chapter22

```
setwd("/Users/qiongxiasong/Dropbox/myteaching/stat6338/Spring2016/data"
)
Mydata<-read.table("CH22PR17.txt")
names(Mydata)<-c("x","A","B", "rep","y")
Mydata
```

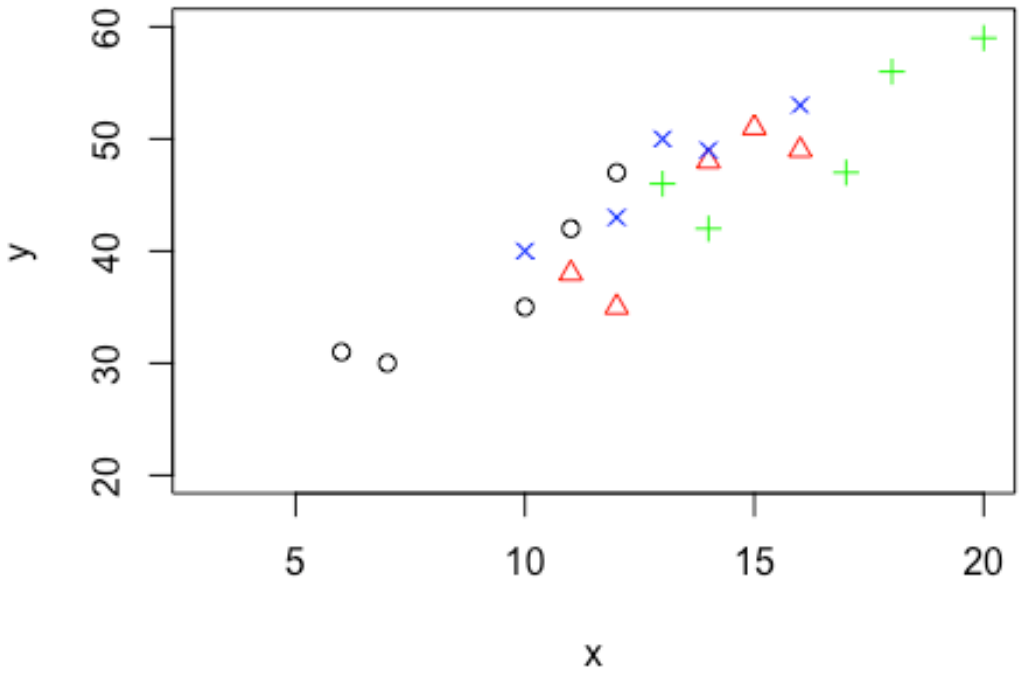
```
##     x A B rep  y
## 1  11 1 1   1 42
## 2   7 1 1   2 30
## 3  12 1 1   3 47
## 4   6 1 1   4 31
## 5  10 1 1   5 35
## 6  15 1 2   1 51
## 7  12 1 2   2 35
## 8  14 1 2   3 48
## 9  11 1 2   4 38
## 10 16 1 2   5 49
## 11 12 2 1   1 43
## 12 16 2 1   2 53
## 13 10 2 1   3 40
## 14 13 2 1   4 50
## 15 14 2 1   5 49
## 16 14 2 2   1 42
## 17 17 2 2   2 47
## 18 13 2 2   3 46
## 19 20 2 2   4 59
## 20 18 2 2   5 56
```

```
A=as.factor(Mydata$A)
 B=as.factor(Mydata$B)
mod1<-lm(y~A+B,Mydata)
anova(mod1)
```

```
## Analysis of Variance Table
##
## Response: y
##           Df Sum Sq Mean Sq F value Pr(>F)
## A          1 312.05 312.050  6.9540 0.0173 *
## B          1 130.05 130.050  2.8981 0.1069
## Residuals 17 762.85  44.874
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
 plot(Mydata$x[A==1&B==1],
Mydata$y[A==1&B==1],pch=1,xlab="x",ylab="y",xlim=c(3,20),ylim=c(20,60))
 points(Mydata$x[A==1&B==2], Mydata$y[A==1&B==2],pch=2,col="red")
```

```r
points(Mydata$x[A==2&B==2], Mydata$y[A==2&B==2],pch=3,col="green")
points(Mydata$x[A==2&B==1], Mydata$y[A==2&B==1],pch=4,col="blue")
```




```r
mod2<-lm(y~A+B+x,Mydata)
anova(mod2)
```

```
## Analysis of Variance Table
##
## Response: y
##           Df Sum Sq Mean Sq F value    Pr(>F)
## A          1 312.05  312.05  34.455 2.372e-05 ***
## B          1 130.05  130.05  14.359  0.001608 **
## x          1 617.94  617.94  68.229 3.653e-07 ***
## Residuals 16 144.91    9.06
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```