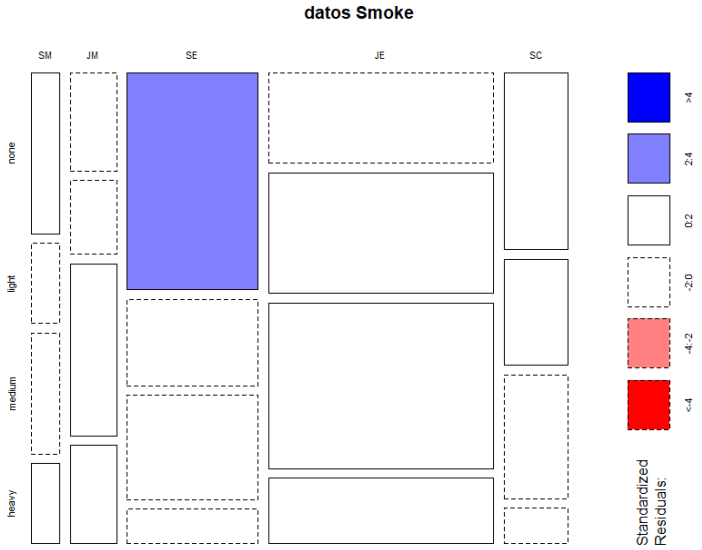
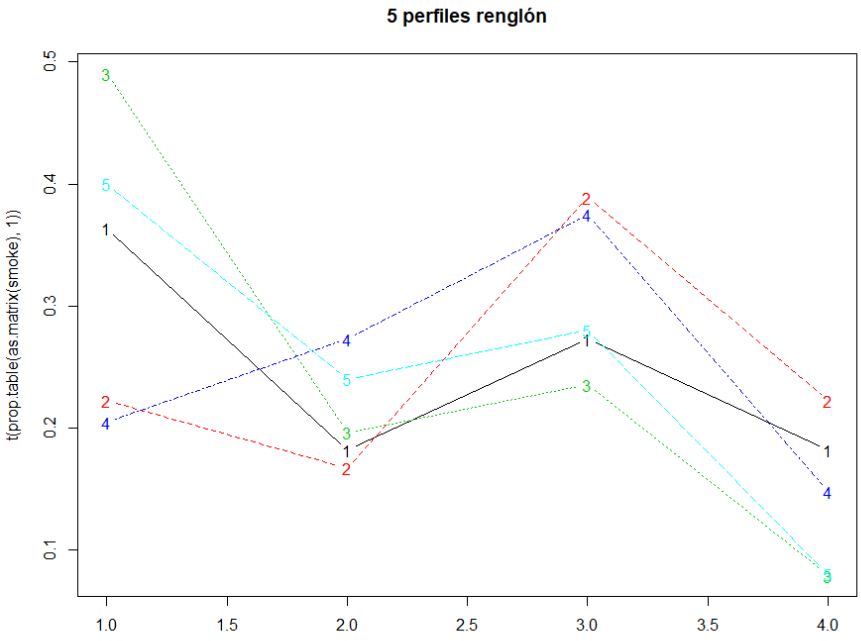
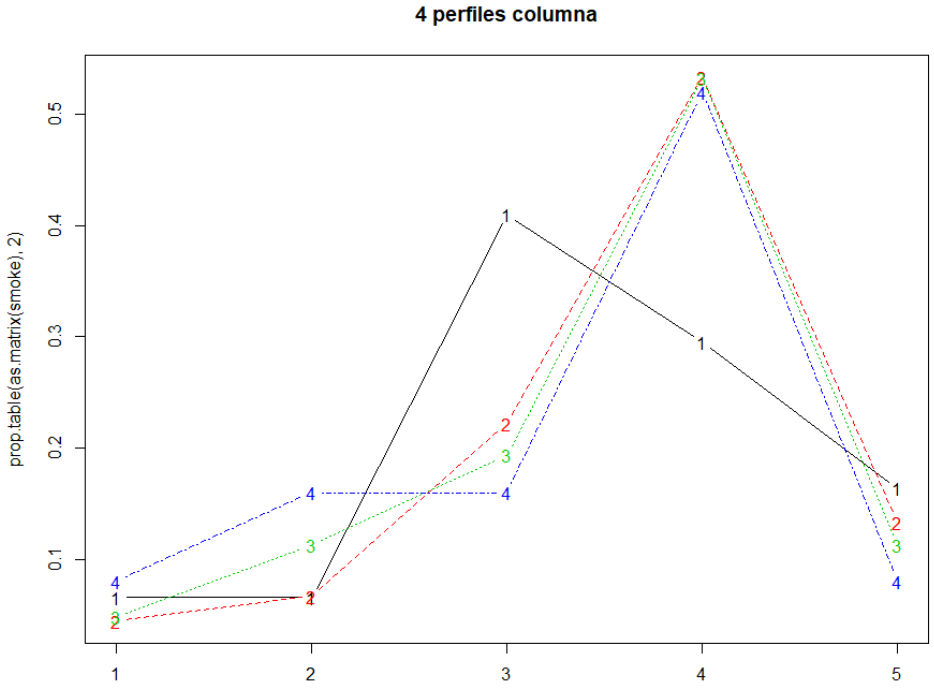
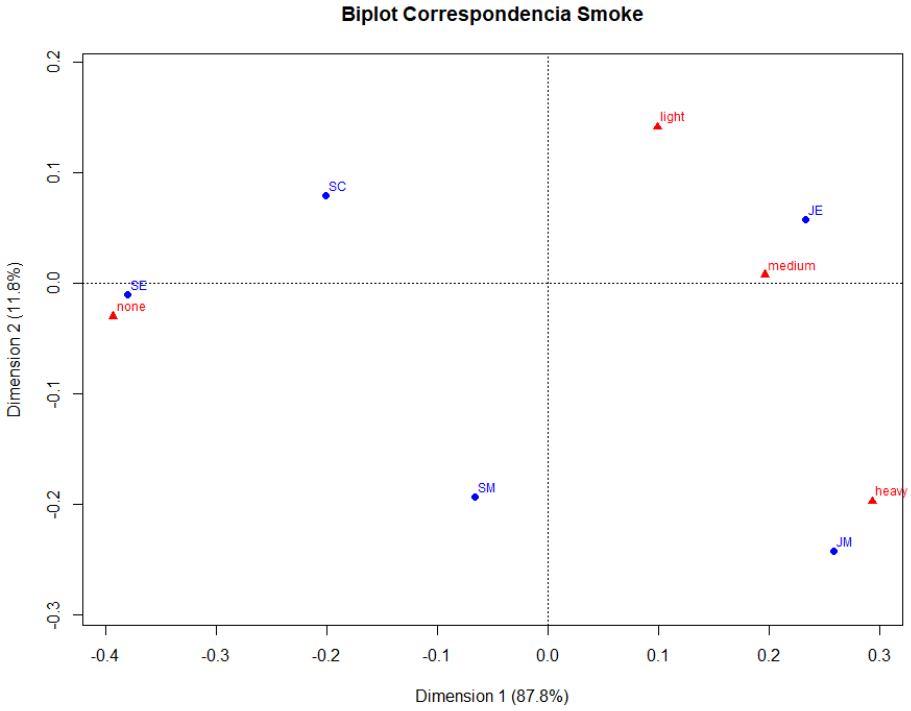
```
> ################ Análisis de Correspondencia
> data(smoke)
> smoke
   none light medium heavy
SM    4     2      3     2
JM    4     3      7     4
SE   25    10     12     4
JE   18    24     33    13
SC   10     6      7     2
> mosaicplot(smoke, shade = TRUE)
> chisq.test(smoke)

          Pearson's Chi-squared test

data:  smoke
X-squared = 16.442, df = 12, p-value = 0.1718

Warning message:
In chisq.test(smoke) : Chi-squared approximation may be incorrect
> summary(ca(smoke))

Principal inertias (eigenvalues):

 dim    value      %   cum%   scree plot
 1      0.074759  87.8  87.8  **********************
 2      0.010017  11.8  99.5  ***
 3      0.000414   0.5 100.0
        -------- -----
 Total: 0.085190 100.0


Rows:
    name   mass  qlt  inr    k=1 cor ctr    k=2 cor ctr
1 |   SM |   57  893   31 |  -66  92   3 | -194 800 214 |
2 |   JM |   93  991  139 |  259 526  84 | -243 465 551 |
3 |   SE |  264 1000  450 | -381 999 512 |  -11   1   3 |
4 |   JE |  456 1000  308 |  233 942 331 |   58  58 152 |
5 |   SC |  130  999   71 | -201 865  70 |   79 133  81 |

Columns:
    name   mass  qlt  inr    k=1 cor ctr    k=2 cor ctr
1 | none |  316 1000  577 | -393 994 654 |  -30   6  29 |
2 | lght |  233  984   83 |   99 327  31 |  141 657 463 |
3 | medm |  321  983  148 |  196 982 166 |    7   1   2 |
4 | hevy |  130  995  192 |  294 684 150 | -198 310 506 |
> ####inercia*n=jicuadrada
> 0.085190*sum(smoke)
[1] 16.44167
> prop.table(as.matrix(smoke),1)
        none     light    medium      heavy
SM 0.3636364 0.1818182 0.2727273 0.18181818
JM 0.2222222 0.1666667 0.3888889 0.22222222
SE 0.4901961 0.1960784 0.2352941 0.07843137
JE 0.2045455 0.2727273 0.3750000 0.14772727
SC 0.4000000 0.2400000 0.2800000 0.08000000
> matplot(t(prop.table(as.matrix(smoke),1)),lty = 1:5,type="b", main="5 perfiles renglón")
> prop.table(as.matrix(smoke),2)
         none      light    medium heavy
SM 0.06557377 0.04444444 0.0483871  0.08
JM 0.06557377 0.06666667 0.1129032  0.16
SE 0.40983607 0.22222222 0.1935484  0.16
JE 0.29508197 0.53333333 0.5322581  0.52
SC 0.16393443 0.13333333 0.1129032  0.08
> matplot(prop.table(as.matrix(smoke),2),lty = 1:4,type="b", main="4 perfiles columna")
> plot(ca(smoke),main="Biplot Correspondencia Smoke")
> mosaicplot(smoke, shade = TRUE)
> matplot(t(prop.table(as.matrix(smoke),1)),lty = 1:5,type="b", main="5 perfiles renglón")
> matplot(prop.table(as.matrix(smoke),2),lty = 1:4,type="b", main="4 perfiles columna")
```

```
> plot(ca(smoke),main="Biplot Correspondencia Smoke")

>
```






4 perfiles columna
prop.table(as.matrix(smoke), 2)
0.1
0.2
0.3
0.4
0.5
1
2
3
4
5


Biplot Correspondencia Smoke
Dimension 2 (11.8%)
Dimension 1 (87.8%)
light
SC
JE
medium
SE
none
SM
heavy
JM
-0.4
-0.3
-0.2
-0.1
0.0
0.1
0.2
0.3