = ucb,
##      weights = Freq)
##
## Coefficients:
##              Estimate Std. Error z value Pr(>|z|)
## (Intercept)  -0.58205    0.06899  -8.436   <2e-16 ***
## GenderFemale -0.09987    0.08085  -1.235    0.217
## DeptB         0.04340    0.10984   0.395    0.693
## DeptC         1.26260    0.10663  11.841   <2e-16 ***
## DeptD         1.29461    0.10582  12.234   <2e-16 ***
## DeptE         1.73931    0.12611  13.792   <2e-16 ***
## DeptF         3.30648    0.16998  19.452   <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##      Null deviance: 6044.3  on 23  degrees of freedom
## Residual deviance: 5187.5  on 17  degrees of freedom
## AIC: 5201.5
##
## Number of Fisher Scoring iterations: 6

```

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exp(cbind(OR = coef(model1), confint.default(model1)))
```

##	OR	2.5 %	97.5 %
## (Intercept)	0.558751	0.4880808	0.6396537
## GenderFemale	0.904955	0.7723432	1.0603362
## DeptB	1.044353	0.8420782	1.2952170
## DeptC	3.534593	2.8679612	4.3561761
## DeptD	3.649559	2.9659470	4.4907358
## DeptE	5.693389	4.4465469	7.2898549
## DeptF	27.288901	19.5567778	38.0780573

Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.