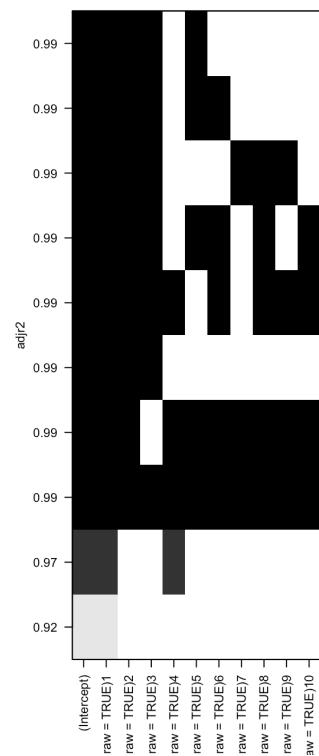
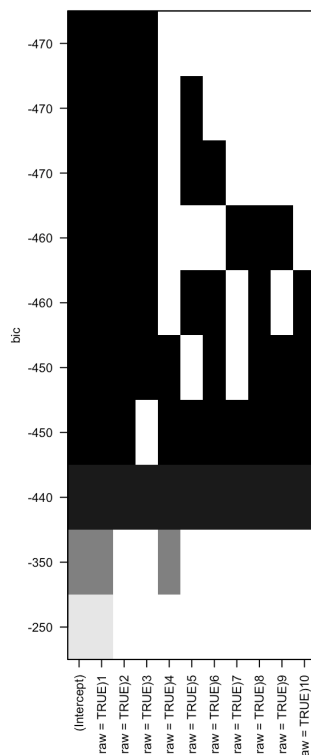
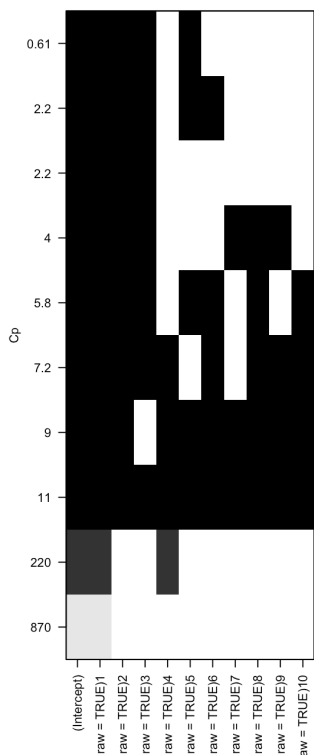


Assignment #8

1. From the three methods (best subset, forward stepwise, and backward stepwise):
 - a. Which of the three models with k predictors has the smallest training RSS?
 - i. Best subset selection model

```
## Linear Discriminant Analysis
freq(Direction)
train = Year<2005
lda.fit=lda(Direction~Lag1+Lag2,data=Smarket, subset=Year<2005)
lda.fit
plot(lda.fit, col="dodgerblue")
Smarket.2005=subset(Smarket,Year==2005) # Creating subset with 2005 data for prediction
lda.pred=predict(lda.fit,Smarket.2005)
names(lda.pred)
lda.class=lda.pred$class
Direction.2005=Smarket$Direction[!train]
table(lda.class,Direction.2005)
data.frame(lda.pred)[1:5,]
table(lda.pred$class,Smarket.2005$Direction)
mean(lda.pred$class==Smarket.2005$Direction)
```

- b. Which of the three models with k predictors has the smallest test RSS?
 - i. Once again, best subset selection model
2. Application exercise



Simulated Data

