

### 4.7.1 The Stock Market Data

```
> summary(Smarket)
      Year      Lag1      Lag2      Lag3      Lag4      Lag5
Min.   :2001  Min.   :-4.922000  Min.   :-4.922000  Min.   :-4.922000  Min.   :-4.922000  Min.   :-4.922000
1st Qu.:2002  1st Qu.: -0.639500  1st Qu.: -0.639500  1st Qu.: -0.640000  1st Qu.: -0.640000  1st Qu.: -0.640000
Median :2003  Median :  0.039000  Median :  0.039000  Median :  0.038500  Median :  0.038500  Median :  0.038500
Mean   :2003  Mean   :  0.003834  Mean   :  0.003919  Mean   :  0.001716  Mean   :  0.001636  Mean   :  0.00561
3rd Qu.:2004  3rd Qu.:  0.596750  3rd Qu.:  0.596750  3rd Qu.:  0.596750  3rd Qu.:  0.596750  3rd Qu.:  0.59700
Max.   :2005  Max.   :  5.733000  Max.   :  5.733000  Max.   :  5.733000  Max.   :  5.733000  Max.   :  5.733000

      Volume      Today      Direction
Min.   :0.3561  Min.   :-4.922000  Down:602
1st Qu.:1.2574  1st Qu.: -0.639500  Up   :648
Median :1.4229  Median :  0.038500
Mean   :1.4783  Mean   :  0.003138
3rd Qu.:1.6417  3rd Qu.:  0.596750
Max.   :3.1525  Max.   :  5.733000
```

### 4.7.2 Logistic Regression

```
> table(glm.pred, Direction.2005)
      Direction.2005
glm.pred Down  Up
Down    35   35
Up     76  106
```

### 4.7.3 Linear Discriminant Analysis

```
> table(lda.class, Direction.2005)
      Direction.2005
lda.class Down  Up
Down    35   35
Up     76  106
```

### 4.7.6 K-Nearest Neighbors

```
> knn.pred <- knn(train.X, test.X, train.Y, k = 3)
> table(knn.pred, test.Y)
      test.Y
knn.pred No Yes
No    920  54
Yes    21   5
```