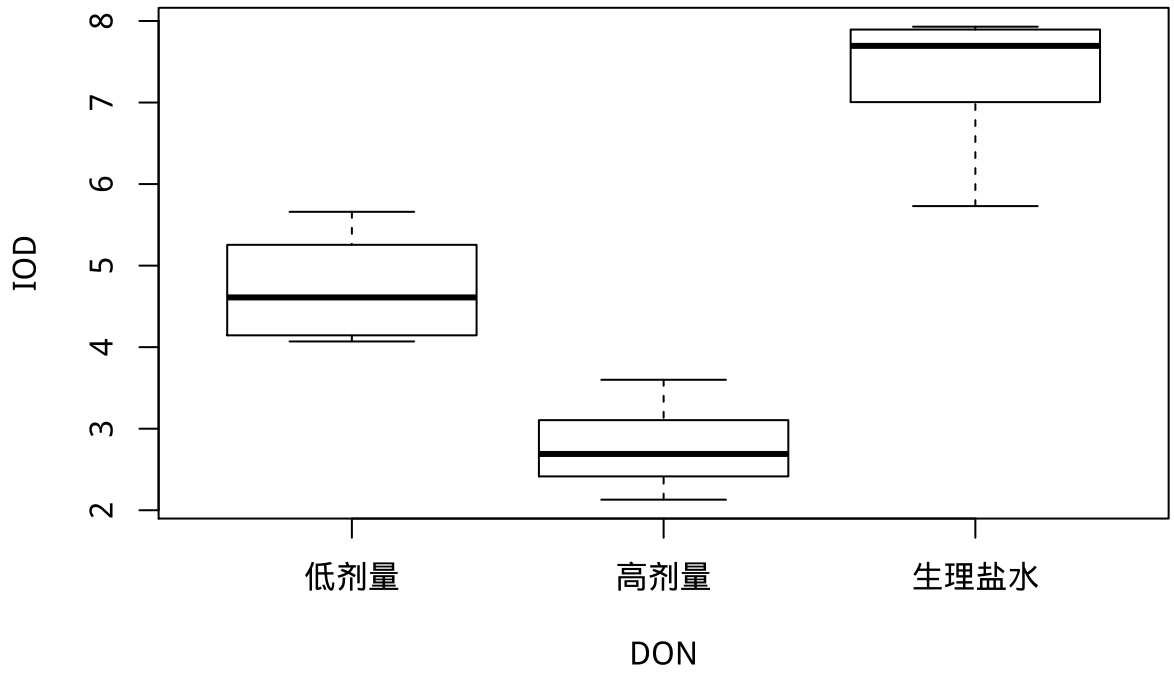
第八章

设置目录

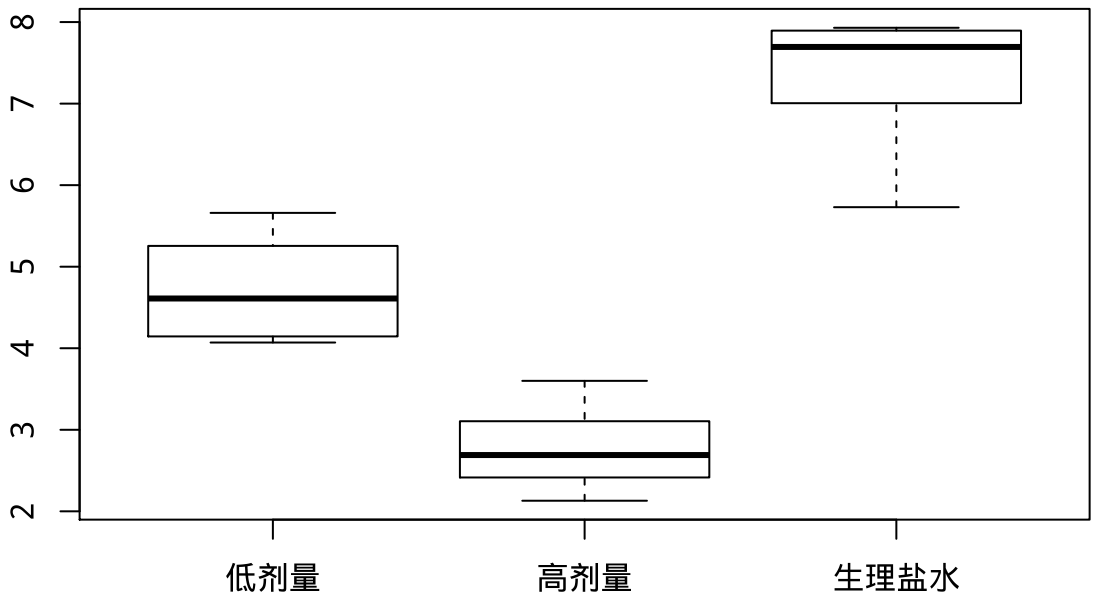
```
setwd("D:\\data\\chapter 8")
```

例 8-1

```
data8.1<-read.csv("8-1.csv")
plot(IOD~DON,data = data8.1,type="p")
```




```
boxplot(IOD~DON,data = data8.1)
```

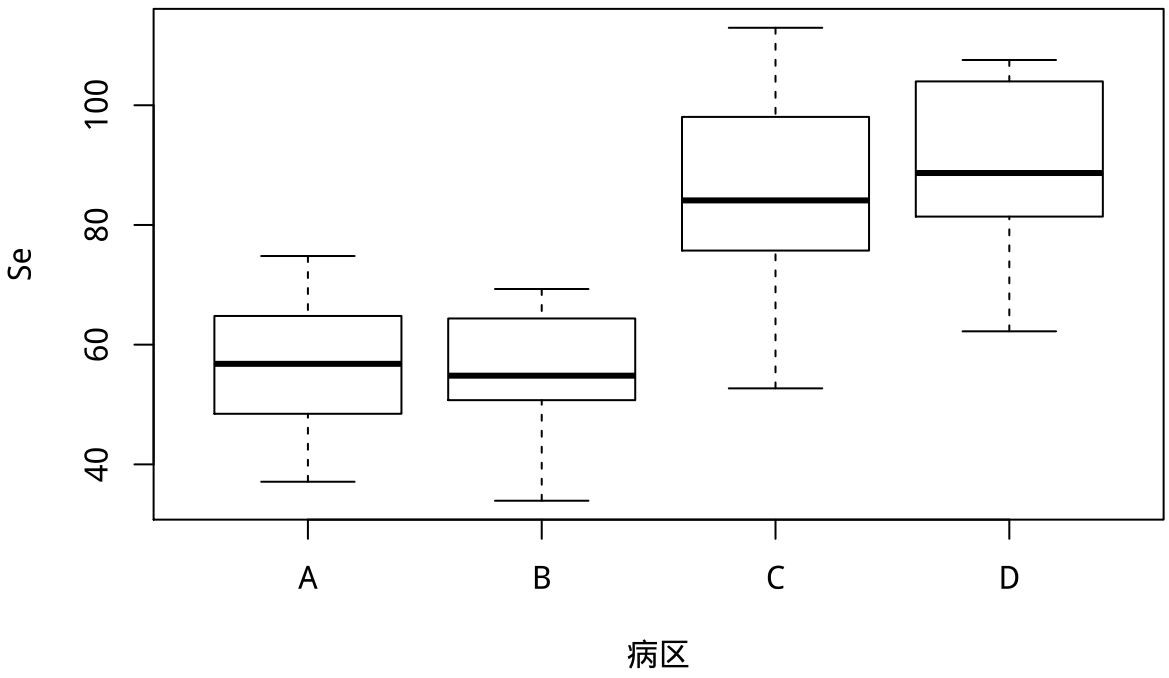



```
aov.data8.1<-aov(IOD~DON,data = data8.1)
summary(aov.data8.1)
```

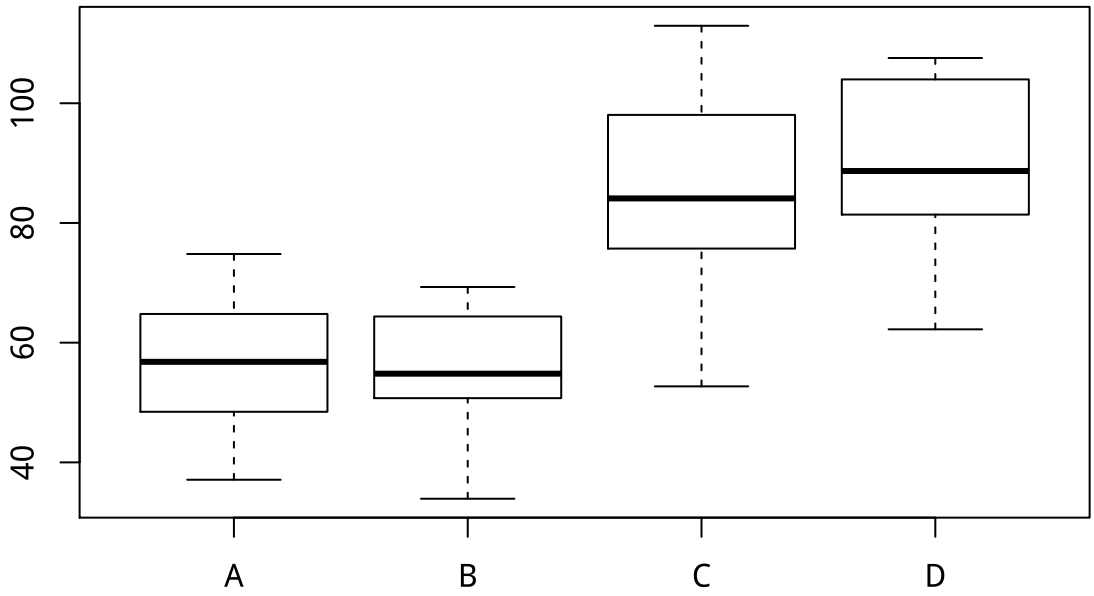
```
##             Df Sum Sq Mean Sq F value  Pr(>F)
## DON          2  84.81   42.41     103 1.4e-11 ***
## Residuals   21   8.65    0.41
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

例 8-2

```
data8.2<-read.csv("8-2.csv")
plot(Se~ 病区,data = data8.2)
```




```
boxplot(Se~ 病区,data = data8.2)
```




```
aov.data8.2<-aov(Se~ 病区,data = data8.2)
summary(aov.data8.2)
```

```
##             Df Sum Sq Mean Sq F value Pr(>F)
## 病区         3  20412    6804   46.18 <2e-16 ***
## Residuals   76  11197     147
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

例 8-3

```
data8.3<-read.csv("8-1.csv")
library("car")
leveneTest(data8.3$IOD,data8.3$DON)
```

```
## Levene's Test for Homogeneity of Variance (center = median)
##       Df F value Pr(>F)
## group  2  0.3402 0.7154
##       21
```

例 8-4

```
data8.4<-read.csv("8-4.csv")
quzu<-gl(12,1,36)
chuli<-gl(3,12)
data8.4<-data.frame(X=data8.4$X,quzu,chuli)
aov.data8.4<-aov(X~quzu+chuli, data=data8.4)
summary(aov.data8.4)
```

```
##             Df Sum Sq Mean Sq F value  Pr(>F)
## quzu        11  733.8    66.7   2.735  0.0214 *
## chuli        2  722.7   361.4  14.818 8.4e-05 ***
## Residuals   22  536.5    24.4
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

例 8-5

```
library(agricolae)
result <- SNK.test(aov.data8.1,"DON")
result
```

```
## $statistics
##       Mean      CV   MSerror
##   4.947917 12.9706 0.4118744
##
## $parameters
##   Df ntr alpha test name.t
##   21   3  0.05  SNK    DON
##
## $SNK
##      Table CriticalRange
## 2 2.941018     0.6673214
## 3 3.564625     0.8088188
##
## $means
##              IOD       std r  Min  Max
## 低剂量   4.71875 0.6331201 8 4.07 5.66
## 高剂量   2.76875 0.4975781 8 2.13 3.60
## 生理盐水 7.35625 0.7662886 8 5.73 7.93
##
## $comparison
```

```
## NULL
##
## $groups
##        trt   means M
## 1 生理盐水 7.35625 a
## 2  低剂量  4.71875 b
## 3  高剂量  2.76875 c
```

```
result <- LSD.test(aov.data8.1,"DON",p.adj="bonferroni")
result
```

```
## $statistics
##       Mean      CV   MSerror       LSD
##   4.947917 12.9706 0.4118744 0.8347399
##
## $parameters
##   Df ntr bonferroni alpha       test name.t
##   21   3    2.60135  0.05 bonferroni    DON
##
## $means
##              IOD       std r      LCL      UCL  Min  Max
## 低剂量   4.71875 0.6331201 8 4.246882 5.190618 4.07 5.66
## 高剂量   2.76875 0.4975781 8 2.296882 3.240618 2.13 3.60
## 生理盐水 7.35625 0.7662886 8 6.884382 7.828118 5.73 7.93
##
## $comparison
## NULL
##
## $groups
##        trt   means M
## 1 生理盐水 7.35625 a
## 2   低剂量 4.71875 b
## 3   高剂量 2.76875 c
```