(e) Assess the model goodness-of-fit.

We conduct the Hosmer-Lemeshow goodness of fit test to assess the model goodness-of-fit. We test H_0: the current model fits well.

```
library(ResourceSelection)
```

```
## Warning: package 'ResourceSelection' was built under R version 3.3.3
```

```
## ResourceSelection 0.3-2   2017-02-28
```

```
res<-hoslem.test(donner.glm$y,fitted(donner.glm))
res
```

```
##
##  Hosmer and Lemeshow goodness of fit (GOF) test
##
## data:  donner.glm$y, fitted(donner.glm)
## X-squared = 12.956, df = 8, p-value = 0.1134
```

```
cbind(res$observed,res$expected)
```

```
##                y0 y1    yhat0    yhat1
## [0.145,0.358]  6  3 6.841815 2.158185
## (0.358,0.408] 10  4 8.558368 5.441632
## (0.408,0.425]  3  1 2.309556 1.690444
## (0.425,0.512]  3  5 4.071472 3.928528
## (0.512,0.547]  4  5 4.210162 4.789838
## (0.547,0.59]   4  5 3.787288 5.212712
## (0.59,0.694]   4  4 2.923714 5.076286
## (0.694,0.769]  0  8 2.158702 5.841298
## (0.769,0.82]   0  8 1.657358 6.342642
## (0.82,0.84]    4  5 1.481564 7.518436
```

This p-value of 0.1134 is non-significant at the 0.05 level so there should be no evidence that the model is fitting poorly. However, because the p-value is near the threshold there may be evidence that the model is not a great fit. With caution, we declare the model does appear adequate for these data.