第九章

设置目录

```
setwd("D:\\data\\chapter 9")
```

例 9-1

```
data9.1<-matrix(c(75,99,302,202),nrow=2)
chi<-chisq.test(data9.1,correct = F)
chi$expected
```

```
##          [,1]     [,2]
## [1,] 96.75221 280.2478
## [2,] 77.24779 223.7522
```

例 9-2

```
data9.2<-matrix(c(4,5,102,194),nrow=2)
chisq.test(data9.2,correct = T)
```

```
## Warning in chisq.test(data9.2, correct = T): Chi-squared approximation may
## be incorrect
```

```
##
##  Pearson's Chi-squared test with Yates' continuity correction
##
## data:  data9.2
## X-squared = 0.06992, df = 1, p-value = 0.7915
```

```
fisher.test(data9.2)
```

```
##
##  Fisher's Exact Test for Count Data
##
## data:  data9.2
## p-value = 0.724
## alternative hypothesis: true odds ratio is not equal to 1
## 95 percent confidence interval:
##  0.2948114 7.2303142
## sample estimates:
```

```
## odds ratio
##   1.519426
```

例 9-3

```
data9.3<-matrix(c(157,216,212,348,186,255),nrow=2)
chisq.test(data9.3,correct = F)
```

```
##
##  Pearson's Chi-squared test
##
## data:  data9.3
## X-squared = 2.5253, df = 2, p-value = 0.2829
```

例 9-4

```
data9.4<-matrix(c(7,9,21,24,22,11),nrow=3)
chisq.test(data9.4,correct = F)
```

```
##
##  Pearson's Chi-squared test
##
## data:  data9.4
## X-squared = 14.291, df = 2, p-value = 0.0007885
```

```
data9.4.1<-matrix(c(7,9,24,22),nrow=2)
chisq.test(data9.4.1,correct = F)
```

```
##
##  Pearson's Chi-squared test
##
## data:  data9.4.1
## X-squared = 0.33696, df = 1, p-value = 0.5616
```

```
data9.4.2<-matrix(c(7,21,24,11),nrow=2)
chisq.test(data9.4.2,correct = F)
```

```
##
##  Pearson's Chi-squared test
##
## data:  data9.4.2
## X-squared = 11.816, df = 1, p-value = 0.0005873
```

例 9-5

```
data9.5<-matrix(c(80,30,15,10),nrow=2)
mcnemar.test(data9.5,correct = F)
```

```
##
##  McNemar's Chi-squared test
##
## data:  data9.5
## McNemar's chi-squared = 5, df = 1, p-value = 0.02535
```

例 9-6

```
data9.6<-matrix(c(19,20,18,3),nrow=2)
mcnemar.test(data9.6,correct = T)
```

```
##
##  McNemar's Chi-squared test with continuity correction
##
## data:  data9.6
## McNemar's chi-squared = 0.026316, df = 1, p-value = 0.8711
```

例 9-7

```
data9.7<-matrix(c(20,2,15,3,32,10,1,4,3),nrow=3)
mcnemar.test(data9.7)
```

```
##
##  McNemar's Chi-squared test
##
## data:  data9.7
## McNemar's chi-squared = 15.021, df = 3, p-value = 0.001798
```

例 9-8

```
data9.8<-matrix(c(202,302,99,75),nrow=2)
chi<-chisq.test(data9.8,correct = F)
Xsquared<-chi$statistic
n<-sum(202,302,99,75)
r<-sqrt(Xsquared/(n+Xsquared))
r
```

```
## X-squared
## 0.1462495
```

例 9-9

```
data9.9<-matrix(c(32,20,25,54),nrow=2)
chi<-chisq.test(data9.9,correct = F)
Xsquared<-chi$statistic
n<-sum(32,20,25,54)
r<-sqrt(Xsquared/(n+Xsquared))
r
```

```
## X-squared
## 0.2829498
```

例 9-10

```
data9.10<-matrix(c(7,9,21,24,22,11),nrow=3)
chi<-chisq.test(data9.10,correct = F)
Xsquared<-chi$statistic
n<-sum(7,9,21,24,22,11)
r<-sqrt(Xsquared/(n+Xsquared))
r
```

```
## X-squared
## 0.3632726
```

例 9-11

```
data9.11<-read.csv ("9-11.csv",sep=",",header=F)
mean<-mean(data9.11$V1)
sd<-sd(data9.11$V1)
A<-table(cut(data9.11$V1, br=c(27,39,51,63,75,89)))
Pr<-pnorm(c(28,40,52,64,76,89), mean, sd)
p<-c( Pr[2]-Pr[1], Pr[3]-Pr[2], Pr[4]-Pr[3],Pr[5]-Pr[4],Pr[6]-Pr[5])
t<-length(data9.11$V1)*p
Xsquared<-sum((A-t)^2/t)
Xsquared
```

```
## [1] 2.510309
```

例 9-12

```r
data9.12<-matrix(c(2,4,15,10),nrow=2)
fisher.test(data9.12)
```

```
##
##  Fisher's Exact Test for Count Data
##
## data:  data9.12
## p-value = 0.3697
## alternative hypothesis: true odds ratio is not equal to 1
## 95 percent confidence interval:
##  0.02647215 2.94926462
## sample estimates:
## odds ratio
##  0.3456401
```