IDS 702

Logistic Regression Diagnostics

Assessing a model

- Assumptions

- Model fit

- Predictions

Recall estimation

Assessing a logistic regression model

- Assumptions

- Model fit

- Predictions

```
pumpmod <- glm(factor(Class)~Major_Axis_Length+Area+Perimeter+Solidity,
                data=pumpkin,family="binomial")

par(mfrow=c(2,2))
plot(pumpkin$Major_Axis_Length,predict(pumpmod))
plot(pumpkin$Area,predict(pumpmod))
plot(pumpkin$Perimeter,predict(pumpmod))
plot(pumpkin$Solidity,predict(pumpmod))
```
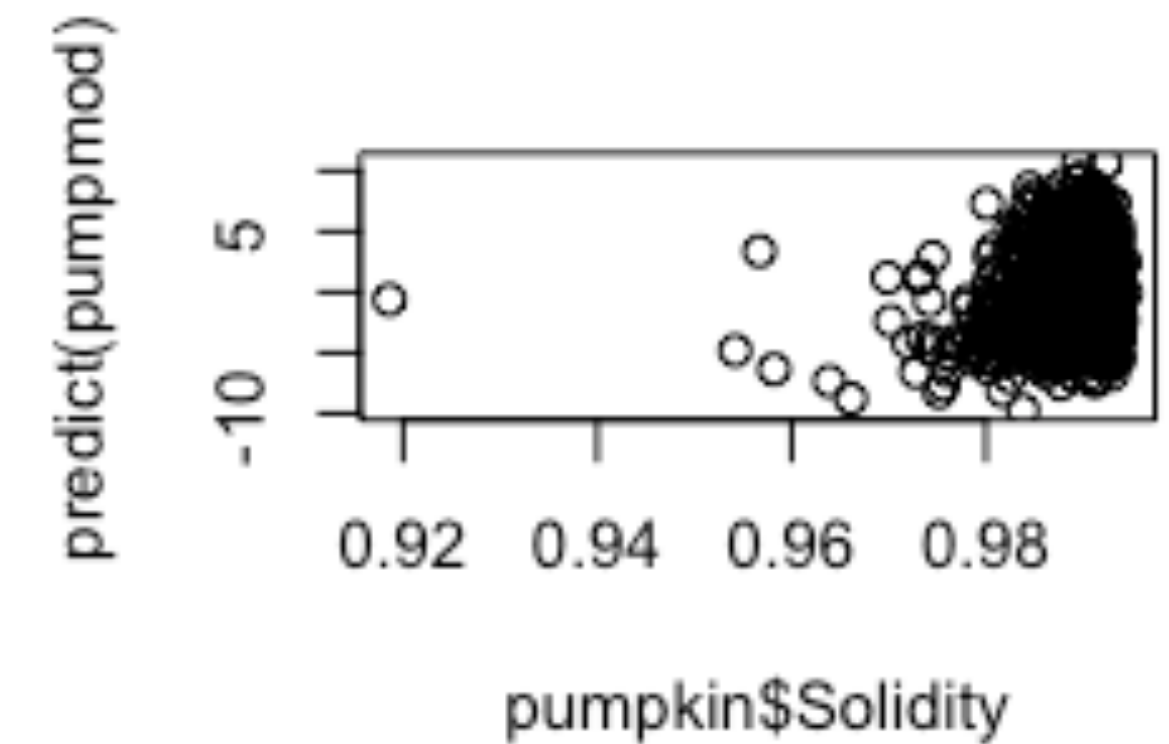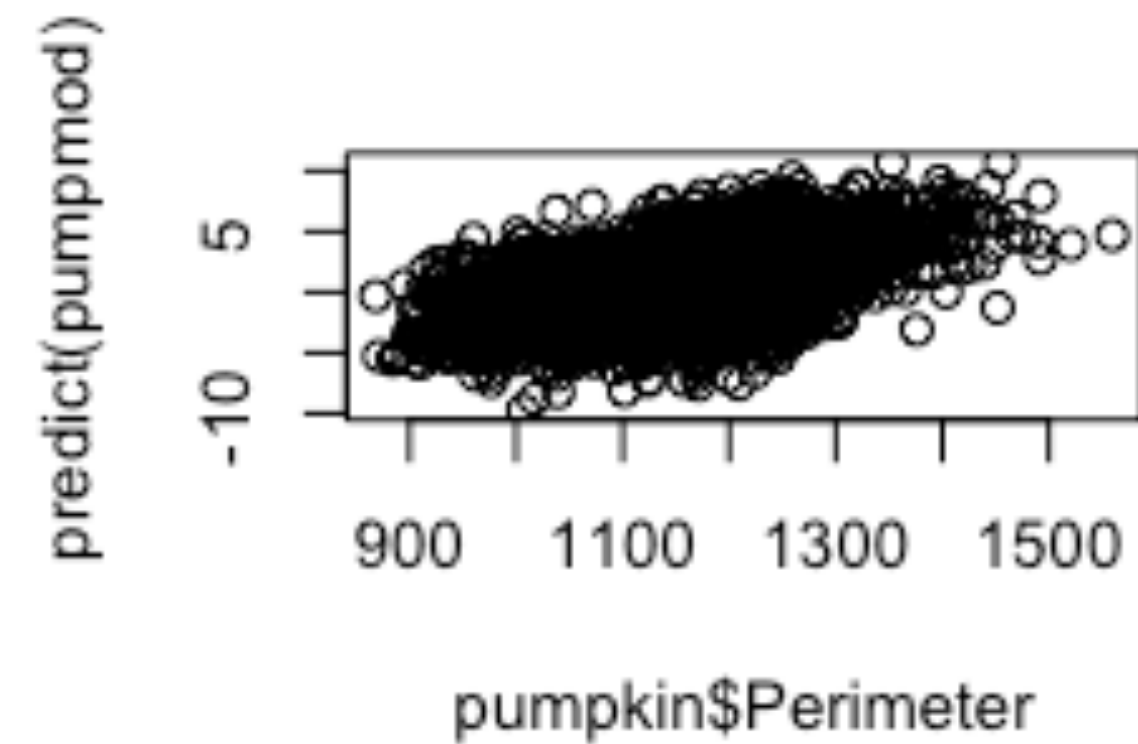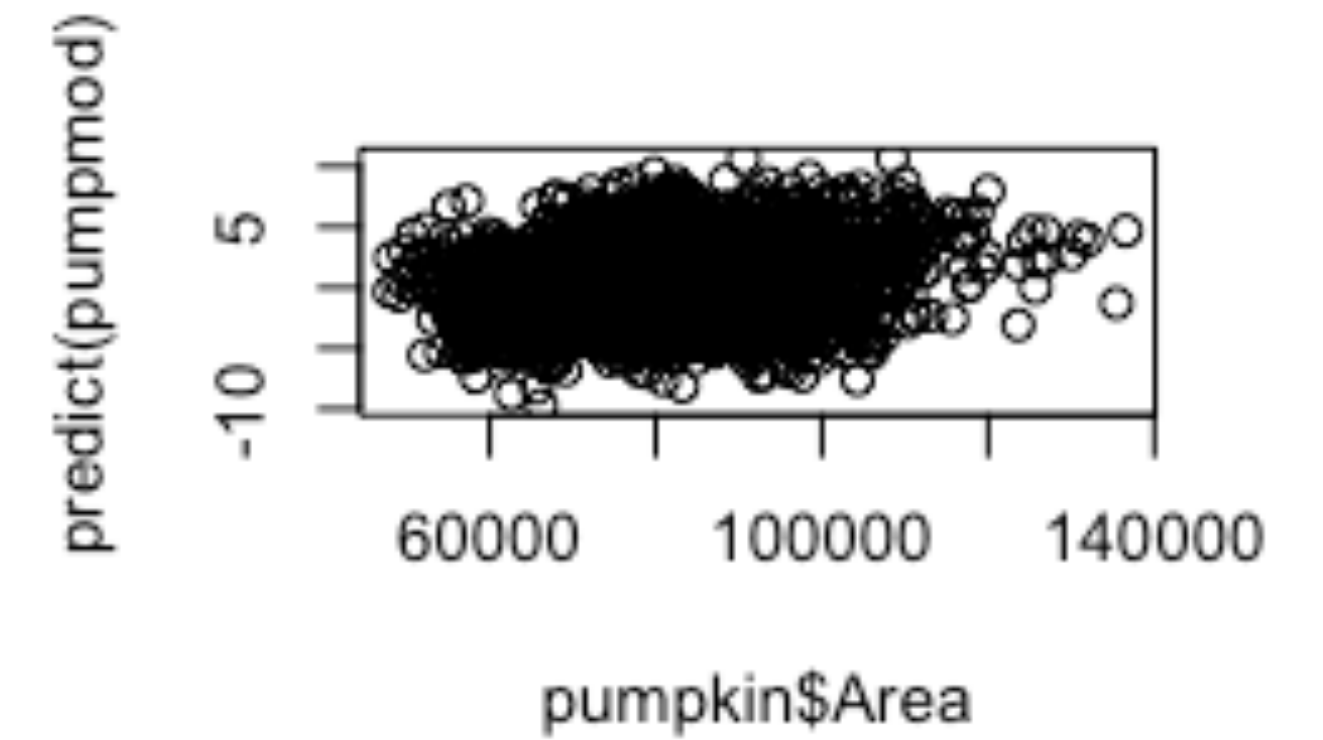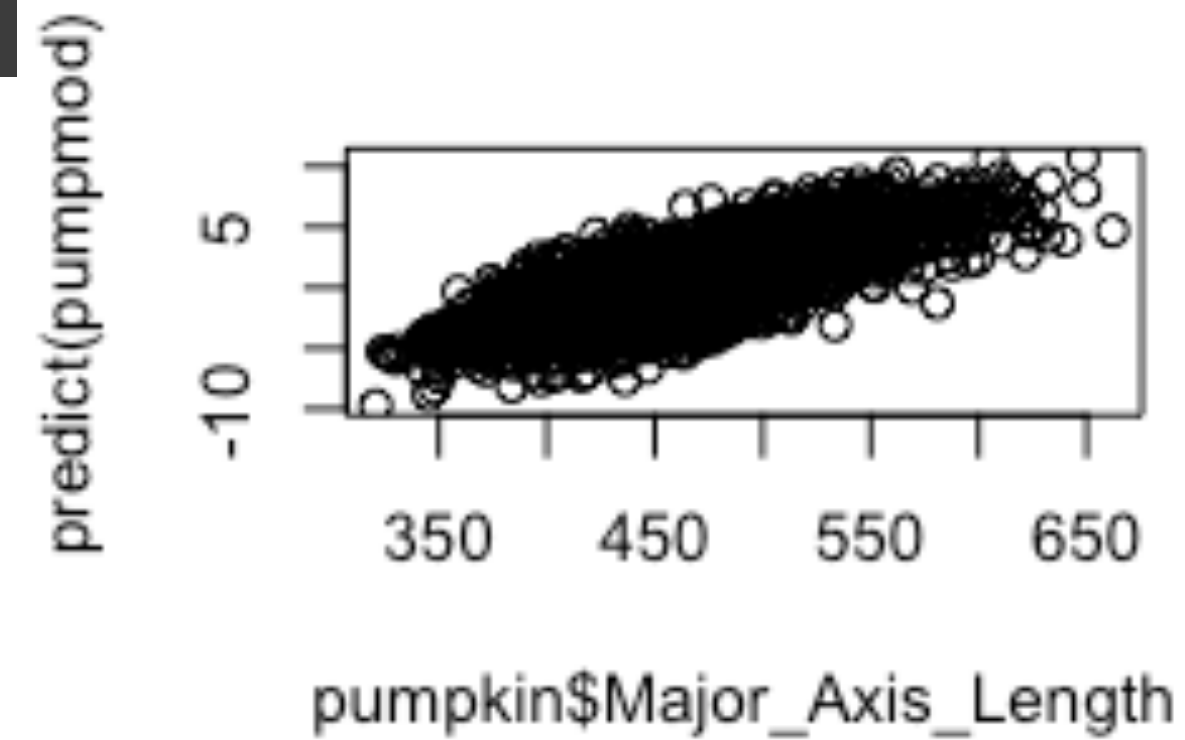
Appropriate metrics for logistic regression

- $Deviance = -2ln(\hat{L})$

- $AIC = 2p - 2ln(\hat{L})$

- McFadden's pseudo $R^2 = 1 - \dfrac{LL_{mod}}{LL_0}$