Call**:**

glm**(**formula **=** obese **~** flipper\_length\_mm **\*** bill\_length\_mm **+** sex **+**

species, family **=** binomial**(**link **=** "logit"**)**, data **=** train\_data**)**

Coefficients**:**

Estimate Std. Error

**(**Intercept**)** 27.552190 78.862421

flipper\_length\_mm **-**0.207007 0.406718

bill\_length\_mm **-**1.384759 1.867541

sexmale 2.892290 1.094641

speciesChinstrap **-**4.739485 1.655085

speciesGentoo 2.640500 1.866750

flipper\_length\_mm**:**bill\_length\_mm 0.008385 0.009612

z value Pr**(>|**z**|)**

**(**Intercept**)** 0.349 0.72681

flipper\_length\_mm **-**0.509 0.61077

bill\_length\_mm **-**0.741 0.45840

sexmale 2.642 0.00824 **\*\***

speciesChinstrap **-**2.864 0.00419 **\*\***

speciesGentoo 1.414 0.15722

flipper\_length\_mm**:**bill\_length\_mm 0.872 0.38300

**---**

Signif. codes**:**

0 ‘**\*\*\***’ 0.001 ‘**\*\***’ 0.01 ‘**\***’ 0.05 ‘.’ 0.1 ‘ ’ 1

**(**Dispersion parameter **for** binomial family taken to be 1**)**

Null deviance**:** 323.002 on 232 degrees of freedom

Residual deviance**:** 98.718 on 226 degrees of freedom

AIC**:** 112.72

Number of Fisher Scoring iterations**:** 8

Analysis:

To be completed.

Confusion Matrix and Statistics

Reference

Prediction 0 1

0 42 2

1 13 43

Accuracy **:** 0.85

95% CI : (0.7647, 0.9135)

No Information Rate **:** 0.55

P**-**Value **[**Acc **>** NIR**]** **:** 1.716e-10

Kappa **:** 0.7036

Mcnemar's Test P-Value : 0.009823

Sensitivity : 0.9556

Specificity : 0.7636

Pos Pred Value : 0.7679

Neg Pred Value : 0.9545

Prevalence : 0.4500

Detection Rate : 0.4300

Detection Prevalence : 0.5600

Balanced Accuracy : 0.8596

'Positive' Class : 1

Analysis:

To be completed.

> cat("Improved Accuracy:", round(imp\_accuracy, 3),

+ "- Proportion correct;\n")

Improved Accuracy: 0.85 - Proportion correct;

> cat("Improved Sensitivity:", round(imp\_sensitivity, 3),

+ "- Detection of obese;\n")

Improved Sensitivity: 0.956 - Detection of obese;

> cat("Improved Specificity:", round(imp\_specificity, 3),

+ "- Detection of non-obese;\n")

Improved Specificity: 0.764 - Detection of non-obese;

> cat("Improved Precision:", round(imp\_precision, 3),

+ "- Reliability of obese predictions;\n")

Improved Precision: 0.768 - Reliability of obese predictions;

Analysis:

To be completed.